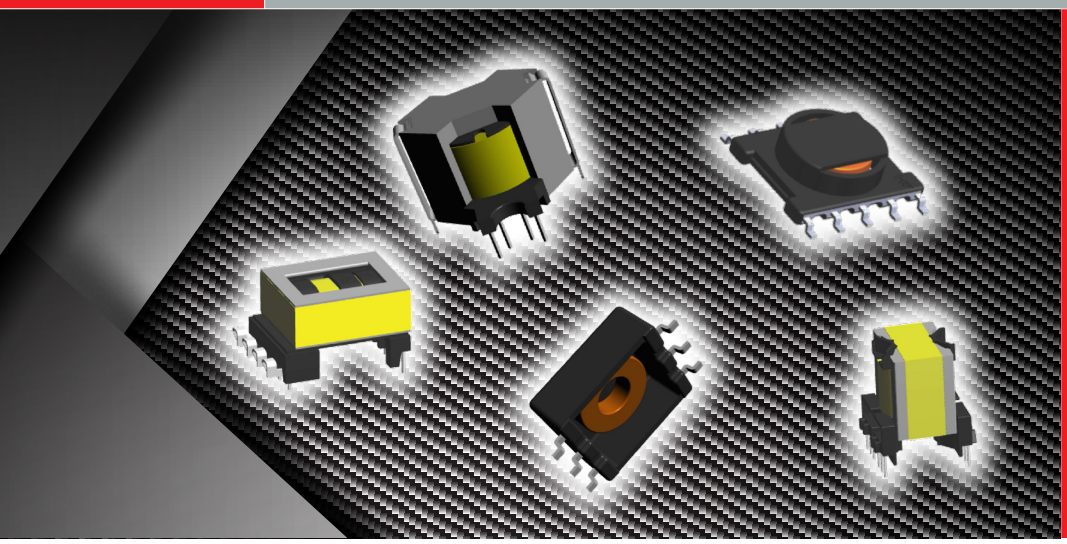
WÜRTH ELEKTRONIK

Custom Capabilities

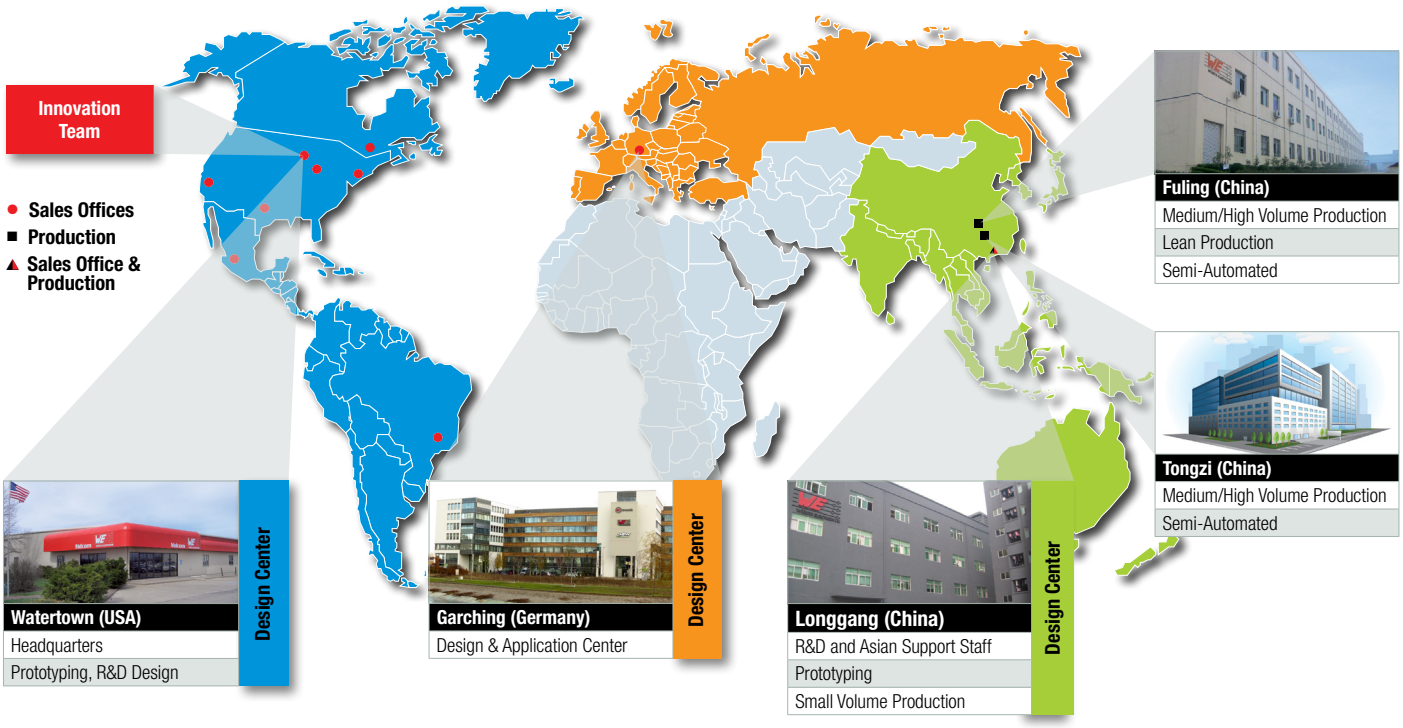
2020



Bobbin Packages

Toroid Headers

Globally Available, Locally Present



Product Range (Power)

- AC/DC power transformers
  - Flyback, Push-Pull, Forward, LLC, Half-Bridge
  - SMPS up to 300W
- DC/DC isolation transformers
- Current sense transformers
- Toroidal wound for higher frequencies
- Power factor correction chokes
- Power line communication
- Gate drive
- PoE, PoE+ and PoE++
- Inductors & CMCs

Product Range (Signal & Communications)

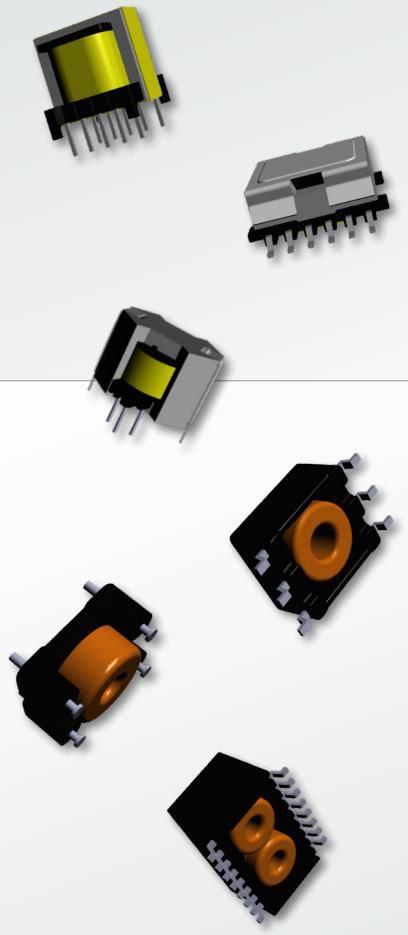
- xDSL transformers
- ISDN transformers
- Analog modem transformers
- Power line chokes
- CMCs for data lines

Our global team is ready to support you when you need us. With design locations in the US, Europe, and Asia, we're only a phone call away.

Our sales staff is technically trained, and we offer the highest standard of local engineering support.

Content

more than you expect



New Packages 02
Tools & Models 03
Topology Selection 04
Switch Mode Power Supply Topologies Compared 05
Safety 07
How Does Safety Affect Your Design 08
Starting a Custom Design 10
Example Spec Sheet 11
Wire for Transformers 12
Power Material Characteristics 13
User Tips 14
Table of Contents 15
Bobbin Packages 16
Toroid Headers 102

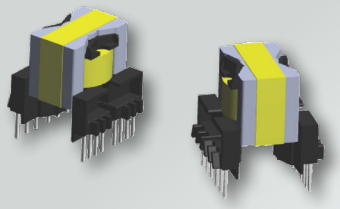
Bobbin Package Indexes

Search by Topology 130
Search by Length 131
Search by Width 132
Search by Height 133
Search by Safety 134
Search by Power 135

Toroid Header Indexes

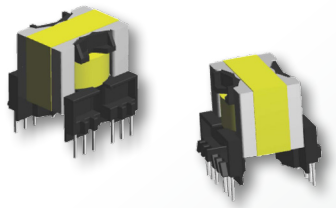
Search by Length 136
Search by Width 136
Search by Height 137
Search by Safety 137

New Packages



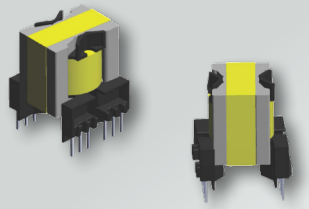
PQ2016 14-Terminal, EXT, THT, Vertical
Bobbin: 070-6905 Page 84

The 070-6905 bobbin is an extended rail version of our standard PQ2016 bobbin. This package can be used for offline applications with safety requirements, while maintaining the same footprint as the standard PQ2016 bobbin. The PQ2016 package has a large core cross-sectional area for high power density, and 14 terminals which allow for multiple outputs, split coils, or parallel high current winds. It can be used in a wide variety of offline applications, including switch-mode power supplies for industrial controls, lighting, metering, white goods, telecom and charging.



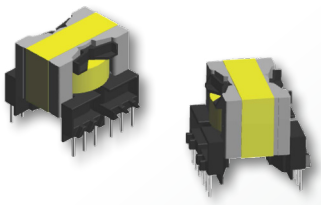
PQ2620 12-Terminal, EXT, THT, Vertical
Bobbin: 070-6947 Page 86

The 070-6947 bobbin is an extended rail version of our standard PQ2620 bobbin. This package can be used for offline applications with safety requirements, while maintaining the same footprint as the standard PQ2620 bobbin. The PQ2620 package has a large core cross-sectional area for high power density, and 12 terminals which allow for multiple outputs, split coils, or parallel high current winds. It can be used in a wide variety of offline applications, including switch-mode power supplies for industrial controls, lighting, metering, white goods, telecom and charging.



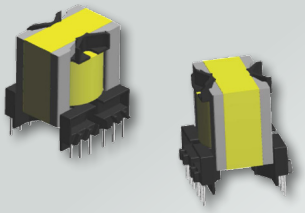
PQ2625 12-Terminal, EXT, THT, Vertical
Bobbin: 070-6952 Page 88

The 070-6952 bobbin is an extended rail version of our standard PQ2625 bobbin. This package can be used for offline applications with safety requirements, while maintaining the same footprint as the standard PQ2625 bobbin. The PQ2625 package has a large core cross-sectional area for high power density, and 12 terminals which allow for multiple outputs, split coils, or parallel high current winds. It can be used in a wide variety of offline applications, including switch-mode power supplies for industrial controls, lighting, metering, white goods, telecom and charging.



PQ3220 12-Terminal, EXT, THT, Vertical
Bobbin: 070-6957 Page 90

The 070-6957 bobbin is an extended rail version of our standard PQ3220 bobbin. This package can be used for offline applications with safety requirements, while maintaining the same footprint as the standard PQ3220 bobbin. The PQ3220 package has a large core cross-sectional area for high power density, and 12 terminals which allow for multiple outputs, split coils, or parallel high current winds. It can be used in a wide variety of offline applications, including switch-mode power supplies for industrial controls, lighting, metering, white goods, telecom and charging.

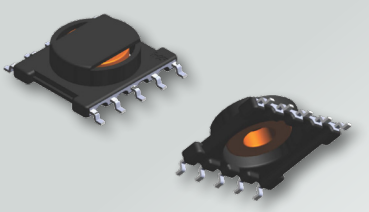


PQ3230 12-Terminal, EXT, THT, Vertical
Bobbin: 070-6962 Page 92

The 070-6962 bobbin is an extended rail version of our standard PQ3230 bobbin. This package can be used for offline applications with safety requirements, while maintaining the same footprint as the standard PQ3230 bobbin. The PQ3230 package has a large core cross-sectional area for high power density, and 12 terminals which allow for multiple outputs, split coils, or parallel high current winds. It can be used in a wide variety of offline applications, including switch-mode power supplies for industrial controls, lighting, metering, white goods, telecom and charging.

TOR-10P-HT2 10-Terminal, SMT
Header: 250-1239 Page 127

The 250-1239 header is designed to mount through the PCB for a 2mm max height above the board. This unique, patented design features 10 terminals which allow for multiple outputs, and slots which assist with drainage in the event that water-washing is used in the PCB assembly process. This header is designed such that the required PCB cutout can be achieved with a standard drill size. This very low profile package was developed for multiple-output push-pull transformers, but it is also a great solution for gate drive and signal isolation transformers.



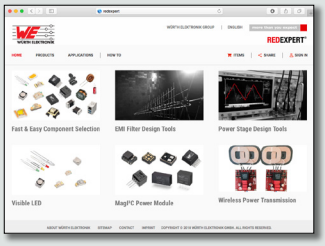
TOR-10P-HT3.6 10-Terminal, SMT
Header: 250-1240 Page 128

The 250-1240 header is a variation of 250-1239 that doesn't require a PCB cutout, but mounts on top of the PCB. This unique, patented design features 10 terminals which allow for multiple outputs, and slots which assist with drainage in the event that water-washing is used in the PCB assembly process. This low-profile package was developed for multiple-output push-pull transformers, but it is also a great solution for gate drive and signal isolation transformers.

Tools & Models

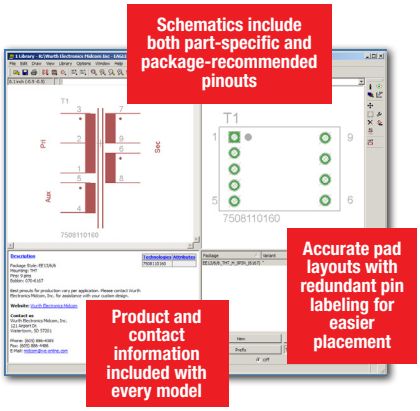
REDEXPERT

Würth Elektroniks online platform for simple component selection and performance simulation. Try **REDEXPERT** and calculate your losses in real-time. The latest update now includes our Transformer Selector to help determine the best transformer to fit your needs.
www.we-online.com/redexpert



EAGLE Library

Würth Elektronik's Eagle Library allows Eagle users to concentrate on easier and earlier board design by using our component library, which offers pre-drawn pad layouts and pinouts for preferred, standard, and non-standard package styles.
www.we-online.com/downloadpassives



Altium Models available for all Custom Capabilities Catalog Packages

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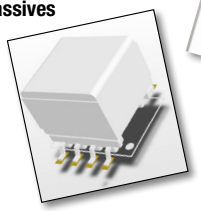
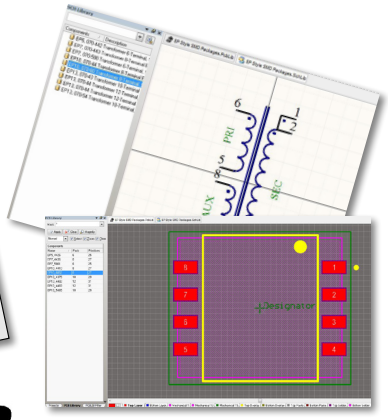
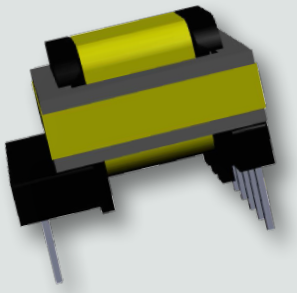




Altium™

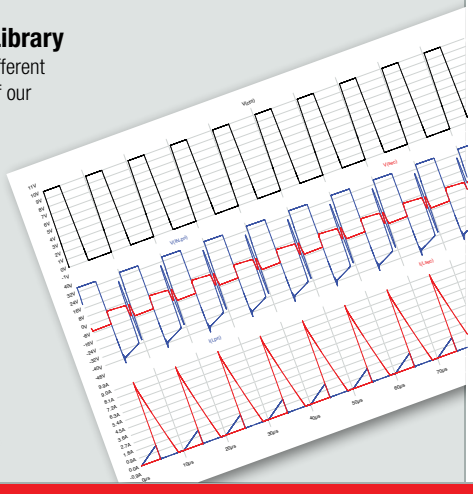
3D Models Available!

You can find the 3D models for each package on our website.
www.we-online.com/custompackages



LTspice Transformer Library

The library consists of three different LTspice models for over 600 of our power transformers, including designs for lighting and metering applications, PoE and PoE+, isolated DC/DC converters, flyback and offline transformers. All of these parts are currently featured on our website at **www.we-online.com/downloadpassives**.



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TOOLBOX
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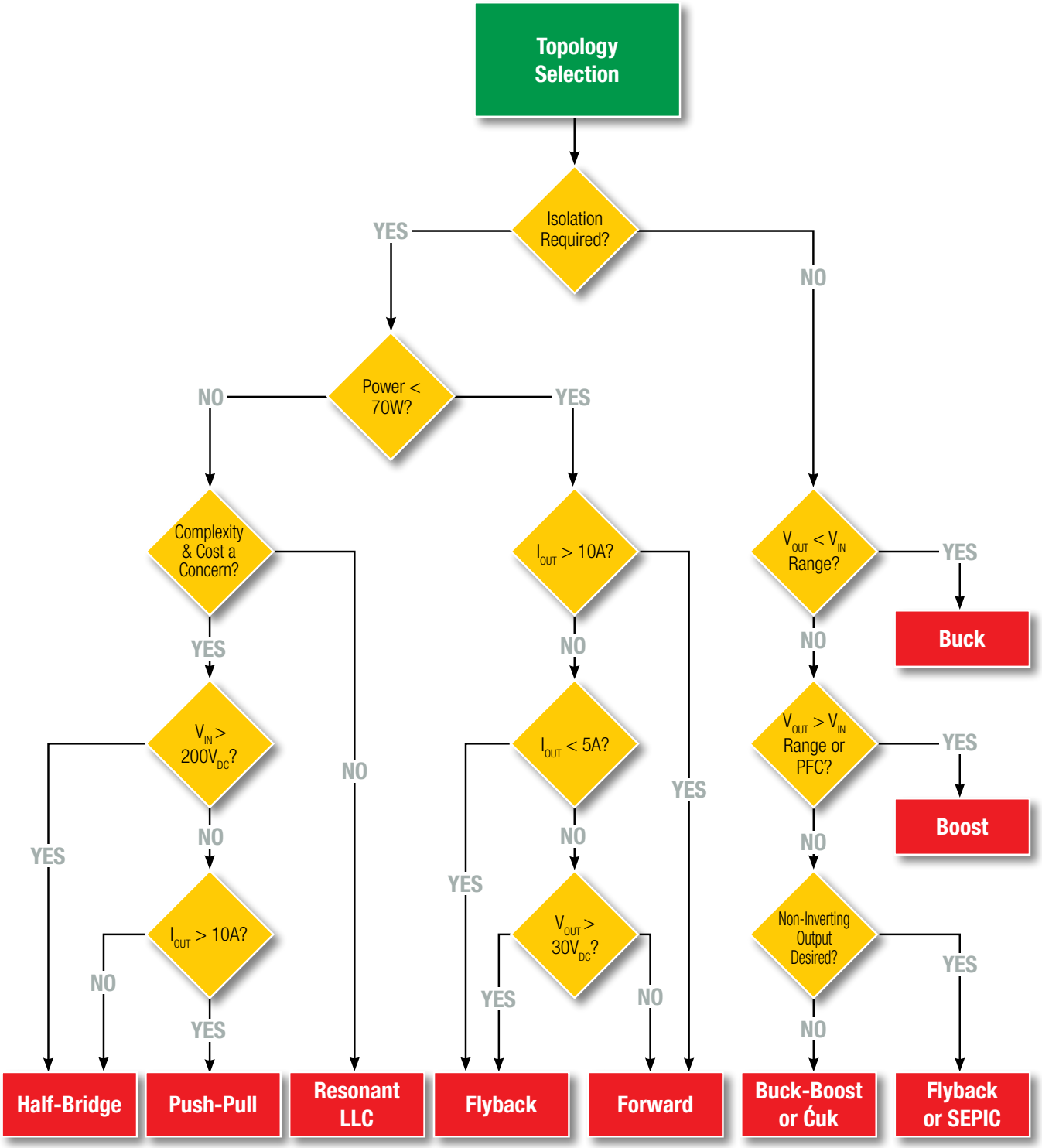
Topology Selection



Switch Mode Power Supply Topologies Compared

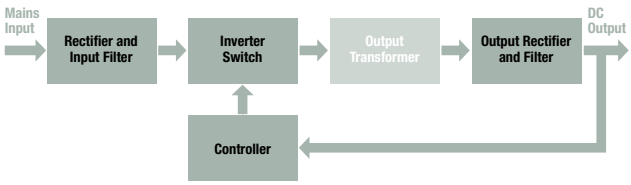
The ubiquitous linear power supply of old has been on a steady decline for years, ever since the advent of Switch Mode Power Supplies (SMPS). The clear advantage to SMPS over linear supplies has been size and efficiency, and as the world-wide energy crises looms on the international, commercial and political scene, we have seen the trend to SMPS only accelerate. As a new technology, the high component count of SMPS made the technology more expensive than linear. But with the birth of the electronic age, component costs have dropped so low that the high raw material content of copper and iron in the linear transformer has made the SMPS technology more cost effective. Even with the disadvantages of being more complex and requiring more care to control EMI, the advantages of switch mode power supplies far outweigh linear power supplies in all but a few niche applications.

Power Supply	Linear	SMPS
Size	Large and Heavy	Small and Light
Efficiency	30-40%	70-95%
Complexity	Simple	Complex
EMI	Low Noise	Filtering Required
Cost	High (Due to Material)	Low

Switching power supplies are made up of a number of different stages. If the input is an AC input, then the input stage needs to include both the input filter and a rectifier to convert to a DC input. DC to DC converters do not need the rectifier. The inverter stage turns around and immediately converts the now DC input back into an AC input by switching the DC input voltage on and off at a much higher frequency than the original AC input. The frequency of operation is often chosen to be in the 20kHz to 150kHz range, which is high enough to be outside the audible range and low enough to keep it outside of the FCC requirements for conducted EMI.

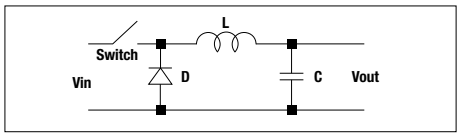
After the inverter stage, the output stage rectifies and filters the output. If an isolated design is required, a transformer is placed between the rectifier and output stage. This transformer can be much smaller, lighter and cheaper than the linear power supply transformer, due to the higher switching frequency.

Between the output stage and the inverter stage is a controller which monitors the output and adjusts the switching action to keep the output at the desired level.



When designing a power supply, typically the design criteria favors a switchmode power supply over a linear power supply. When it comes to deciding which SMPS topology to use, the decision can often be much more difficult. Selecting the wrong topology can result in a design project that does not meet your cost targets, efficiency goals or a host of other requirements that you might have. Below we discuss some of the more common topologies and their features.

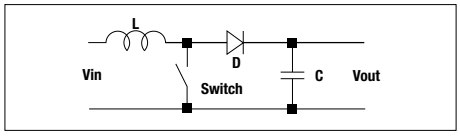
Buck



Buck converters are one of the simplest, cheapest and most common topologies. While this topology is not suited for applications where isolation is required, it is ideal as a DC to DC converter used to step-down voltages. Not only can you achieve high efficiency levels, but also high power levels using a buck converter, especially with poly-phase topologies. The down side to buck converters is that the input current is always discontinuous, resulting in higher EMI. However, EMI issues can be addressed with filter components such as chip beads, common mode chokes and filter chokes.

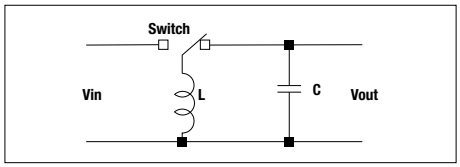
The buck topology only requires a single inductor for single-phase applications, and catalog inductors for a wide range of applications are available. In addition, custom inductors can be developed for those special inductance versus current values that are required, as well as for applications requiring extra windings for sensing or supplying power to the controller. Another form of the buck topology is the isolated buck that adds windings to the buck inductors to provide isolated outputs.

Boost



The boost topology, like the buck topology, is non-isolating. Unlike the buck topology, the boost steps up the voltage rather than stepping it down. Because the boost topology draws current in a continuous, even manner when operating in continuous conduction mode, it is an ideal choice for Power Factor Correction circuits. Like the buck topology, there are many catalog choices for the inductor used in boost circuits, and where there is a special need, custom inductors are available as well.

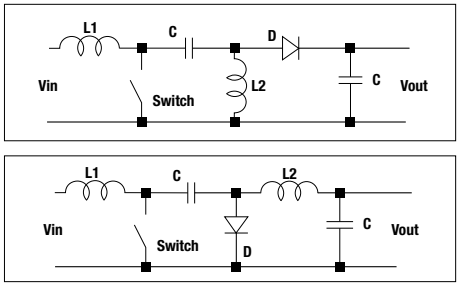
Buck-Boost



The buck-boost topology can either step the voltage up or down. This topology is particularly useful in battery powered applications, where the input voltage varies over time but has the disadvantage of inverting the output voltage. Another disadvantage to the buck-boost topology is that the switch does not have a ground, which complicates the drive circuit. Using only a single inductor like the buck and the boost topologies, the buck-boost inductor and EMI components are readily available.

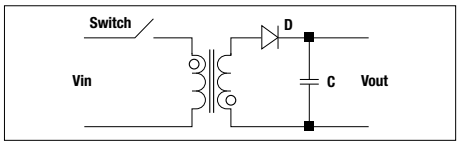
Switch Mode Power Supply Topologies Compared

SEPIC/Ćuk



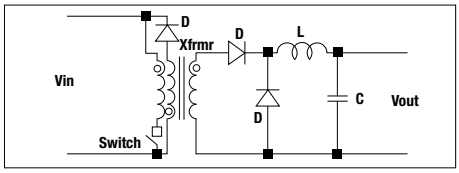
The SEPIC and Ćuk topologies both use capacitors for energy storage in addition to two inductors. The two inductors can be either separate inductors or a single component in the form of a coupled inductor. Both topologies are similar to the buck-boost topology in that they can step-up or step-down the input voltage, making them ideal for battery applications. The SEPIC has the additional advantage over both the Ćuk and the buck-boost in that its output is non-inverting. An advantage to the SEPIC/Ćuk topologies is that the capacitor can offer some limited isolation. Catalog coupled inductors are available for the SEPIC and Ćuk topologies, and custom inductors are readily available for special needs.

Flyback



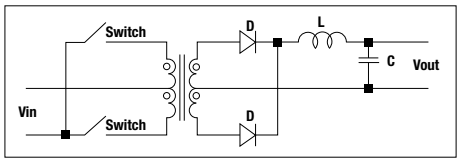
The flyback topology is essentially the buck-boost topology that is isolated by using a transformer as the storage inductor. The transformer not only provides isolation, but by varying the turns ratio, the output voltage can be adjusted. Since a transformer is used, multiple outputs are possible. The flyback is the simplest and most common of the isolated topologies for low-power applications. While they are well suited for high-output voltages, the peak currents are very high, and the topology does not lend itself well to output current above 10A. One advantage of the flyback topology over the other isolated topologies is that many of them require a separate storage inductor. Since the flyback transformer is in reality the storage inductor, no separate inductor is needed. This, coupled with the fact that the rest of the circuitry is simple, makes the flyback topology a cost effective and popular topology.

Forward



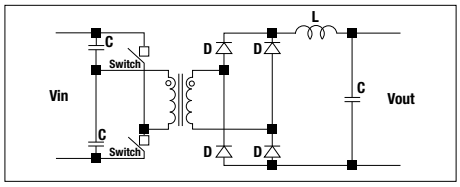
The forward converter is really just a transformer isolated buck converter. Like the flyback topology, the forward converter is best suited for lower power applications. While efficiency is comparable to the flyback, it does have the disadvantage of having an extra inductor on the output and is not well suited for high voltage outputs. The forward converter does have the advantage over the flyback converter when high output currents are required. Since the output current is non-pulsating, it is well suited for applications where the current is in excess of 15A.

Push-Pull



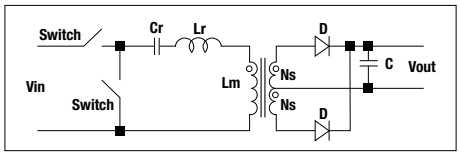
The push-pull topology is essentially a forward converter with two primary windings used to create a dual drive winding. This utilizes the core of the transformer much more efficiently than the flyback or the forward converters. On the other hand, only half the copper is being used at a time, thereby increasing the copper losses significantly in a similar sized transformer. For similar power levels, the push-pull converter will have smaller filters compared to the forward converter. However the advantage that push-pull converters have over flyback and forward converters is that they can be scaled up to higher powers. Switching control can be difficult with push-pull converters, because care has to be taken not to turn on both switches at the same time. Doing so will cause the equal and opposite flux in the transformer, resulting in a low impedance and a very large shoot-through current through the switch, potentially destroying it. The other disadvantage to the push-pull topology is that the switch stresses are very high ($2 \cdot V_{IN}$), which makes the topology undesirable for $250V_{AC}$ and PFC applications.

Half-Bridge



The half-bridge topology, like push-pull topologies, can be scaled up well to higher power levels and is based on the forward converter topology. This topology also has the same issue of the shoot-through current, if both switches are on at the same time. In order to control this, there needs to be a dead-time between the on-time of each switch. This limits the duty-cycle to about 45%. Beneficially, the half-bridge topology switching stresses are equal to the input voltage and make it much more suited to $250V_{AC}$ and PFC applications. On the flip side, the output currents are much higher than the push-pull topology, thereby making it less suited for high current outputs.

Resonant LLC



The resonant LLC topology is a half-bridge topology that uses a resonant technique to reduce the switching losses due to zero voltage switching, even in no-load conditions. This topology scales up well to high power levels and has very low losses in devices that are on at all times. This topology is not as well suited for stand-by power supplies, as the resonant tank circuit needs to be energized continuously. The resonant LLC also has the advantage over both push-pull and half-bridge topologies when efficiency is the priority. This topology also has low EMI emissions due to the zero voltage switching and varying switching frequency. The down side to the resonant LLC topology is its complexity and cost. However, the series inductor (Lr) required for the resonant tank can be realized by building a controlled high leakage inductance into the main transformer. The LLC topology is best suited for high efficiency, high power applications.

Safety

Functional, Basic, and Reinforced insulation

The effect of insulation requirements is significant enough to change the form factor, performance, cost, and of course, reliability of the transformer. In general terms, **Functional insulation** is the easiest insulation to achieve. It allows for magnet wire to be in contact with other magnet wire and has no **creepage** or **clearance** requirements. The insulation strength is tested by a simple dielectric (hipot) test.

Both **Basic** and **Reinforced insulation** are common to parts subject to offline voltages (85-265V_{AC}). The primary difference between these two types of insulation and functional insulation is that basic and reinforced require physical separation between windings, solder joints, and cores. These distances are known as creepage and clearance. There are a several methods to achieve distance requirements; multi-section bobbins, encapsulation, margin tape, and extruded insulated wire are the most common. You can imagine certain drawbacks to the special insulation: increased size, reduced coupling, lower efficiency, decreased manufacturing capacity, and limited pin configuration options.

The distance requirements and lead isolation are set by specific standards. Reinforced insulation is typically twice that of basic insulation. In some cases, special materials can be used to reduce the distance requirements. In other cases, lead-in routing rules can cause significant manual production processes, especially when pin configuration is fixed.

	Functional	Basic/ Reinforced
Size	+	-
Pinout flexibility	+	-
Efficiency	+	-
Coupling	+	-
Manufacturing capacity/ leadtime	+	-
Cost	+	-
Safety	-	+
Dielectric withstand	-	+

Definitions

Functional Insulation	Insulation that is necessary only for the functioning of the equipment
Basic Insulation	Insulation applies to hazardous live parts to provide basic protection against electric shock.
Supplementary Insulation	Insulation used with basic insulation to provide a second level of protection.
Double Insulation	Insulation comprising both basic insulation and supplementary insulation.
Reinforced Insulation	Single insulation system that provides a degree of protection against electric shock equivalent to double insulation
Creepage Distance	Shortest distance through air along the surface of an insulation material between two conductive parts
Clearance Distance	Shortest distance through air between two conductive parts
Working Voltage	Highest voltage to which the insulation or the component under consideration is, or can be, subjected when the equipment is operating under conditions of normal use

Attention Customers!

International bodies have agreed that IEC 60950-1 and IEC 60065 will expire on December 20, 2020, and will be replaced by IEC 62368-1. Würth Elektronik encourages customers who currently use IEC 60950-1 or IEC 60065 to begin using IEC 62368-1. Board level approval may be affected by component level approvals.

How Does Safety Affect Your Design?

Defining Safety Needs

How do we define safety needs?
The customer's end application typically defines which safety standard must be met. For instance, a design intended for use in LED lighting generally will not need to meet the same requirements as a design intended for use in medical equipment.

Next we need to understand the working voltage of the end application. The working voltage is defined as the highest voltage to which the insulation or the component under consideration is, or can be, subjected when the equipment is operating under conditions of normal use. This voltage level will define the creepage distance, clearance distance, distance through solid insulation, and the dielectric withstand voltage for each particular design.

Creepage – The shortest path between two conductive parts measured along the surface of the insulation; the shortest path between the primary and secondary sides of the transformer that is measured along the surface of the insulation.

Clearance – The shortest path between two conductive parts measured through air; the shortest path between the primary and secondary sides of the transformer that is measured through air. Often your clearance distance is less than your creepage distance and can be the more critical distance.

Dielectric – The peak voltage that the insulation under consideration is required to withstand. In simple terms, an electrical strength test used to verify the insulation strength between two conductors.

Lastly, we need to define the insulation type that must be met. The insulation type will also play a role in defining the creepage distance, clearance distance, distance through solid insulation, and the dielectric withstand voltage. There are three insulation types that we typically see.

Functional Insulation – Functional insulation is just that, insulation that is required only for proper functioning of the transformer. This type of insulation is usually associated with DC/DC applications in which the end user is not exposed to hazardous voltages.

Basic Insulation – This is the most commonly misunderstood form of insulation. Basic insulation is not basic. There are creepage distances, clearance distances, distances through solid insulation, and dielectric withstand voltage requirements associated with this type of insulation. We typically see requests for basic insulation when the end application has a means of providing additional isolation from the hazardous input voltage in case the basic insulation fails.

Double/Reinforced Insulation – This is the most common form of insulation used in offline applications. Reinforced insulation also has requirements for creepage distance, clearance distance, distance through solid insulation, and dielectric withstand voltage. The end user is completely isolated from hazardous input voltage by reinforced insulation without the need for additional isolation.

Transformer Size

How does safety impact size of the transformer?
The three main types of insulation - functional, basic, and reinforced - each impact the overall size of the transformer differently.

Functional Insulation – This type of insulation is typically met with magnetwire on both the primary and secondary sides of the transformer. Some standards require small creepage and clearance distances to be met in order to comply with the functional insulation requirements, but often times these distances can be waived if the transformer meets a specific dielectric withstand voltage. Normally, the dielectric withstand voltage can be met with standard magnetwire, without the need for additional constructional isolation. The combination of the use of standard magnetwire along with no specific creepage and clearance distances allows functional insulated designs to be wound on standard sized bobbins. This type of insulation allows designers to achieve the highest power levels with a given core geometry.

Basic Insulation – Most basic insulation designs use special basic insulated wire. The special insulated wire has a single layer of extruded insulation which allows it to meet higher dielectric withstand voltages as well as isolate the conductive part of the wire from other conductive components. Typically, this means that the basic insulated wire is used on one side of the transformer in order to provide basic insulation to the other side of the transformer. As you can imagine, the additional extruded layer of insulation surrounding the conductor will increase the overall diameter of the wire (on average 20% larger than standard magnetwire depending on wire size used). This larger diameter wire will consume additional build room and may even increase the layering for a particular wind.

The creepage and clearance distances required to meet basic insulation are generally in the 2-4mm range depending on the factors mentioned earlier when defining the safety needs. One method for meeting these distances is to use a standard bobbin with margin tape inside the coil. The margin tape consumes some of the winding area, but it helps to increase the distance from the solder joints of the special basic insulated wire back into the standard magnetwire inside the coil. The smaller winding area in combination with the larger diameter basic insulated wire can lead to the need for a larger size transformer in order to fit the entire coil on a particular bobbin. This can mean that the next core size larger will be needed for a basic insulated design in order to meet the same power levels achieved with a functional insulation design.

Another method for meeting these distances is the use of an extended rail bobbin. Much like the margin tape, the extended rail helps to increase the creepage and clearance distances from the solder joints of the basic insulated wire to the standard magnetwire inside the coil. The plus side to extended rail bobbins is that the winding area is not consumed by margin tape. This allows higher power levels to be achieved on a package with an extended rail bobbin in comparison to a margin tape design. However, the extended rail bobbins will increase either the width or the height of the transformer depending on whether a vertical or horizontal package is being used.

Reinforced Insulation – Much like basic insulation, reinforced insulation designs use a special reinforced insulated wire. This wire is comprised of three extruded layers. These additional layers only further increase the overall diameter of the wire (on average 60% larger than standard magnetwire depending on wire size) in turn consuming more build room than a basic insulated wire or standard magnetwire.

The specific creepage and clearance distances required for reinforced insulation designs are typically double that of basic insulation, in

the 4-8mm range. The same design techniques used to meet basic insulation can be used to meet reinforced insulation. Of course, when looking to use the margin tape method, a wider margin tape will be needed to meet these larger distances. The wider margin tape further reduces the amount of build room available for copper wire, thus further reducing the amount of power which can be achieved from a particular sized core.

Extended rail bobbins are the typical method used for reinforced insulation. Again, these bobbins will increase the width or height of the transformer depending on whether a horizontal or vertical package is used. They allow the designer to use the entire winding area to achieve as much power as possible, but keep in mind that there will still be a de-rated maximum power for a reinforced design compared to a basic or functional design due to the larger diameter wire's safety insulation consuming more of the winding area.

Flying Leads are an option that eliminate the need for the margin tape inside the coil. Like the extended rail bobbins, flying leads allow the designer to utilize the full winding area. This can be the difference between using the same core size as a functional insulated design or being forced to increase to the next larger package. The flying leads also eliminate the added width or height seen with the extended rail bobbins. Both of these factors can be very advantageous when size is a major concern for the design.

Transformer Cost

How does safety impact the cost of a transformer?

Wire Cost – Standard magnetwire, as used in functional insulated designs, is billed by the weight of the copper. The weight of copper in a 50W transformer is minimal and results in only a small fraction of the overall cost. On the other hand, special basic or reinforced insulated wire, is billed by the length of the wire used. The cost of an insulated wire is increased further when we look at using a litz-insulated wire for higher current or higher frequency applications. As you can imagine, it does not take many turns on a 50W transformer to reach over one meter of insulated wire. This is why the insulated wire is used on the lowest turn count winds in order to help minimize the cost.

Production Cost – Magnetwire can be wound onto a bobbin using multi-arbor automated equipment. This includes terminating the start and finish leads, winding the coil, and soldering. This may not be the case with the special insulated wires as the insulation can be easily damaged and may require a stripping process before termination. Consequently, this affects productivity, leading to an increase in cost.

Margin Tape – Margin tape can be used to meet the necessary creepage and clearance distances for basic and reinforced designs. Margin tape is needed for each magnetwire wind, which means an additional production process is added for each of the margin tape applications. This does not take into account the added cost of the tape itself, although tape cost is minimal.

Larger Components - Larger diameter basic insulated and reinforced insulated wires consume additional build room within the winding area. This means that for a given power level the insulated wire designs may need to be placed onto a larger, more costly bobbin and core in comparison to the functional insulated designs.

Flying Leads – Flying leads eliminate the added size of the extended rail bobbins as well as allow the designer to utilize the full winding area. This is quite advantageous to the designer, but it complicates the production processes leading to additional manual labor processes, which quickly add to the overall cost. Also, the PCB assembly by the end customer becomes more complicated and expensive since the flying leads must be manually inserted into the board. This leads to a risk of polarity failures or cold solder joints. Finally, the packaging and logistics of flying lead parts are less efficient due to the extra size needed to accommodate the flying leads.

Performance

How does safety impact the performance of a transformer?

Safety impacts the performance through leakage inductance, coupling, and efficiency as seen through magnetwire, insulated wire, and margin tape.

Magnetwire vs. Insulated Wire – Magnetwire provides the best coupling (cost) due to the proximity of the wires to one another. As the diameter of the insulation around the wire increases, the coupling decreases. Of course, poorer coupling will lead to higher leakage inductance and lower efficiency.

Margin Tape – The use of margin tape reduces the useable winding width in turn increasing leakage inductance. Margin tape can also result in additional layers per winding, increasing the mean length turn for a given winding and increasing the overall build of the coil. All of these factors also lead to increased leakage inductance.

Flying Leads and EMI – Imagine a pair of flying leads protruding from a given transformer or inductor. These flying leads are not shielded and are free to emit or absorb noise from the surrounding environment. This can lead to EMI issues that often times do not present an easy solution.

Heating/Efficiency – The use of special insulated wire can result in the need for a larger package due to the additional build room consumed by the insulated wire. This has nothing to do with saturation or the amount of power which can be handled by a given core size but is merely a mechanical restriction set by the wire. One way to avoid having to use a larger package is to simply reduce the size of the wire used for a given design in order to create additional build room. This leads to larger I^2R losses, higher temperature rise, and poorer efficiency.

To Learn More...

For more insight about the electronics industry, and to stay up-to-date with Würth Elektronik, visit the website or the blog, where you'll find posts on the newest products and webinars.

Starting a Custom Design

There are often many solutions. Knowing your requirements and priorities, your Würth Elektronik support team will provide the best one. To start a new design, we will ask some common questions:

Are there agency or test requirements?
Common safety standards from agencies such as UL and IEC include 62368, 61558, and 60601. We are knowledgeable and experienced in designing to meet the relevant safety standards for applications including information technology, industrial, PoE, lighting, medical, and explosive environments. Other relevant information for designing to meet safety requirements includes insulation grade, peak working voltage, pollution degree, overvoltage category, and insulation systems.

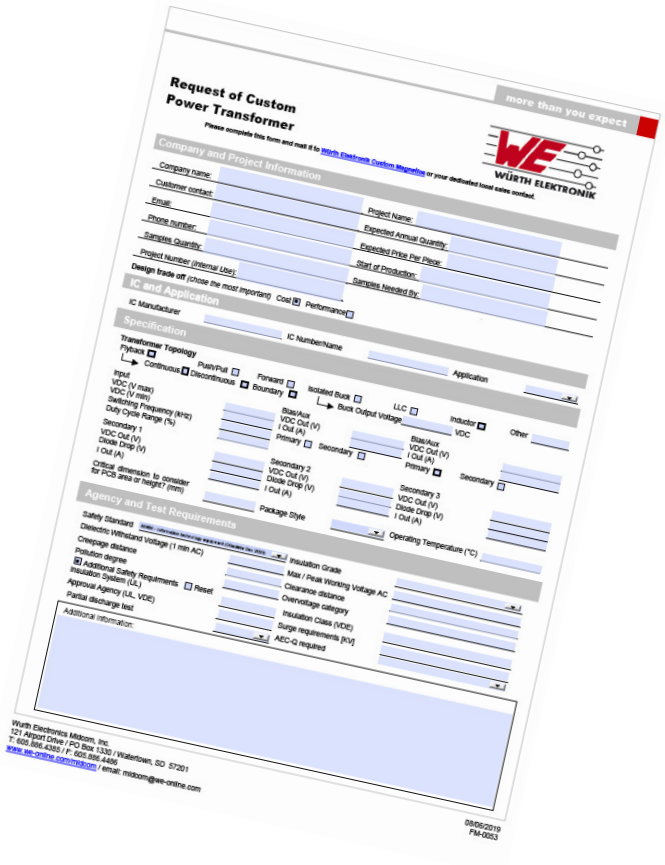
What is the topology?
The information needed to design the transformer depends on the topology it is designed for. Common topologies include flyback (CCM, DCM and BM), push-pull, forward, isolated buck, and LLC Resonant converters. Please refer to the Switch Mode Power Supply Topologies Compared section in this catalog.

What are your specifications?
Both electrical and mechanical specifications are critical to know. The electrical specifications include input voltage, switching frequency, duty cycle, output voltages and currents, and auxiliary voltage. Also, knowing the IC used provides information to our engineers to help them design the optimal solution.

What is most important to you?
Every application is different. In some, low cost is crucial. In other applications, performance is the most critical, whether it be reliability, efficiency, or EMC performance. We will make the design trade-offs based on your priorities.

Not sure what information we need?
Please see our Request Form at
www.we-online.com/custompowerrequest

We want to optimize the design for your needs. Our experienced and dedicated engineers will work with you to choose the best package and design according to your performance, safety and cost needs.



Custom Solutions Possible

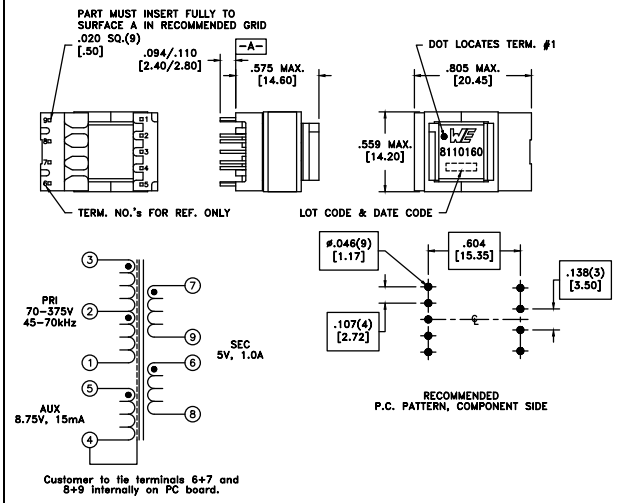
- 1. Reference Designs with standard solutions
- 2. Customized products with standard materials
- 3. Customized products with non standard materials
- 4. Customized products for tooled materials

Custom Solutions

Solution	Paper Design	Sample	Tool	Prototype	Production
1	0 Days	2 days to 1 week	N/A	4 to 6 weeks	12 to 14 weeks
2	2 to 3 days	1 to 2 weeks	N/A	4 to 6 weeks	12 to 14 weeks
3	3 to 4 days	2 to 4 weeks	N/A	4 to 6 weeks	12 to 14 weeks
4	5 to 7 days	Soft tool: 2 to 6 weeks	6 to 8 weeks	4 to 6 weeks	12 to 14 weeks

Example Spec Sheet

CUSTOMER TERMINAL	RoHS	LEAD(Pb)–FREE
Sn96%, Ag4%	Yes	Yes



ELECTRICAL SPECIFICATIONS @ 25°C unless otherwise noted:

PARAMETER		TEST CONDITIONS	VALUE
D.C. RESISTANCE	1–3	@20°C	3.15 ohms ±10%
D.C. RESISTANCE	5–4	@20°C	0.81 ohms ±10%
D.C. RESISTANCE	7–9	tie(6+7, 8+9), @20°C	0.021 ohms ±20%
INDUCTANCE	1–3	10kHz, 100mVAC, Ls	1.59mH ±10%
SATURATION CURRENT		20% rolloff from initial	480mA
LEAKAGE INDUCTANCE	1–3	tie(4+5, 6+7+8+9), 100kHz, 100mVAC, Ls	23uH typ., 34uH max.
DIELECTRIC	3–7	tie(3+4, 7+8), 4500VAC, 1 second	3600VAC, 1 minute
TURNS RATIO		(3–1):(7–9), tie(6+7, 8+9)	15:1, ±1%
TURNS RATIO		(3–1):(5–4)	8.571:1, ±1%

GENERAL SPECIFICATIONS:
OPERATING TEMPERATURE RANGE: –40°C to +125°C including temp rise.

Designed to comply with the following requirements as defined by IEC62368–1, EN62368–1, UL62368–1/CSA62368–1 and AS/NZS62368.1:
– Reinforced insulation for a primary circuit at a working voltage of 265Vrms, 400Vpeak, OVC II, Pollution Degree 2.

Wire insulation & RoHS status not affected by wire color.
Wire insulation color may vary depending on availability.

DETAILS SUBJECT TO CHANGE

REV.	DATE	Packaging Specifications		Tolerances unless otherwise specified:	DRAWING TITLE	PART NO.
		Method: Tray PKG–0995 www.we–online.com/midcom	CONVENTION PLACEMENT	Angles: ±1° Decimals: ±.005 [.13] Fractions: ±1/64 Footprint: ±.001 [.03]	TRANSFORMER	PART NUMBER
REV	M/Y	SEE REVISION SHEET FOR REVISION LEVEL		This drawing is dual dimensioned. Dimensions in brackets are in millimeters.	eiSos p/n: PART NUMBER	SPECIFICATION SHEET 1 OF 1

1 Mechanical

2 Electrical Specifications

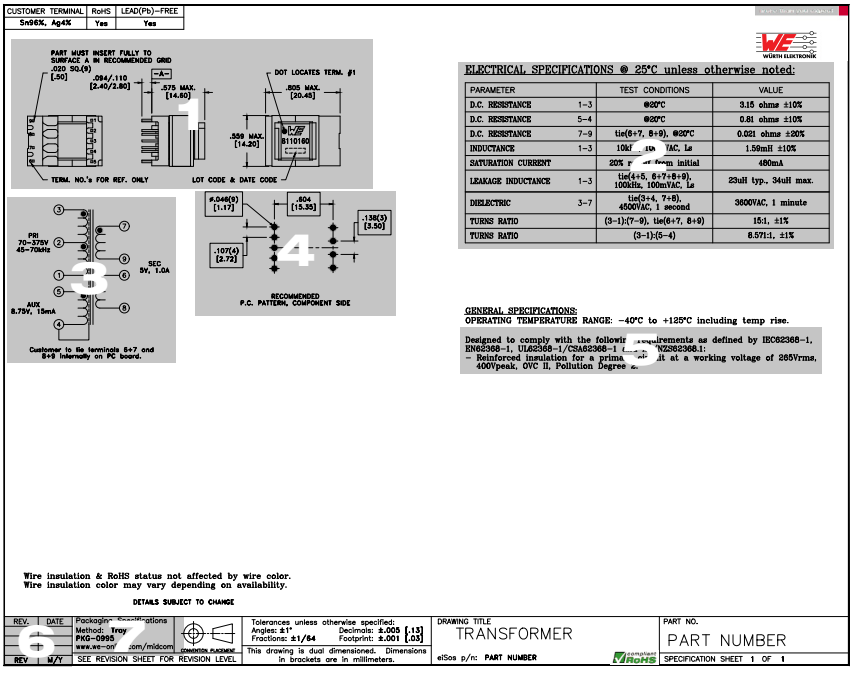
3 Schematic

4 Footprint

5 Safety Agency

6 Revision

7 Packaging Type



Wire for Transformers

Magnetwire

- Functional insulation
- Highly automated solderability (up to 28AWG)
- Low cost impact
- Used in low cost or low insulation windings
- Wide range of sizes available
- Package style and power levels determine best wire size and number of strands
- Commonly known as "motorwire"

Scaled to 20x

Fully Insulated Wire (FIW)

- Functional/reinforced insulation
- Highly automated solderability (up to 28AWG)
- Moderate cost impact
- Used in high insulation cases (when allowed by safety standard) to increase automation and improve performance over Teflon extruded wire versions
- Designs using FIW may require formal CB reports depending on the standard

Scaled to 20x

LITZ Wire

- Functional/reinforced insulation
- Solderability: possibilities for automation (crimp terminals, special bobbin)
- Moderate to high cost impact
- Multi-strand bundles of fine wire used for high frequency applications
- Extruded Teflon insulation versions available
- Termination and soldering may require special attention

Scaled to 20x

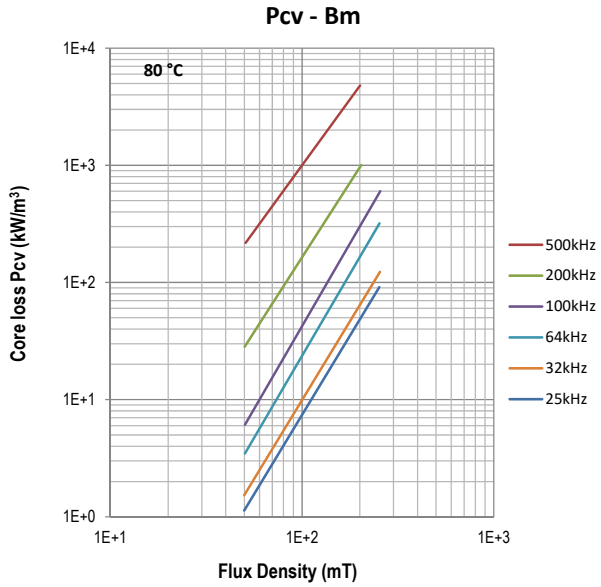
Extruded Teflon Wire

- Basic/supplemental/reinforced insulation
- Solderability: low level automation (requires pre-stripping)
- High cost impact
- Single layer = Basic
- Double layer = Supplemental
- Triple layer = Reinforced
- Commonly known as TIW and TEX-E
- High dielectric properties but special processes may be required to meet safety standards and reliability
- Must consider safety distance from termination
- Cost by length instead of by weight - suitable for smaller parts and lower turn counts to minimize total length of wire

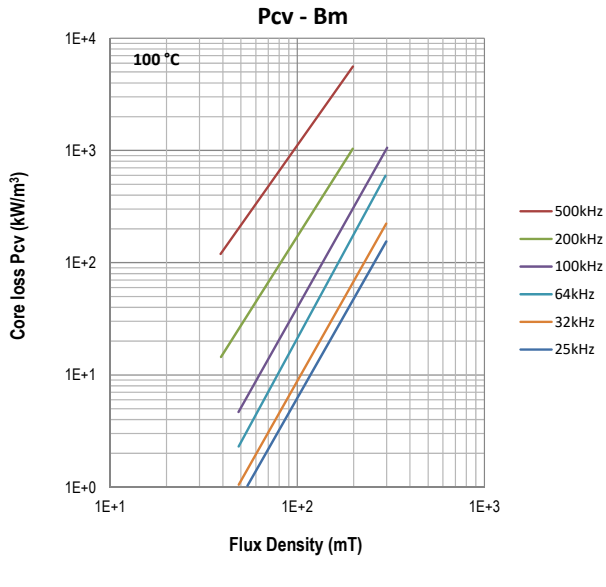
Scaled to 20x

Power Material Characteristics

Pcv-Bm 80°C



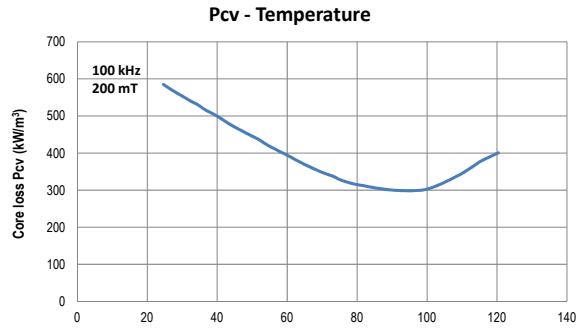
Pcv-Bm 100°C



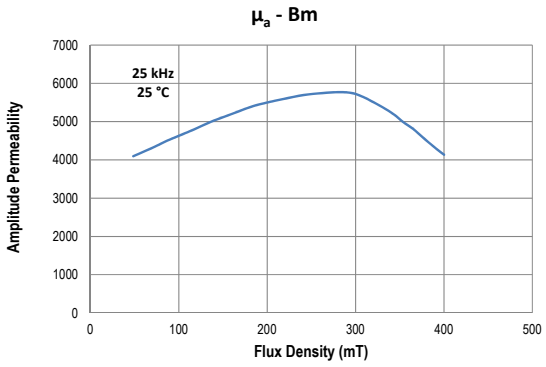
Characteristics

Initial permeability	μ_i	25℃	2400 ± 25%
Saturation magnetic flux density	Bs(mT) 1194A/m	25℃ 100℃	510 390
Remanence	Br(mT)	25℃ 100℃	110 60
Coercivity	Hc(A/m)	25℃ 100℃	13 6.5
Core loss	Pcv(kW/m³) 100kHz 200mT	25℃ 100℃ 120℃	600 300 400
Curie temperature	Tc(℃)		≥215
Electrical resistivity	p(Ω·m)		6.5
Density	d(kg/m³)		$4.8x10^3$

Pcv-Temperature



μ_a-Bm



User Tips

Bobbin Packages

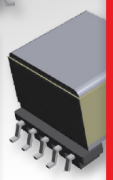
EPW15

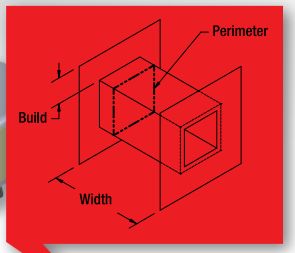
SMT = Surface Mount
THT = Through Hole Mount

9-Terminal EXT, SMT, Horizontal

Core direction

EXT = Extended rail for additional safety distance





"Type of Insulation" indicates what insulation level is practical and achievable with this package. Each safety agency standard has its own construction and testing requirements for each particular type of insulation. More information can be found on pages 7-9

Characteristics:

This SMT EPW15 package was developed for special safety cases and self-shielding cores for EMI improvement requirements. It features large core cross-sectional area for high power density.

Applications:

- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- Charging
- Stand-by power
- DSL

1

Technical Data:

Core effective area

Core effective path length

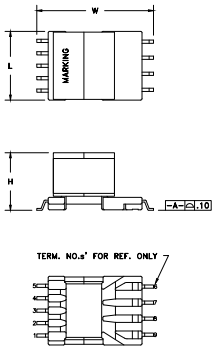
Core effective volume

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6386	Reinforced	7.76	2.74	20.15	26.9	30.6	825	150-2874

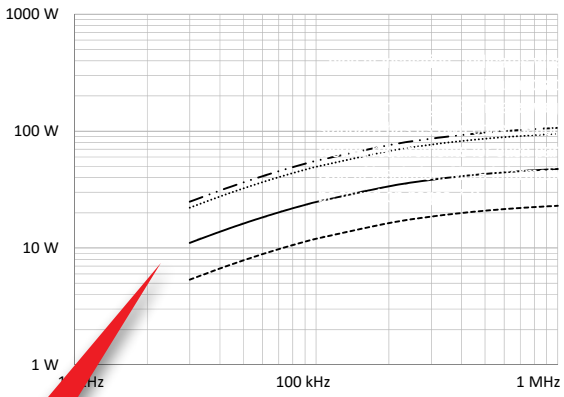
When two values are given for Winding Width, for example "7.77/4.47" on page 57, the bobbin has built-in shelves. The lesser value is the width between the shelves.

Order Code	L (mm)	W (mm)	H (mm)
070-6386	15.8 max.	26.5 max.	13.5 max.

Dimensions:



Estimated Maximum Power Level:



All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Achievable power level depends on a variety of factors, including: number of outputs, wire layering, wire insulation type, wire turns count, and the voltage and current of the application.

Power level must be derated for offline applications, as insulated wire consumes more winding area. In addition, for packages without built-in safety distances (bobbins without an extended rail), margin tape also consumes available winding area, thus lowering the achievable power level compared to a functional insulation, DC-DC design.

Footprint (mm):

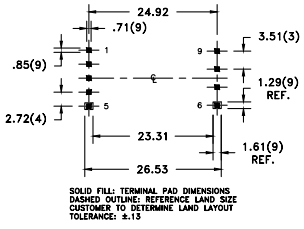
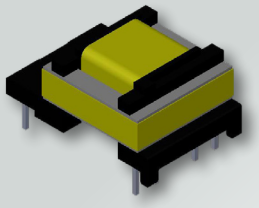
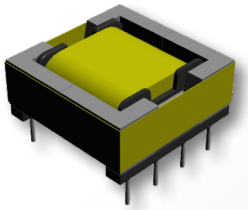


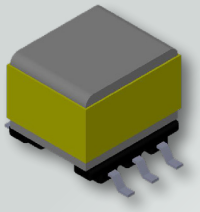
Table of Contents



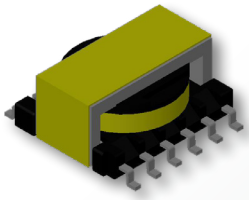
EE Package Styles ..... pg. 16-35



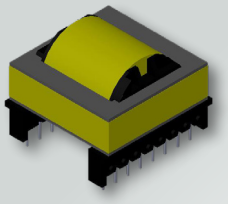
EFD Package Styles ..... pg. 36-47



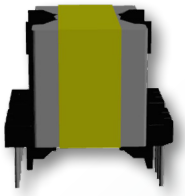
EP Package Styles ..... pg. 48-71



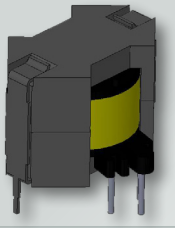
ER Package Styles ..... pg. 72-80



ETD Package Styles ..... pg. 81-82



PQ Package Styles ..... pg. 83-92



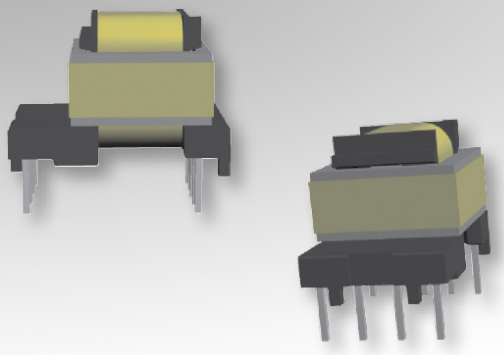
RM Package Styles ..... pg. 93-101

Toroid Headers ..... pg. 102-129

Bobbin Packages

EE13/6/6

9-Terminal EXT, THT, Horizontal



Characteristics:

This TH EE13/6/6 package was developed for special safety cases and low cost requirements.

Applications:

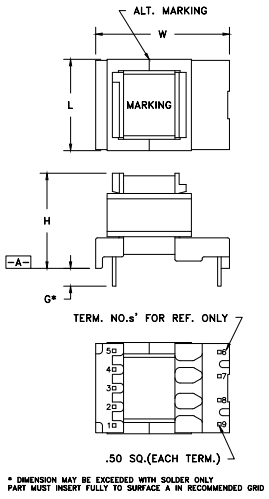
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

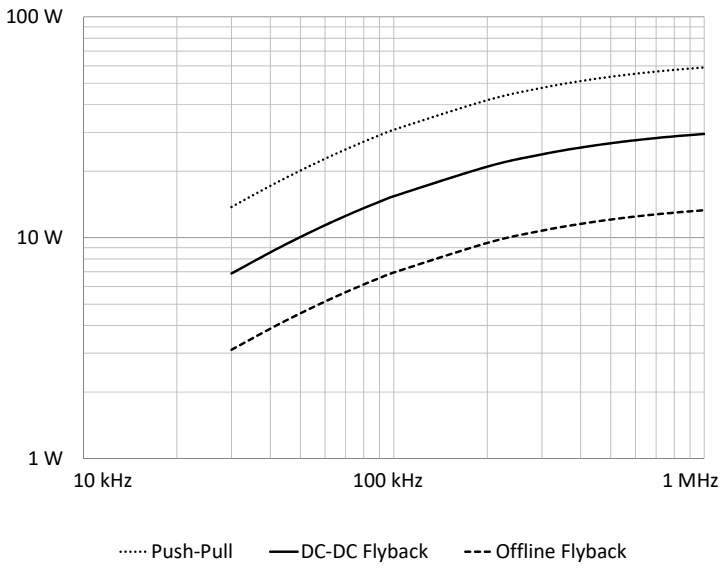
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6507	Reinforced	7.29	2.31	24.03	17	30.3	515	150-1994

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6507	14.2 max.	20.45 max.	14.6 max.	2.6 ±0.2

Dimensions:

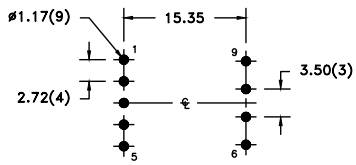


Estimated Maximum Power Level:



All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

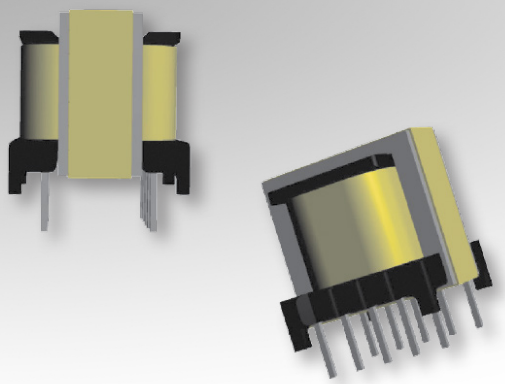
Footprint (mm):



Bobbin Packages

EE13/6/6

10-Terminal, THT, Vertical



Characteristics:

This TH EE13/6/6 package was developed for functional insulation cases and low cost, compact footprint requirements.

Applications:

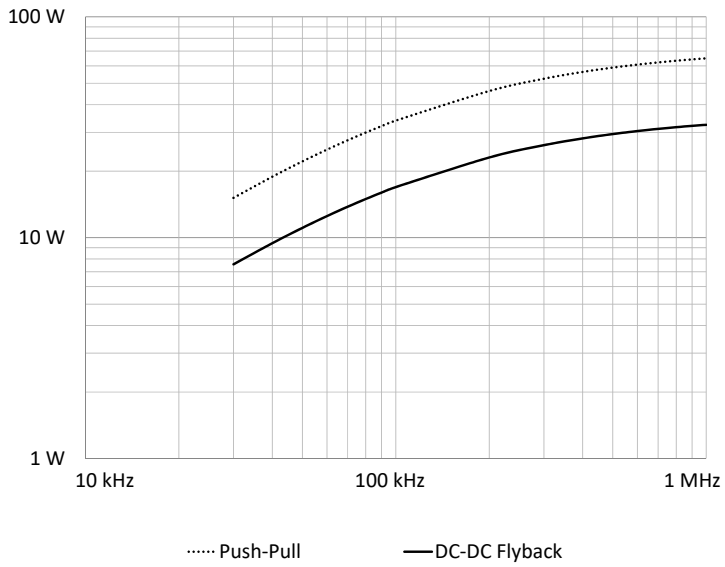
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

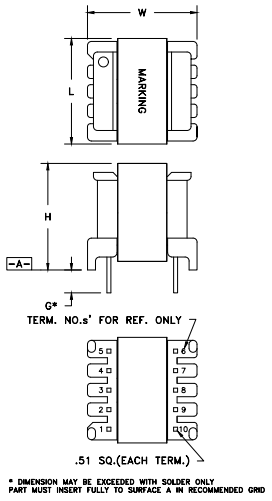
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-2860	Functional	7.44	2.49	22.66	17	30.3	515	150-1994

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-2860	14.73 max.	14.73 max.	15.24 max.	2.92 ±0.38

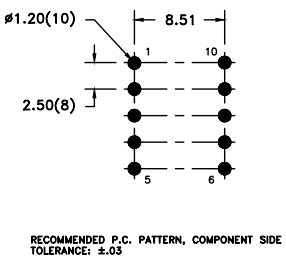
Estimated Maximum Power Level:



Dimensions:



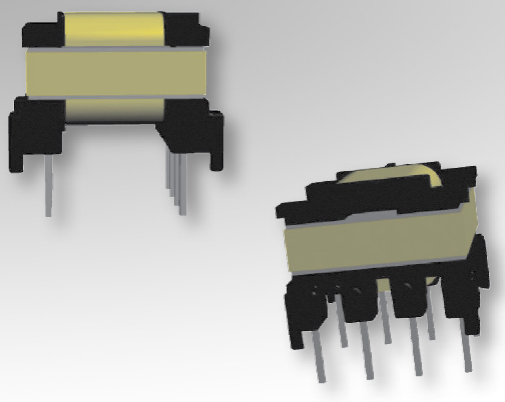
Footprint (mm):



Bobbin Packages

EE13/7/4 (EF12.6)

8-Terminal, THT, Horizontal



Characteristics:

This TH EE13/7/4 (EF12.6) package was developed for functional insulation cases and low cost, compact footprint requirements.

Applications:

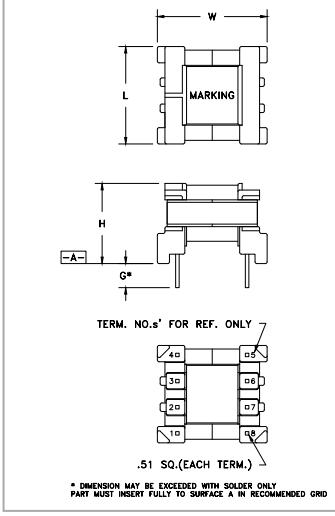
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

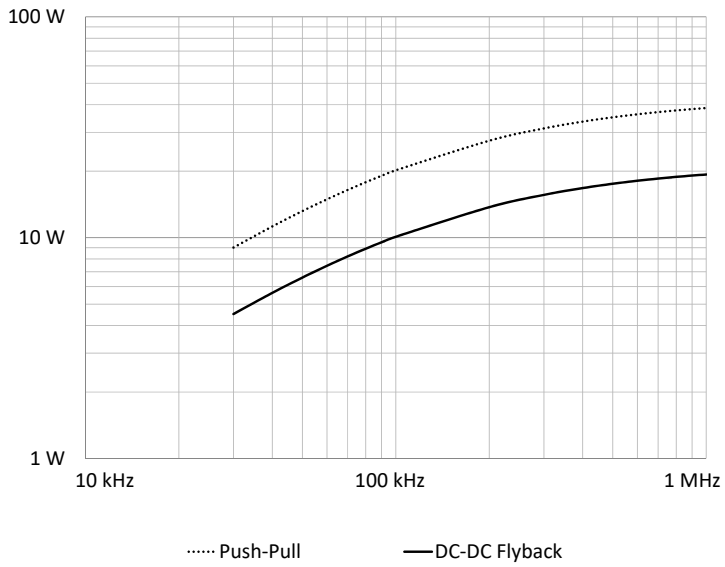
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-4849	Functional	7.49	1.78	20.4	12.4	29.6	367	150-2300

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-4849	14.7 max.	16.76 max.	12.7 max.	3.18 ±0.64

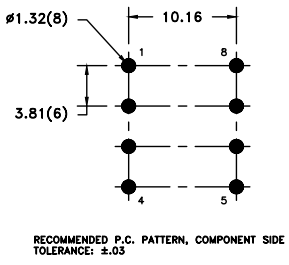
Dimensions:



Estimated Maximum Power Level:



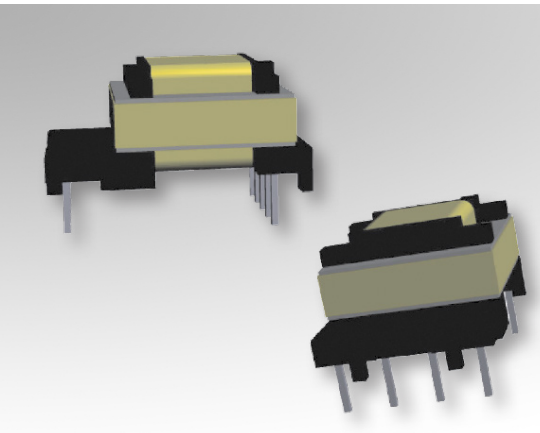
Footprint (mm):



Bobbin Packages

EE13/7/4 (EF12.6)

9-Terminal EXT, THT, Horizontal



Characteristics:

This TH EE13/7/4 (EF12.6) package was developed for special safety cases and low cost requirements.

Applications:

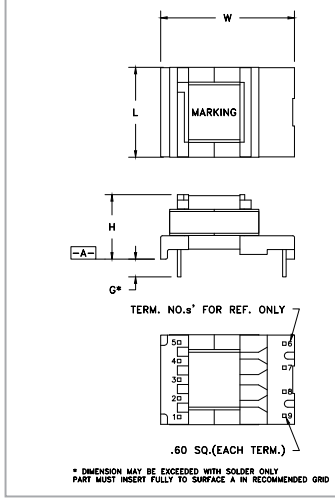
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

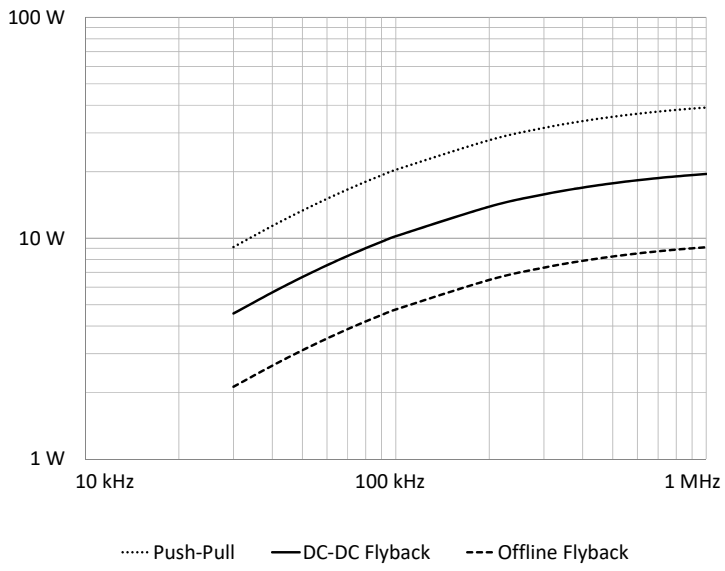
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6910	Reinforced	7.49	1.8	20.4	12.4	29.6	367	150-2300

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6910	13.72 max.	20.45 max.	10.16 max.	3.3 ±0.3

Dimensions:

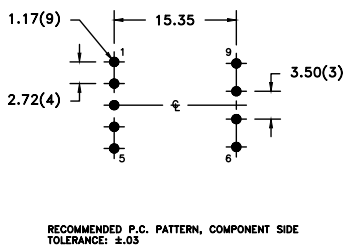


Estimated Maximum Power Level:



All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

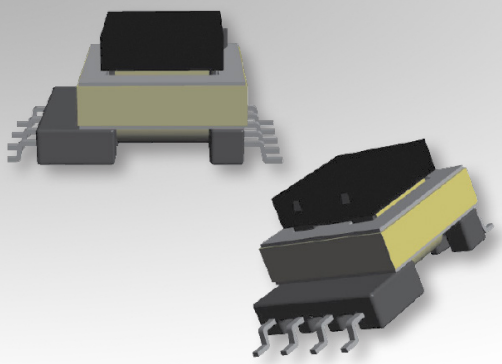
Footprint (mm):



Bobbin Packages

EE13/7/4 (EF12.6)

9-Terminal EXT, SMT, Horizontal



Characteristics:

This SMT EE13/7/4 (EF12.6) package was developed for special safety cases and low cost requirements.

Applications:

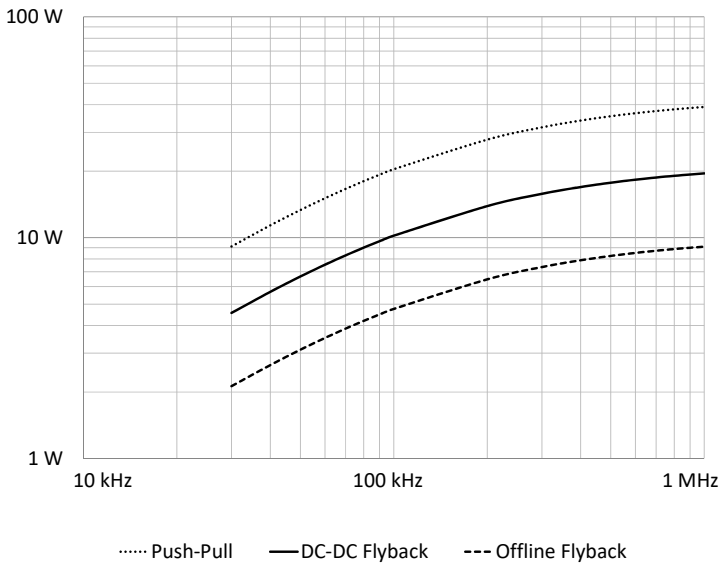
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-7133	Reinforced	7.49	1.8	20.4	12.4	29.6	367	150-2300

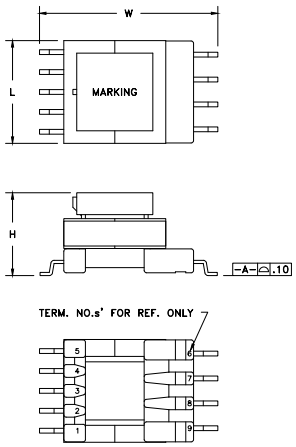
Order Code	L (mm)	W (mm)	H (mm)
070-7133	13.8 max.	23.9 max.	11 max.

Estimated Maximum Power Level:

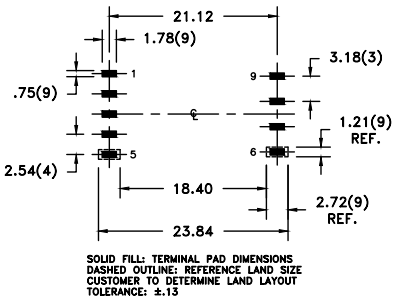


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



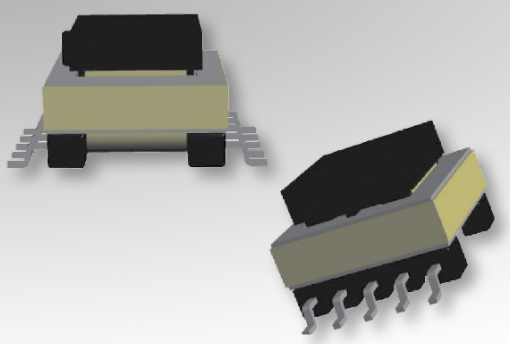
Footprint (mm):



Bobbin Packages

EE13/7/4 (EF12.6)

10-Terminal, SMT, Horizontal



Characteristics:

This SMT EE13/7/4 (EF12.6) package was developed for functional insulation cases and low cost, compact footprint requirements.

Applications:

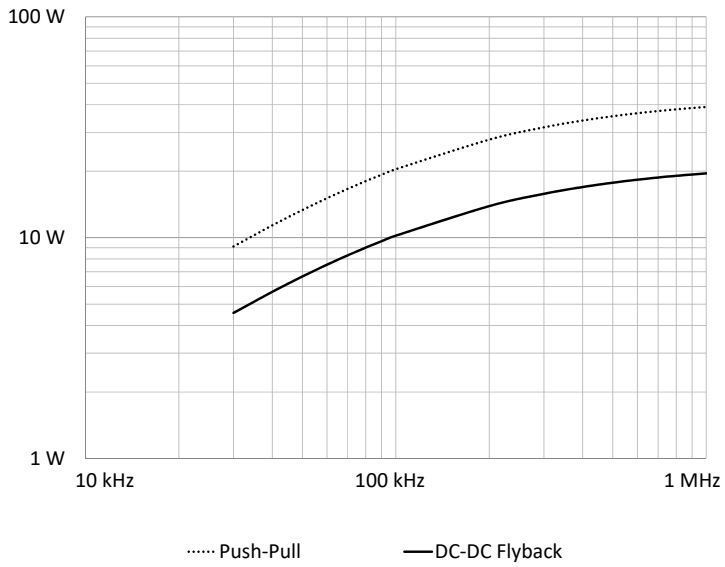
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

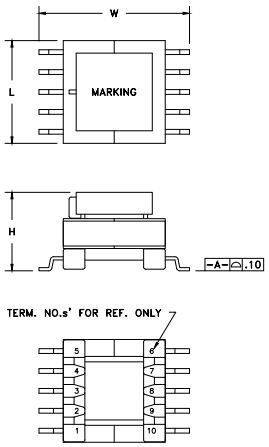
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-4820	Functional	7.49	1.8	20.4	12.4	29.6	367	150-2300

Order Code	L (mm)	W (mm)	H (mm)
070-4820	13.72 max.	20.2 max.	10.5 max.

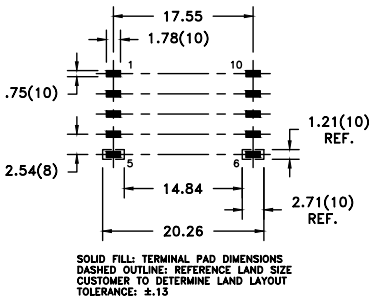
Estimated Maximum Power Level:



Dimensions:



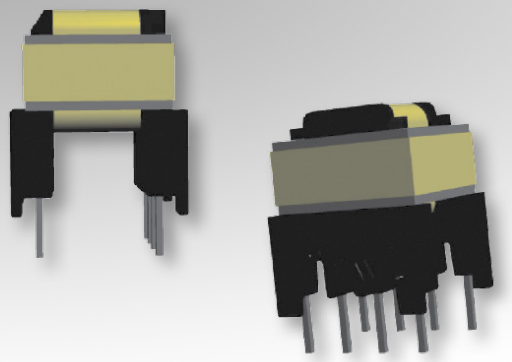
Footprint (mm):



Bobbin Packages

EE13/7/6

8-Terminal EXT, THT, Horizontal



Characteristics:

This TH EE13/7/6 package was developed for special safety cases and low cost, compact footprint requirements.

Applications:

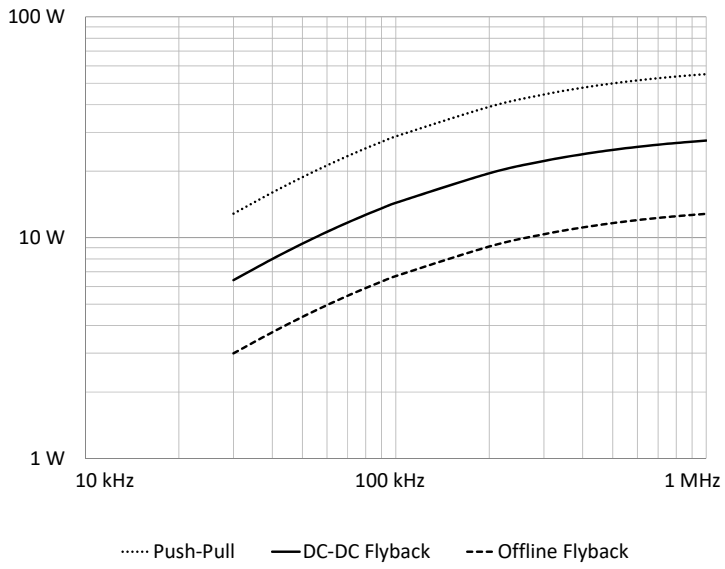
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6825	Reinforced	7.49	1.85	24.61	21.4	30.6	657	150-3045

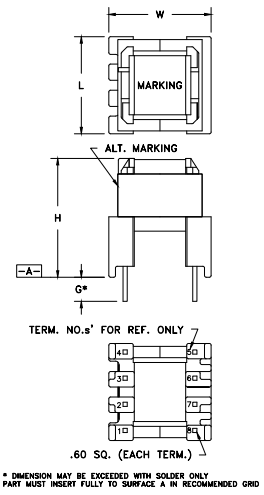
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6825	15 max.	15.75 max.	18.5 max.	3.56 ±0.38

Estimated Maximum Power Level:

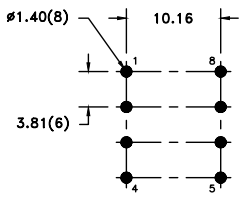


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



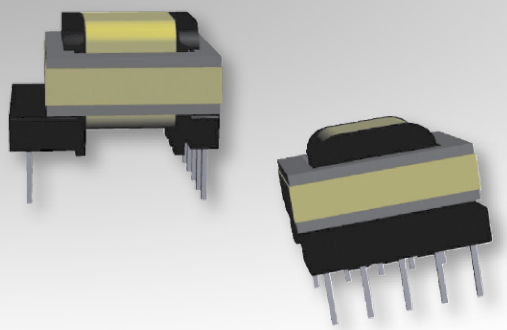
Footprint (mm):



Bobbin Packages

EE16/7/5

10-Terminal EXT, THT, Horizontal



Characteristics:

This TH EE16/7/5 package was developed for special safety cases and low cost requirements.

Applications:

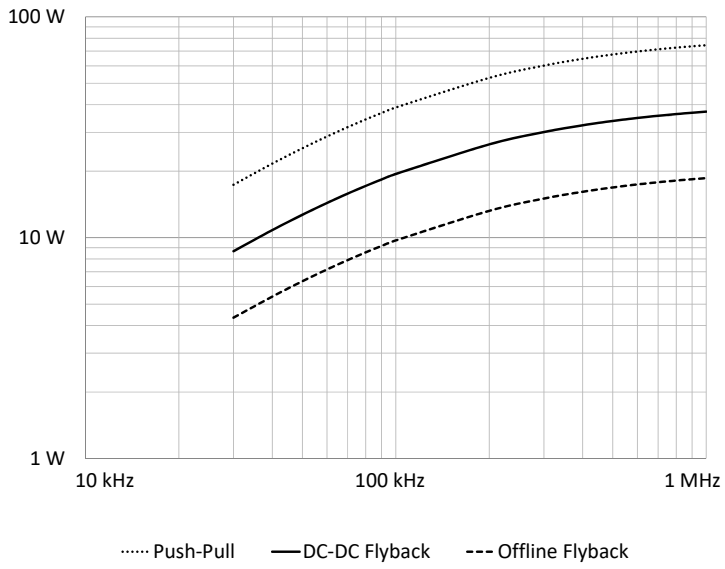
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-7101	Reinforced	8	2.54	24	18.4	35.5	653	150-2115

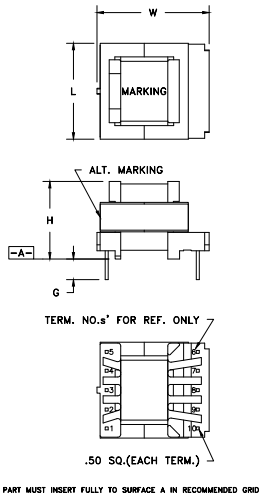
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-7101	17.5 max.	20 max.	14 max.	2.54 min.

Estimated Maximum Power Level:

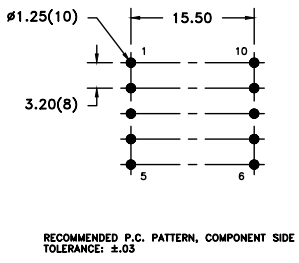


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



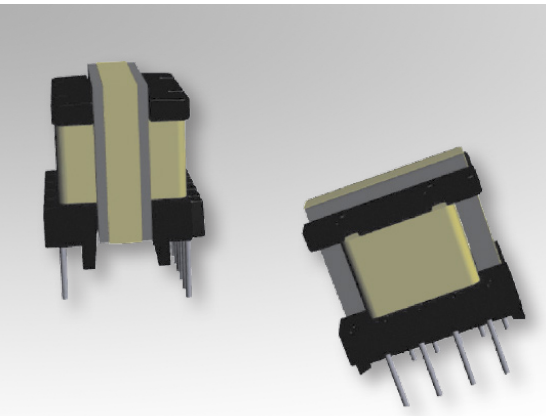
Footprint (mm):



Bobbin Packages

EE16/7/5

10-Terminal EXT, THT, Vertical



Characteristics:

This TH EE16/7/5 package was developed for special safety cases and low cost, compact footprint requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

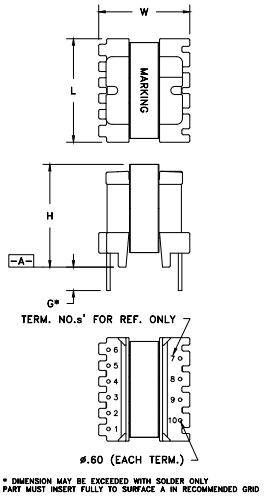
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

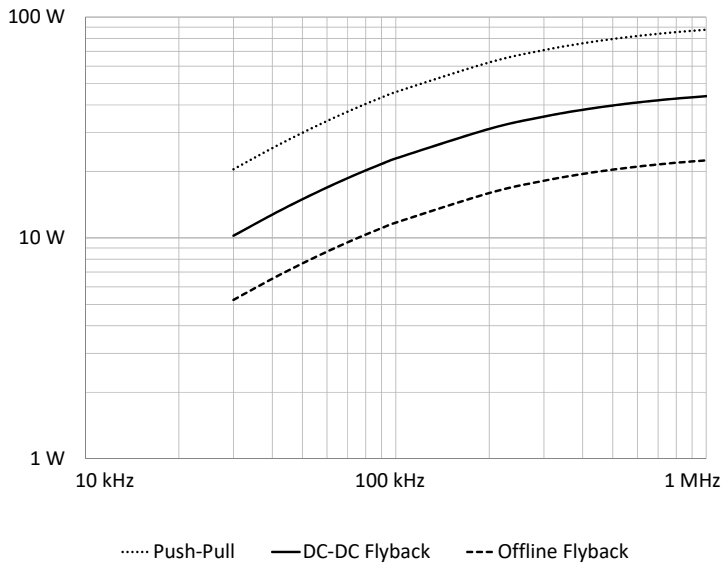
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6076	Functional/ Reinforced	8.2	2.92	25.25	18.4	35.5	653	150-2115

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6076	18.5 max.	16.5 max.	18.8 max.	4 ±0.5

Dimensions:

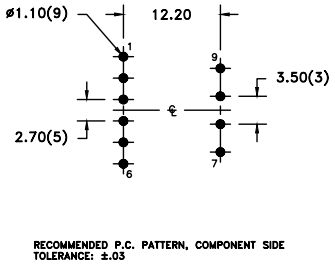


Estimated Maximum Power Level:



All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

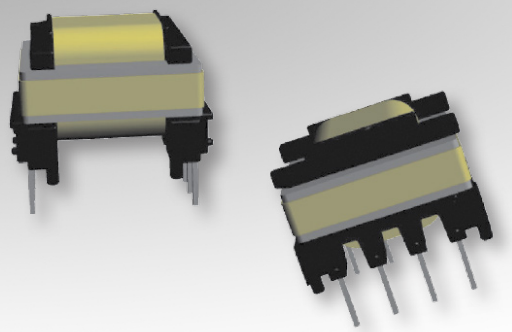
Footprint (mm):



Bobbin Packages

EE16/8/5 (EF16)

8-Terminal, THT, Horizontal



Characteristics:

This TH EE16/8/5 (EF16) package was developed for functional insulation cases and low cost, compact footprint requirements.

Applications:

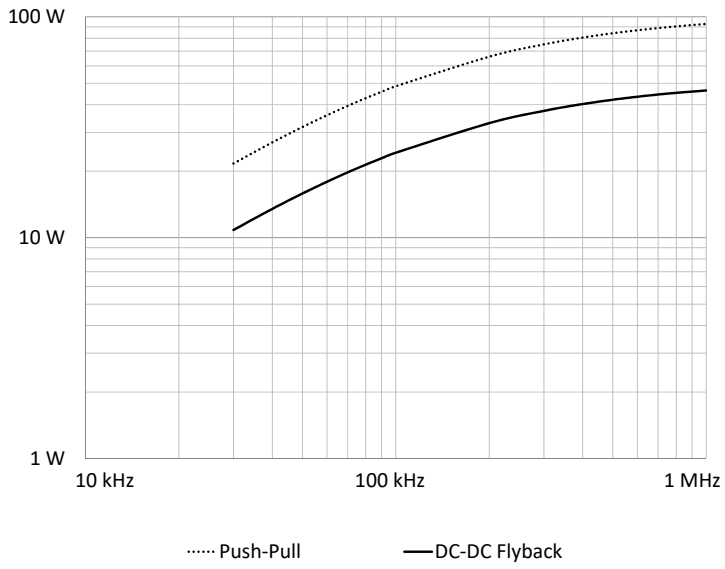
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

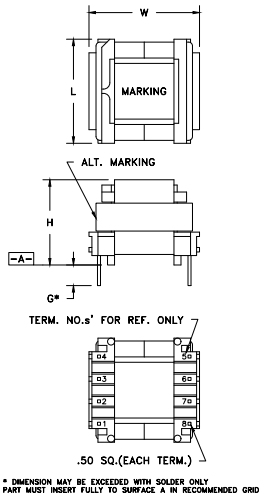
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5420	Functional	10.11	2.39	24.41	20.1	37.6	756	150-2182

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5420	17.96 max.	20.3 max.	14.3 max.	3.5 ±0.5

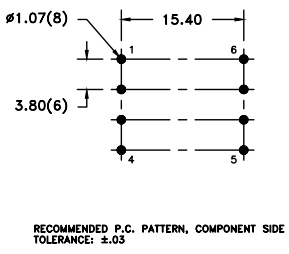
Estimated Maximum Power Level:



Dimensions:



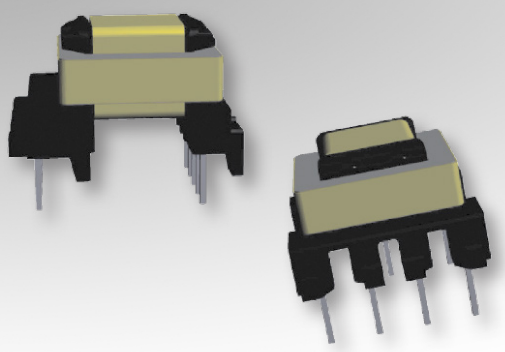
Footprint (mm):



Bobbin Packages

EE16/8/5 (EF16)

9-Terminal EXT, THT, Horizontal



Characteristics:

This TH EE16/8/5 (EF16) package was developed for special safety cases and low cost requirements.

Applications:

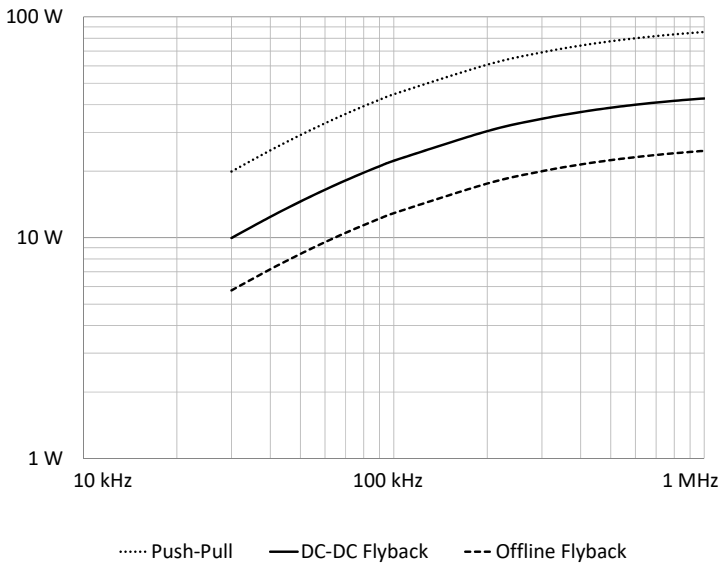
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5280	Reinforced	9.5	2.34	25.4	20.1	37.6	756	150-2182

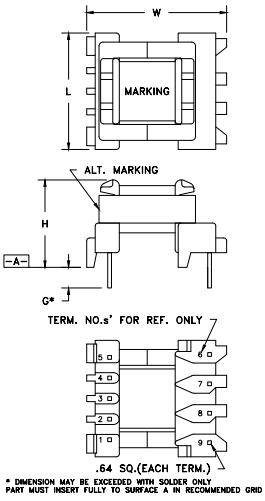
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5280	20.32 max.	24.38 max.	16 max.	3.5 ±0.5

Estimated Maximum Power Level:

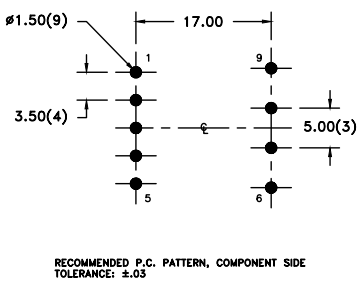


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



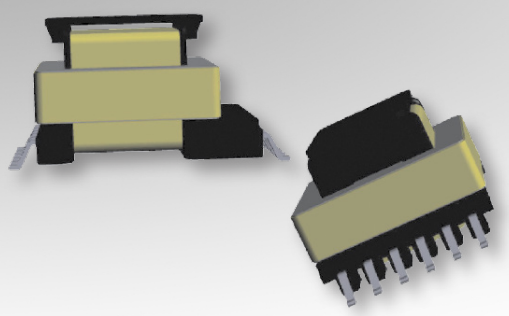
Footprint (mm):



Bobbin Packages

EE16/8/5 (EF16)

12-Terminal EXT, SMT, Horizontal



Characteristics:

This SMT EE16/8/5 (EF16) package was developed for special safety cases and low cost requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

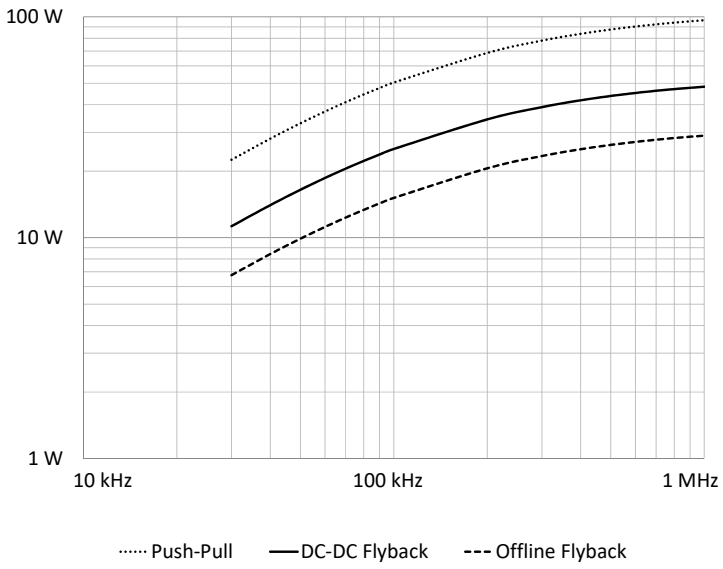
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6562	Reinforced	10.01	2.51	24.38	20.1	37.6	756	150-2182

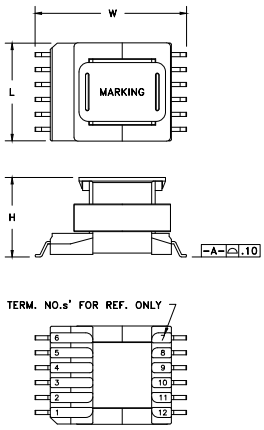
Order Code	L (mm)	W (mm)	H (mm)
070-6562	17.78 max.	26.9 max.	13.8 max.

Estimated Maximum Power Level:

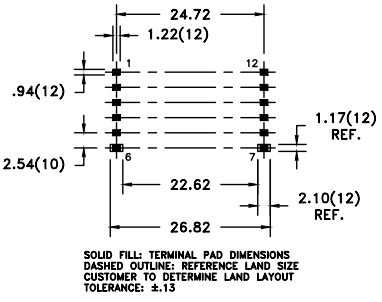


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



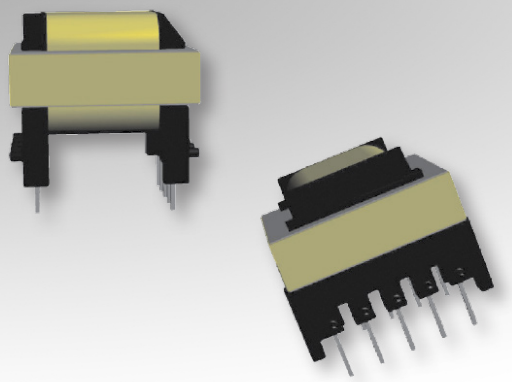
Footprint (mm):



Bobbin Packages

EE20/10/6 (EF20)

10-Terminal, THT, Horizontal



Characteristics:

This TH EE20/10/6 (EF20) package was developed for functional insulation cases and low cost, compact footprint requirements.

Applications:

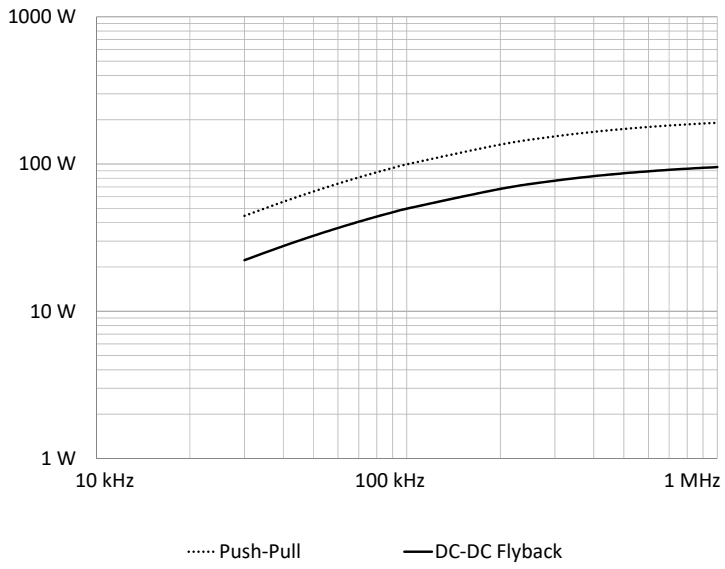
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

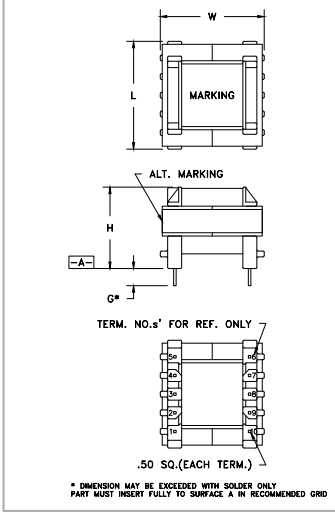
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6544	Functional	12.5	3.15	30.4	32	46	1472	150-1945

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6544	23 max.	22 max.	17.53 max.	3.5 ±0.5

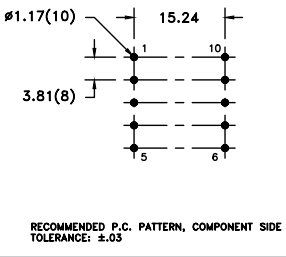
Estimated Maximum Power Level:



Dimensions:



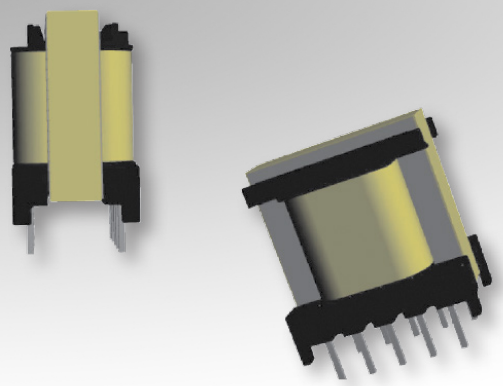
Footprint (mm):



Bobbin Packages

EE20/10/6 (EF20)

10-Terminal, THT, Vertical



Characteristics:

This TH EE20/10/6 (EF20) package was developed for functional insulation cases and low cost, compact footprint requirements.

Applications:

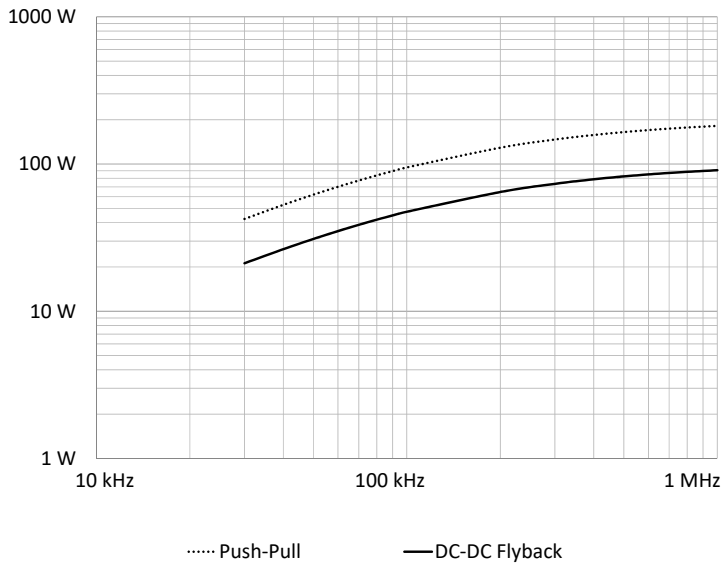
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

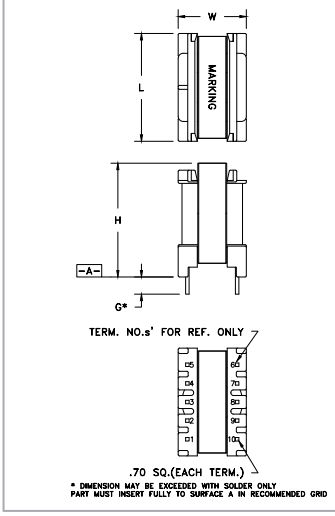
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-7123	Functional	12.5	3	30.23	32	46	1472	150-1945

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-7123	22.25 max.	14.4 max.	23.24 max.	3.25 ±0.25

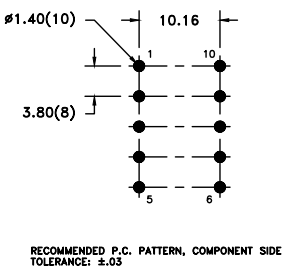
Estimated Maximum Power Level:



Dimensions:



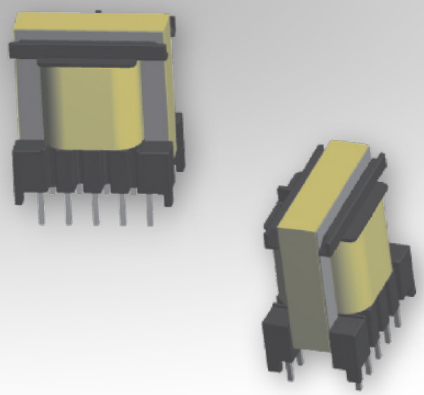
Footprint (mm):



Bobbin Packages

EE20/10/6 (EF20)

10-Terminal EXT, THT, Vertical



Characteristics:

This TH EE20/10/6 (EF20) package was developed for special safety cases and low cost, compact footprint requirements.

Applications:

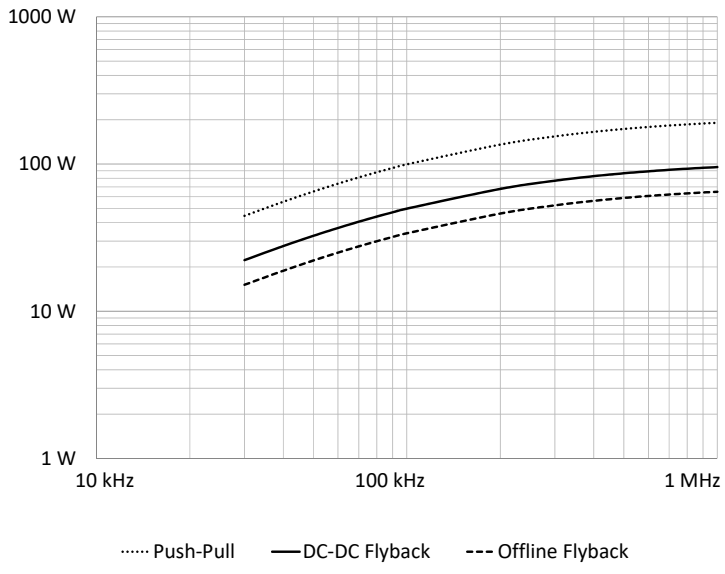
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6372	Reinforced	12.5	3.15	30.23	32	46	1472	150-1945

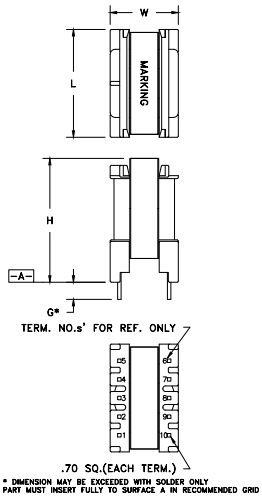
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6372	22.7 max.	14.6 max.	25.3 max.	3.5 ±0.5

Estimated Maximum Power Level:

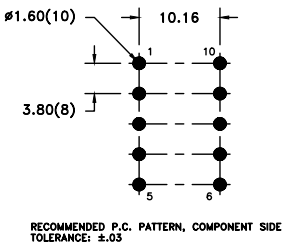


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



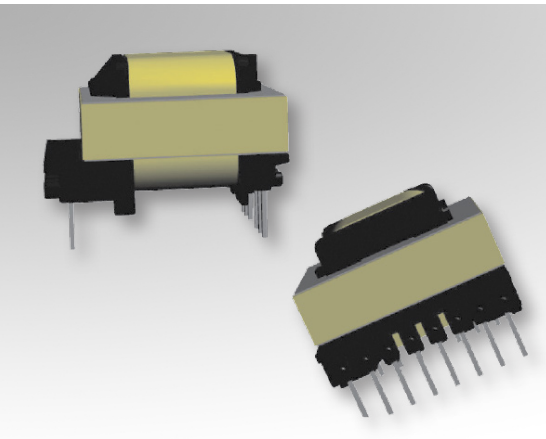
Footprint (mm):



Bobbin Packages

EE20/10/6 (EF20)

14-Terminal EXT, THT, Horizontal



Characteristics:

This TH EE20/10/6 (EF20) package was developed for special safety cases and low cost requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

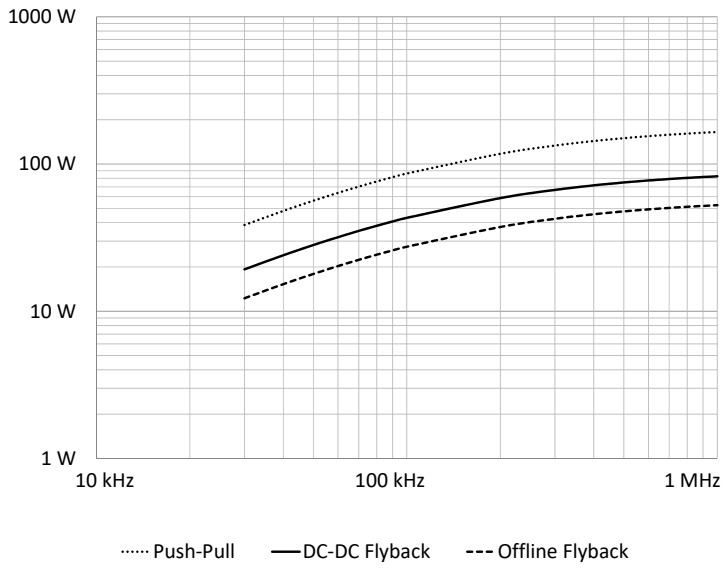
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-7080	Reinforced	11	3.1	31.39	32	46	1472	150-1945

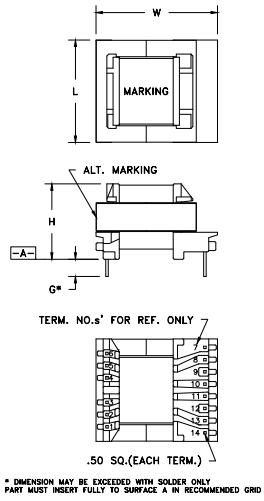
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-7080	22.2 max.	25 max.	16 max.	3.5 ±0.5

Estimated Maximum Power Level:

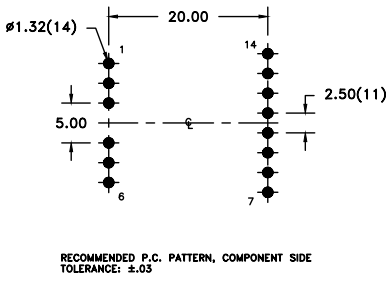


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



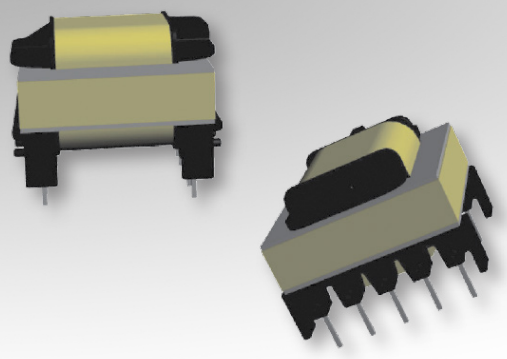
Footprint (mm):



Bobbin Packages

EE25/13/7 (EF25)

10-Terminal, THT, Horizontal



Characteristics:

This TH EE25/13/7 (EF25) package was developed for functional or special safety cases and low cost, compact footprint requirements.

Applications:

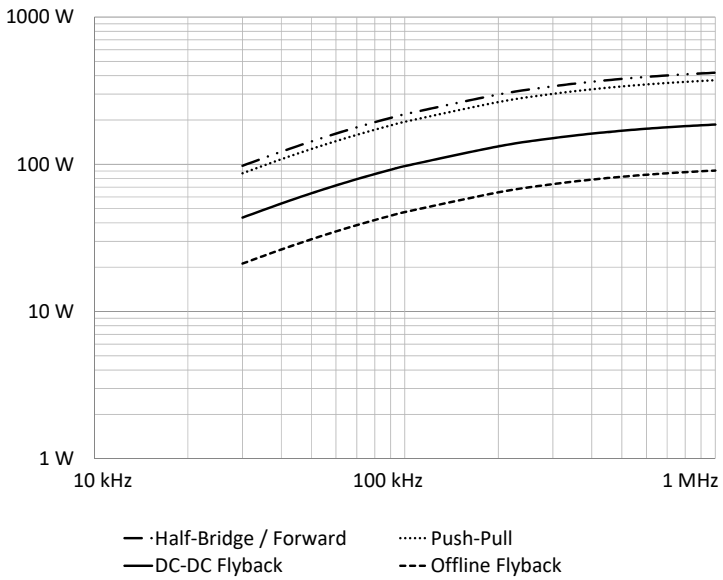
- Offline
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6473	Functional/ Reinforced	15.6	3.99	36.27	51.4	57.8	2971	150-2039

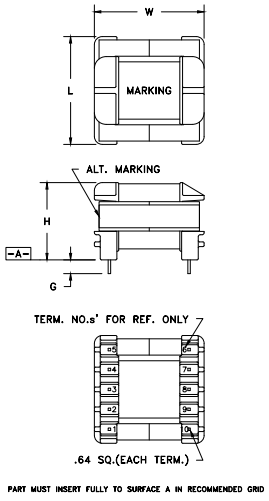
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6473	27.94 max.	29.21 max.	21.59 max.	2.54 min.

Estimated Maximum Power Level:

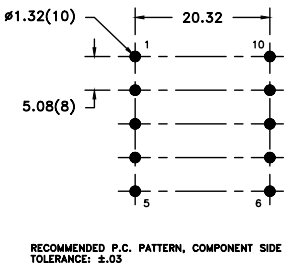


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



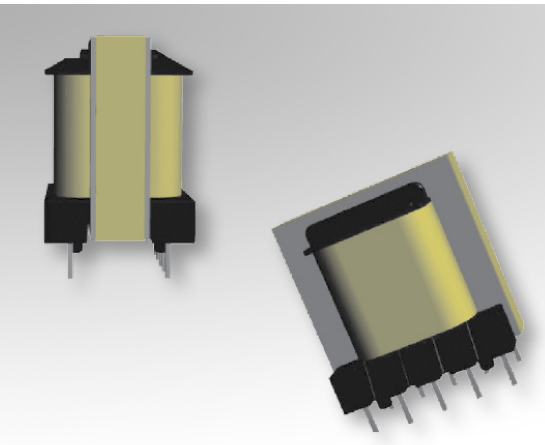
Footprint (mm):



Bobbin Packages

EE25/13/7 (EF25)

10-Terminal, THT, Vertical



Characteristics:

This TH EE25/13/7 (EF25) package was developed for functional or special safety cases and low cost, compact footprint requirements.

Applications:

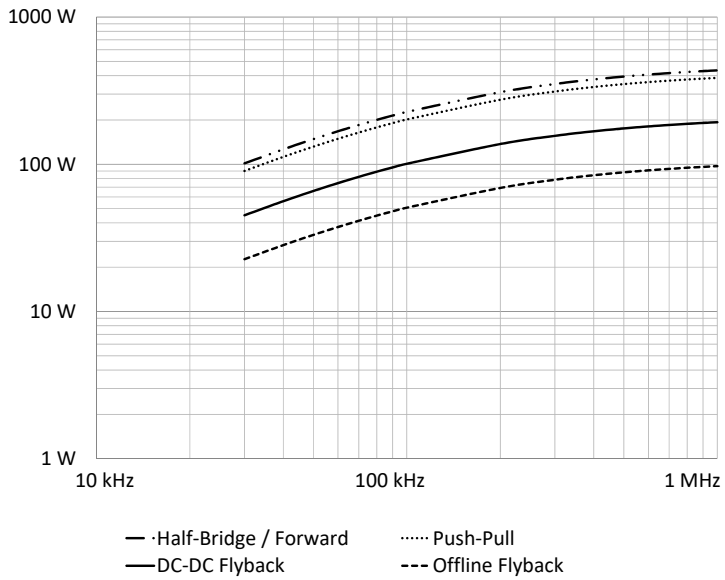
- Offline
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-7019	Functional/ Reinforced	16.1	4.01	36.8	51.4	57.8	2971	150-2039

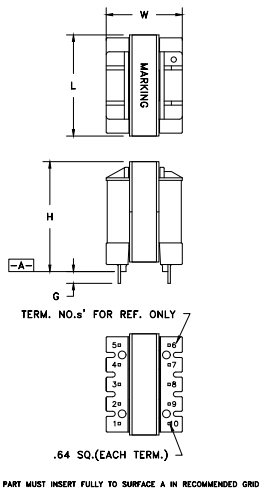
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-7019	27.95 max.	20.32 max.	28.58 max.	2.5 min.

Estimated Maximum Power Level:

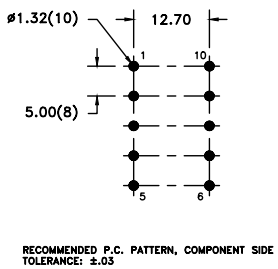


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



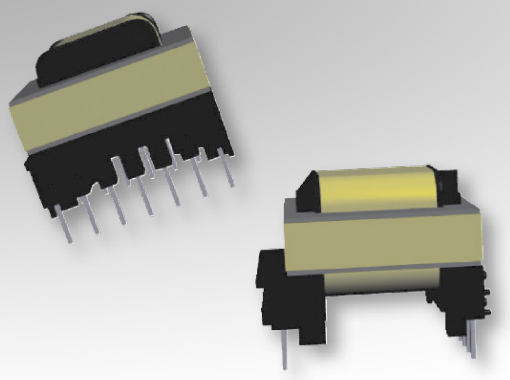
Footprint (mm):



Bobbin Packages

EE25/13/7 (EF25)

14-Terminal EXT, THT, Horizontal



Characteristics:

This TH EE25/13/7 (EF25) package was developed for special safety cases and low cost requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

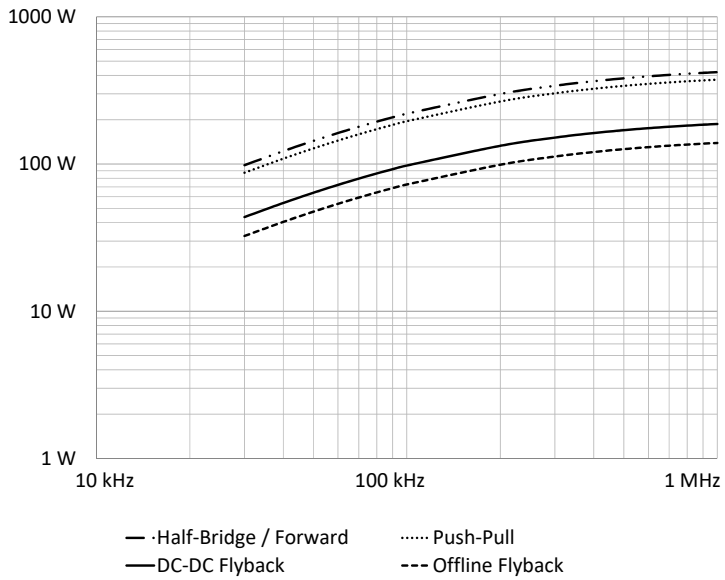
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6725	Reinforced	15.6	4.01	37.21	51.4	57.8	2971	150-2039

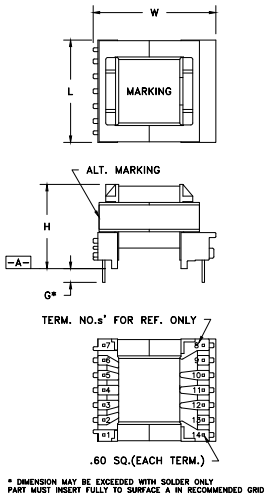
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6725	27.05 max.	32.25 max.	22.86 max.	3.5 ±0.5

Estimated Maximum Power Level:

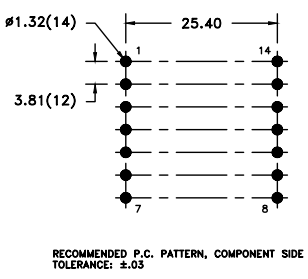


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



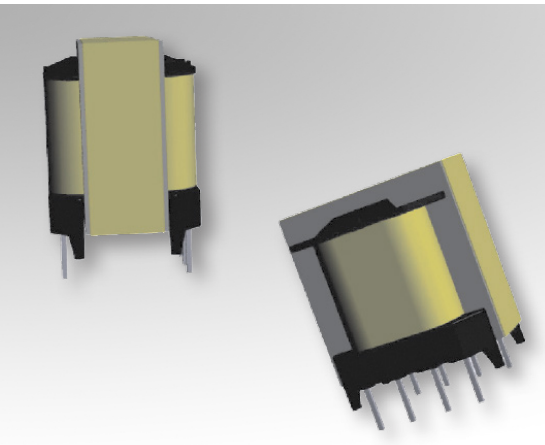
Footprint (mm):



Bobbin Packages

EE25/13/11

8-Terminal, THT, Vertical



Characteristics:

This TH EE25/13/11 package was developed for functional insulation cases and low cost, compact footprint requirements. It features large core cross-sectional area for high power density.

Applications:

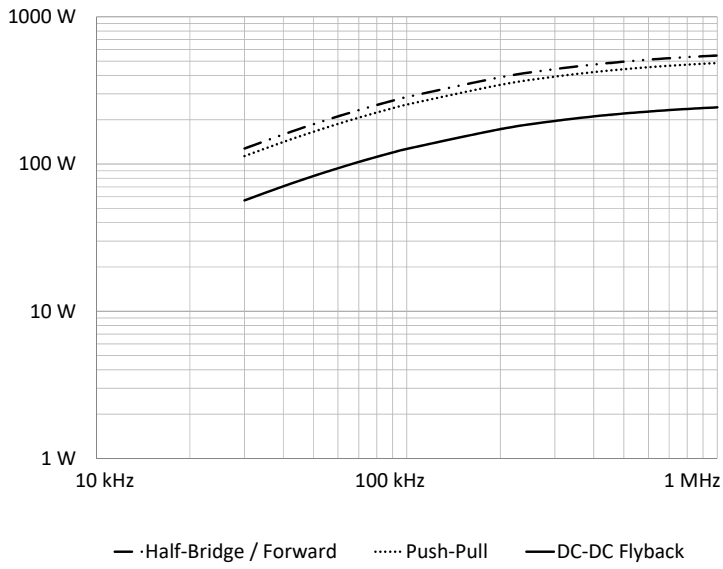
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- PFC

Technical Data:

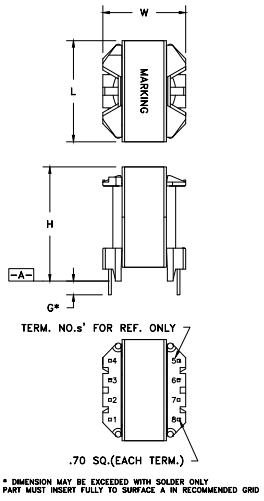
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5080	Functional	15.88	4.22	43.18	78.4	57.8	4532	150-1680

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5080	26 max.	23.5 max.	29.5 max.	3.5 ±0.5

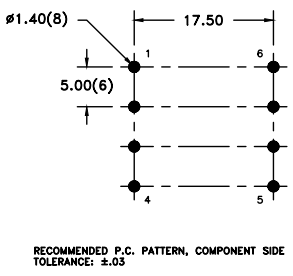
Estimated Maximum Power Level:



Dimensions:



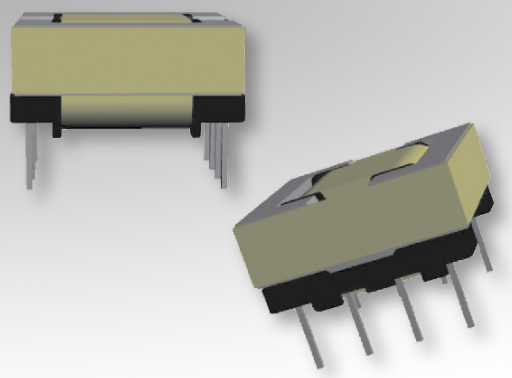
Footprint (mm):



Bobbin Packages

EFD15

8-Terminal, THT, Horizontal



Characteristics:

This TH EFD15 package was developed for functional insulation cases and low profile requirements.

Applications:

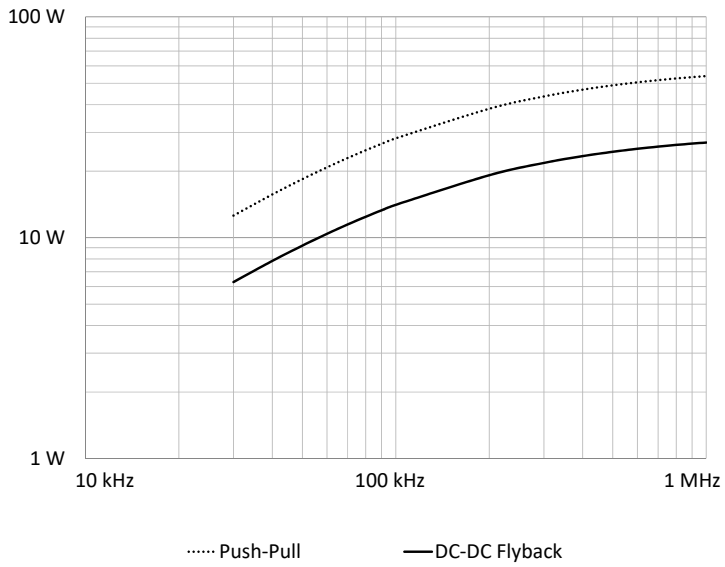
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

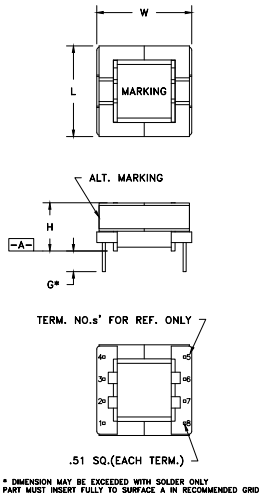
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-2745	Functional	9.2	1.8	21.01	15	34	510	150-2129

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-2745	16.76 max.	16.76 max.	8.89 max.	3.18 ±0.64

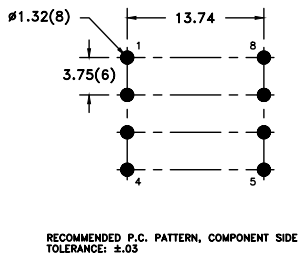
Estimated Maximum Power Level:



Dimensions:



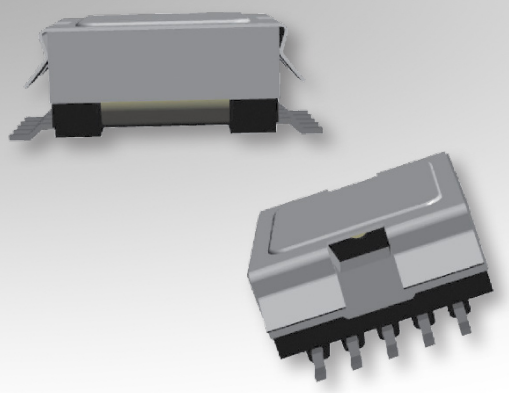
Footprint (mm):



Bobbin Packages

EFD15

10-Terminal, SMT, Horizontal



Characteristics:

This SMT EFD15 package was developed for functional insulation cases and low profile requirements.

Applications:

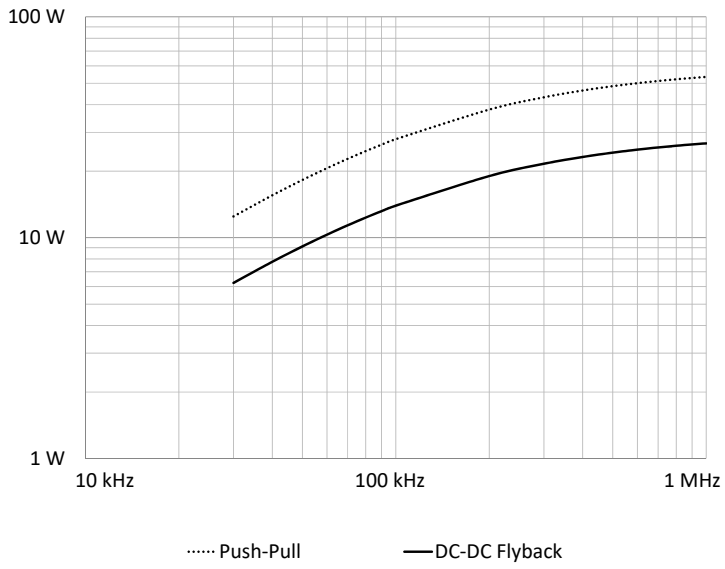
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

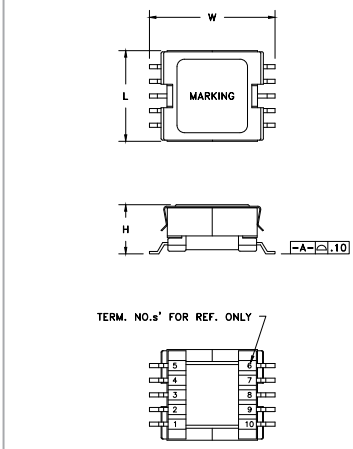
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5939	Functional	8.97	1.83	19.89	15	34	510	150-2129

Order Code	L (mm)	W (mm)	H (mm)
070-5939	15.75 max.	22.35 max.	8.89 max.

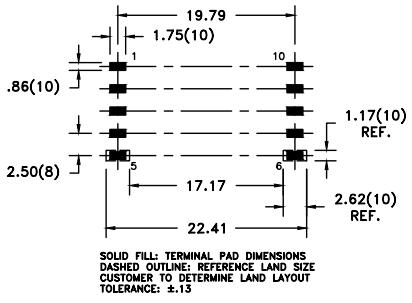
Estimated Maximum Power Level:



Dimensions:



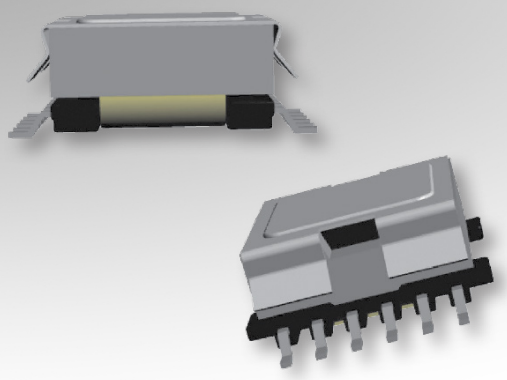
Footprint (mm):



Bobbin Packages

EFD15

12-Terminal, SMT, Horizontal



Characteristics:

This SMT EFD15 package was developed for functional insulation cases and low profile requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

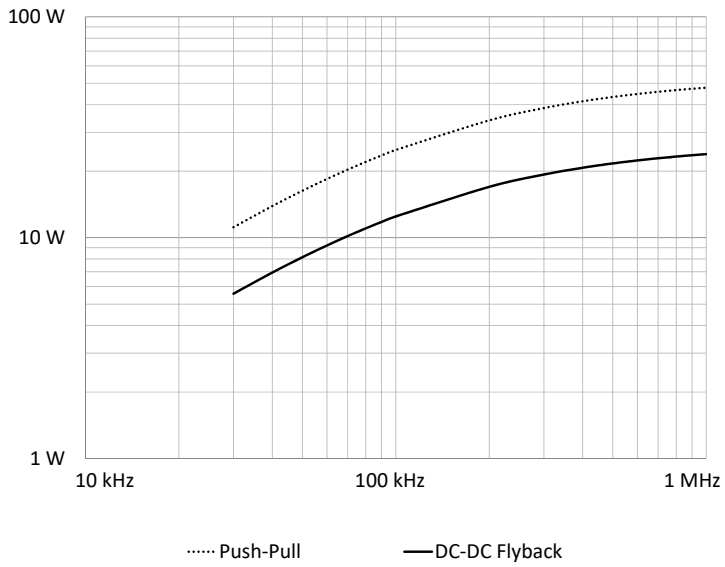
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

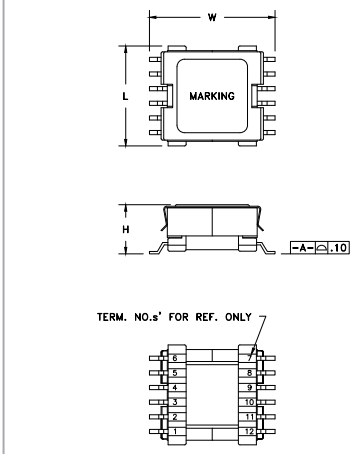
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-4265	Functional	8.89	1.65	20.65	15	34	510	150-2129

Order Code	L (mm)	W (mm)	H (mm)
070-4265	17.78 max.	22.35 max.	8.89 max.

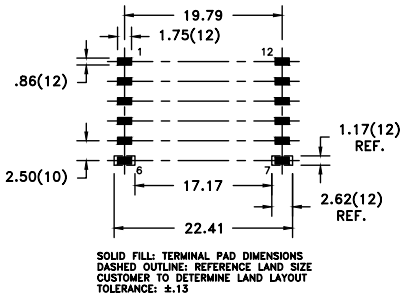
Estimated Maximum Power Level:



Dimensions:



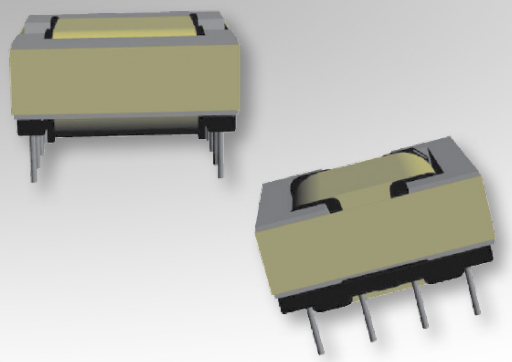
Footprint (mm):



Bobbin Packages

EFD20

8-Terminal, THT, Horizontal



Characteristics:

This TH EFD20 package was developed for functional insulation cases and low profile requirements.

Applications:

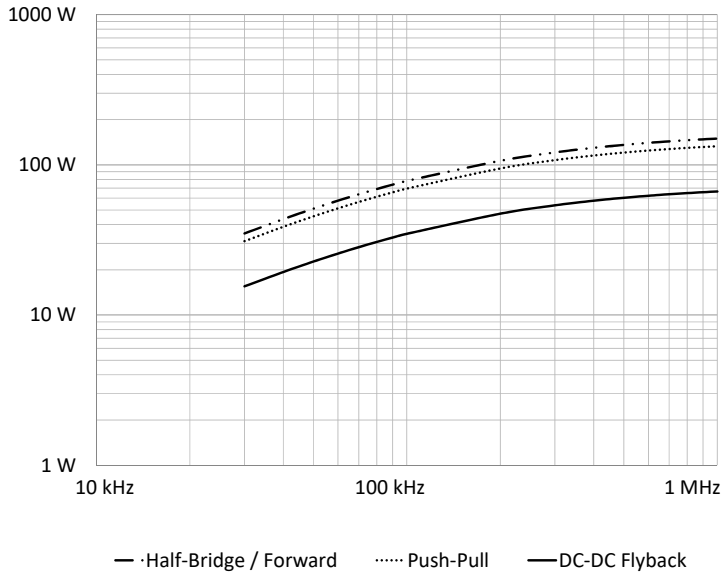
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

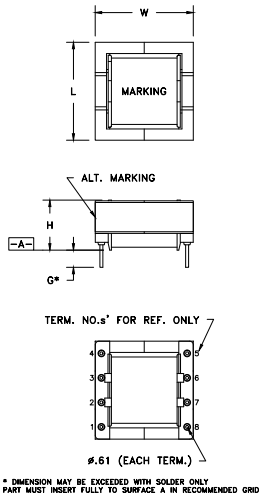
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-2609	Functional	13.4	2.08	28.85	31	47	1457	150-2124

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-2609	21.08 max.	21.08 max.	10.8 max.	3.18 ±0.64

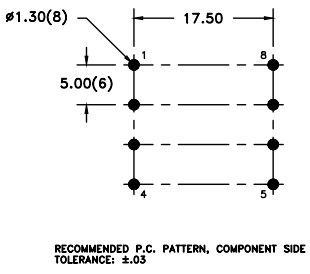
Estimated Maximum Power Level:



Dimensions:



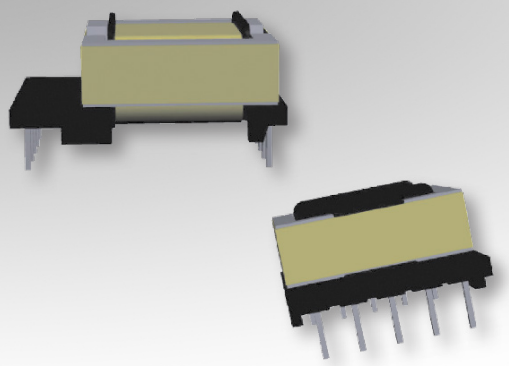
Footprint (mm):



Bobbin Packages

EFD20

10-Terminal EXT, THT, Horizontal



Characteristics:

This TH EFD20 package was developed for special safety cases and low profile requirements.

Applications:

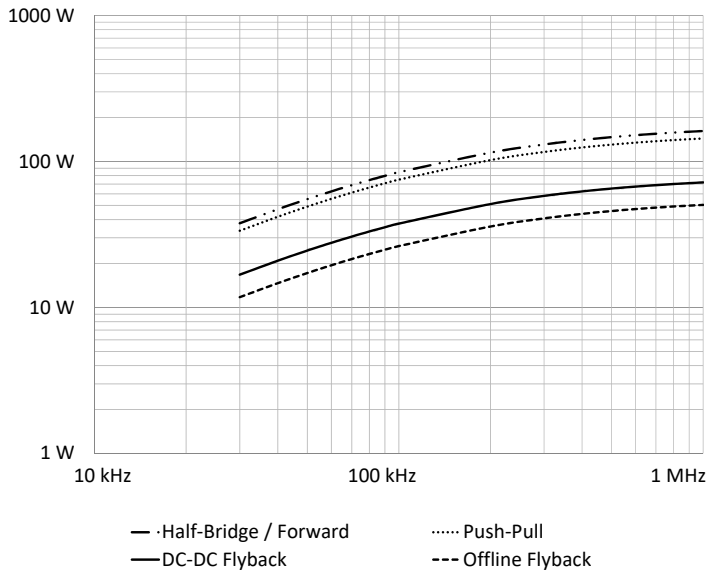
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5982	Reinforced	13.4	2.25	31.01	31	47	1457	150-2124

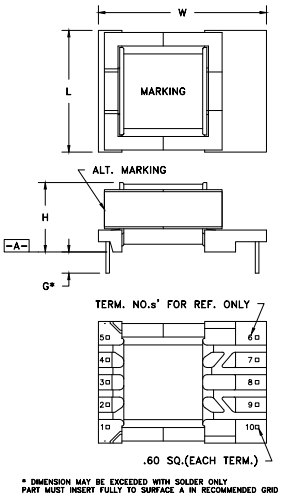
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5982	21.5 max.	29 max.	12 max.	3.6 ±0.2

Estimated Maximum Power Level:

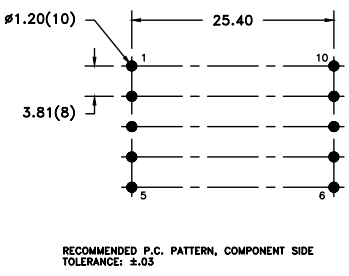


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



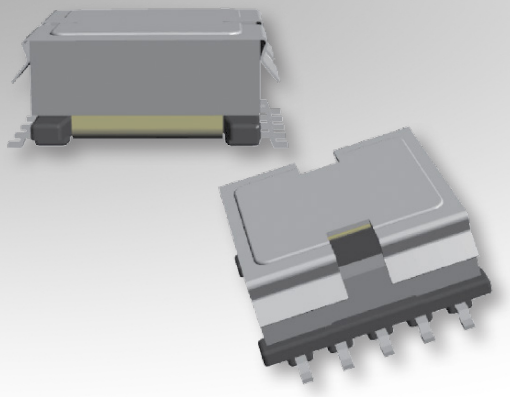
Footprint (mm):



Bobbin Packages

EFD20

10-Terminal, SMT, Horizontal



Characteristics:

This SMT EFD20 package was developed for functional insulation cases and low profile requirements.

Applications:

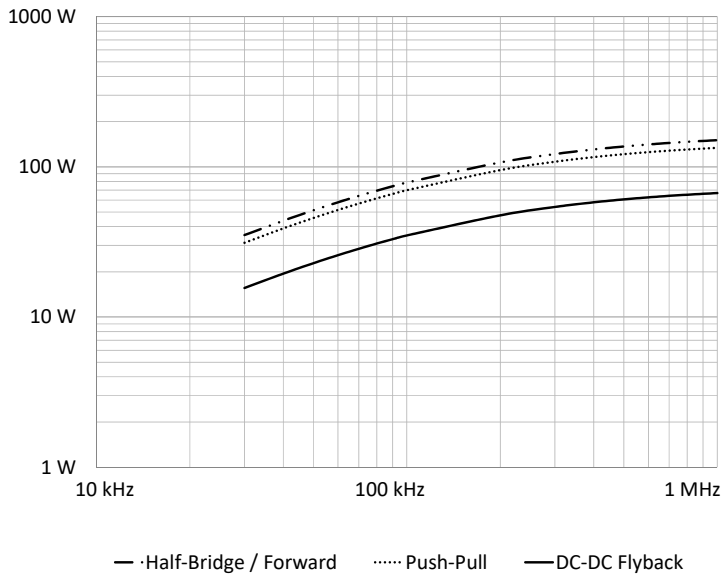
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

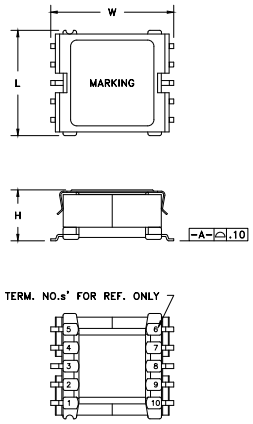
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-4290	Functional	13.61	2.06	27.94	31	47	1457	150-2124

Order Code	L (mm)	W (mm)	H (mm)
070-4290	23.11 max.	26.1 max.	10.92 max.

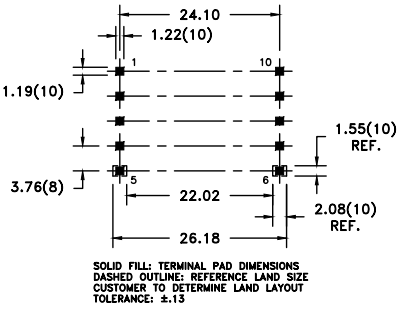
Estimated Maximum Power Level:



Dimensions:



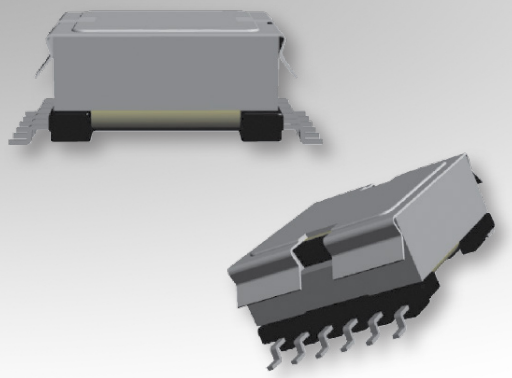
Footprint (mm):



Bobbin Packages

EFD20

12-Terminal, SMT, Horizontal



Characteristics:

This SMT EFD20 package was developed for functional insulation cases and low profile requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

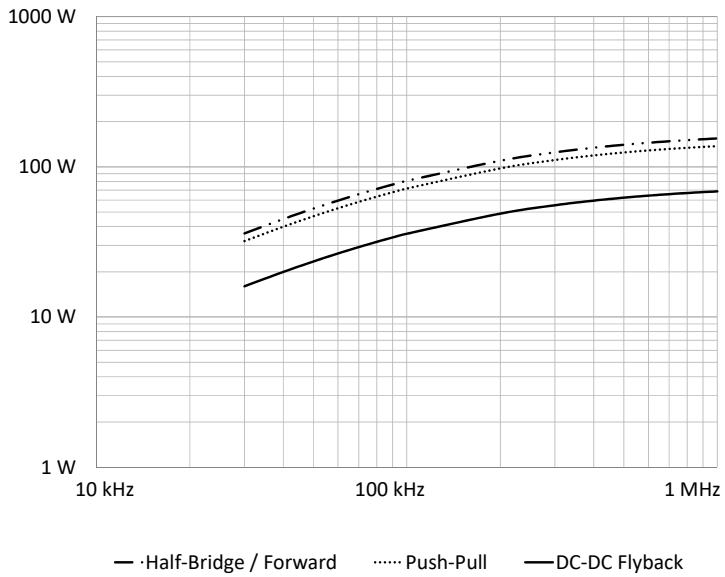
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

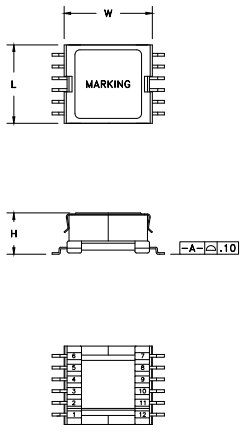
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5899	Functional	13.64	2.11	31.2	31	47	1457	150-2124

Order Code	L (mm)	W (mm)	H (mm)
070-5899	23.11 max.	29.65 max.	11.43 max.

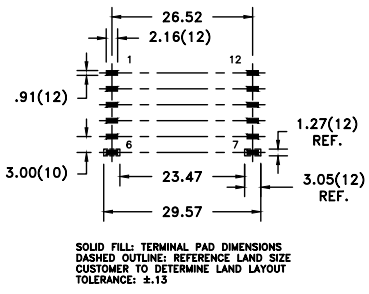
Estimated Maximum Power Level:



Dimensions:



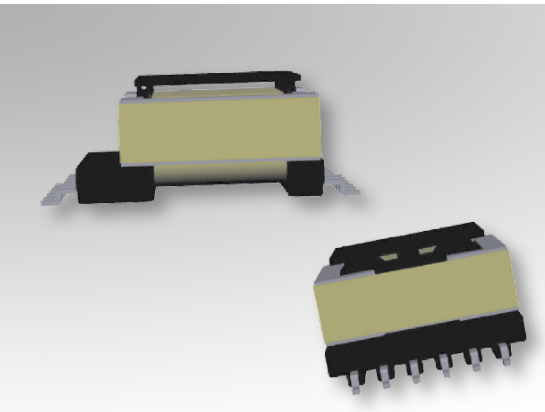
Footprint (mm):



Bobbin Packages

EFD20

12-Terminal EXT, SMT, Horizontal



Characteristics:

This SMT EFD20 package was developed for special safety cases and low profile requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

A max height of 12mm is achievable without the pick-and-place cap.

Applications:

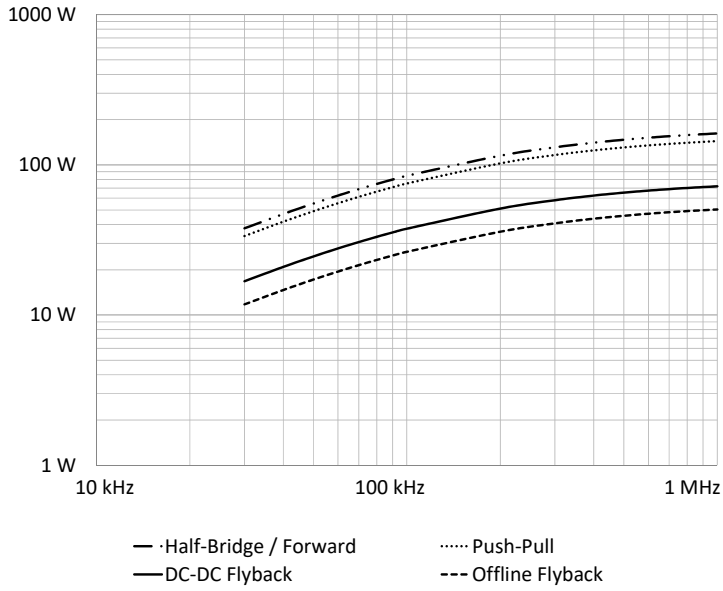
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5900	Reinforced	13.4	2.25	30.64	31	47	1457	150-2124

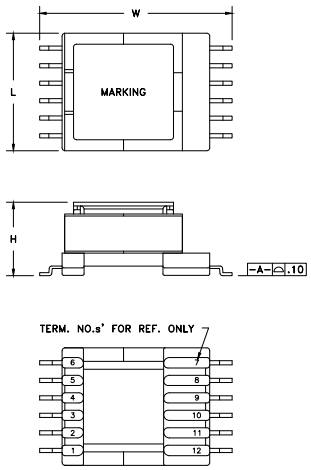
Order Code	L (mm)	W (mm)	H (mm)
070-5900	21.5 max.	33.8 max.	13 max.

Estimated Maximum Power Level:

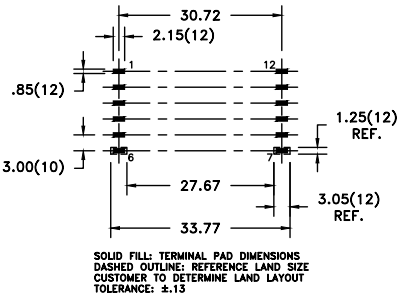


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



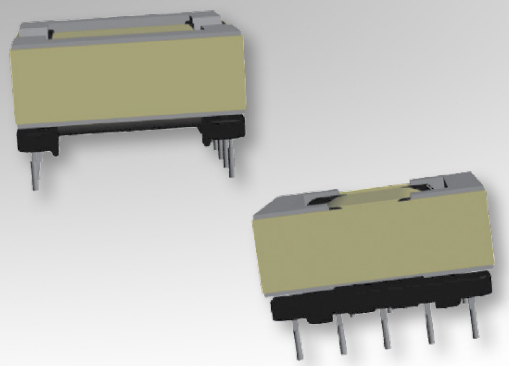
Footprint (mm):



Bobbin Packages

EFD25

10-Terminal, THT, Horizontal



Characteristics:

This TH EFD25 package was developed for functional insulation cases and low profile requirements.

Applications:

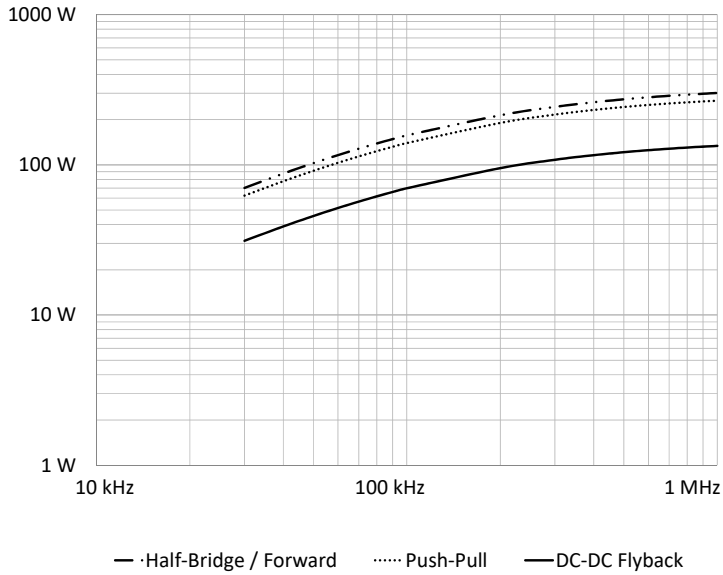
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

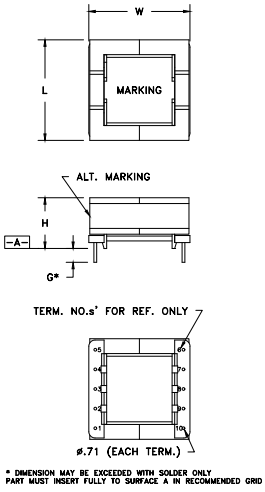
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-2710	Functional	16.69	2.24	37.26	58	57	3306	150-2305

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-2710	26.04 max.	26.67 max.	13.59 max.	4.25 ±1

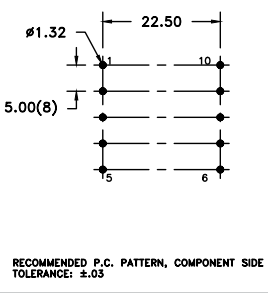
Estimated Maximum Power Level:



Dimensions:



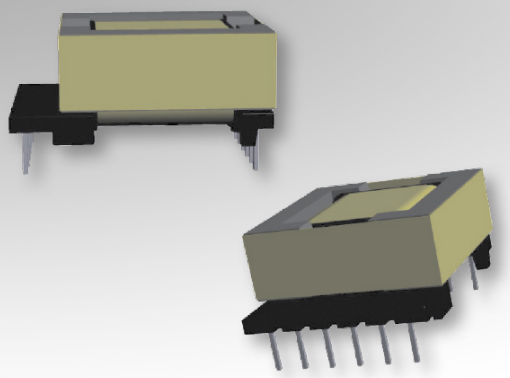
Footprint (mm):



Bobbin Packages

EFD25

12-Terminal EXT, THT, Horizontal



Characteristics:

This TH EFD25 package was developed for special safety cases and low profile requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

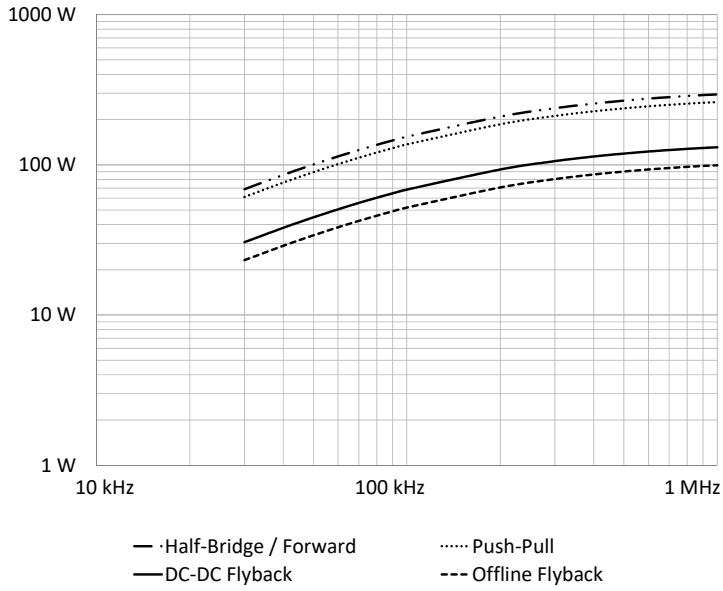
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-7169	Reinforced	16.61	2.5	39.62	58	57	3306	150-2305

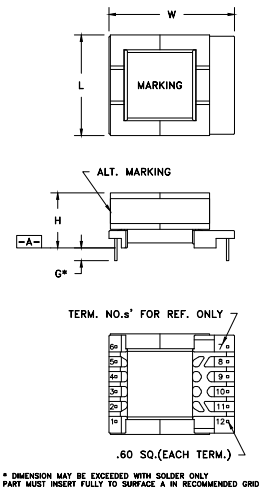
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-7169	26.3 max.	33 max.	14 max.	4 ±1

Estimated Maximum Power Level:

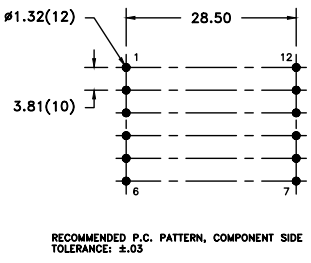


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



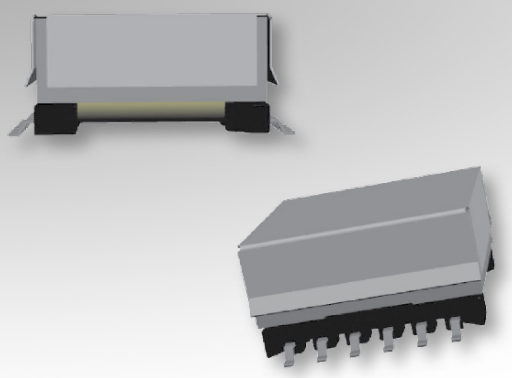
Footprint (mm):



Bobbin Packages

EFD25

12-Terminal, SMT, Horizontal



Characteristics:

This SMT EFD25 package was developed for functional insulation cases and low profile requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

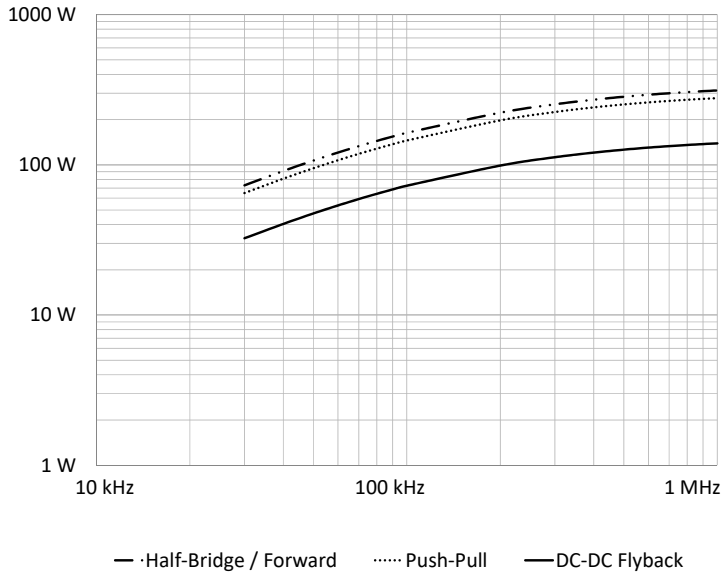
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

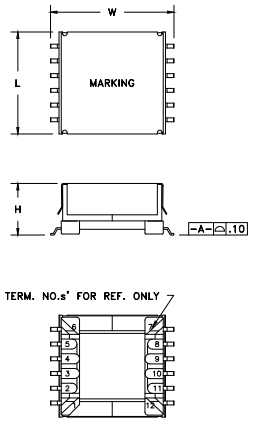
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-4476	Functional	16.7	2.64	39.62	58	57	3306	150-2305

Order Code	L (mm)	W (mm)	H (mm)
070-4476	27.03 max.	32.45 max.	13.97 max.

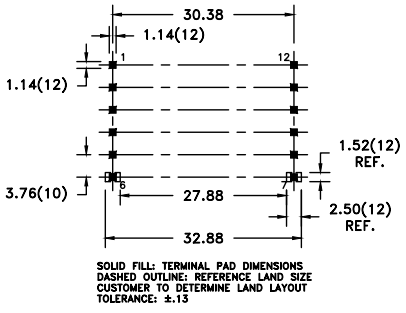
Estimated Maximum Power Level:



Dimensions:



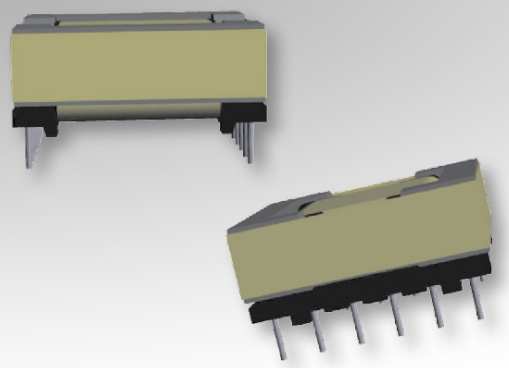
Footprint (mm):



Bobbin Packages

EFD30

12-Terminal, THT, Horizontal



Characteristics:

This TH EFD30 package was developed for functional insulation cases and low profile requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

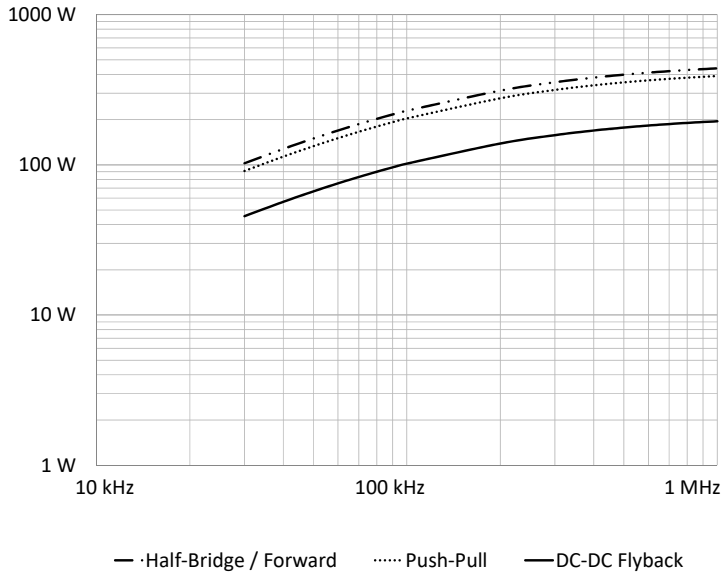
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

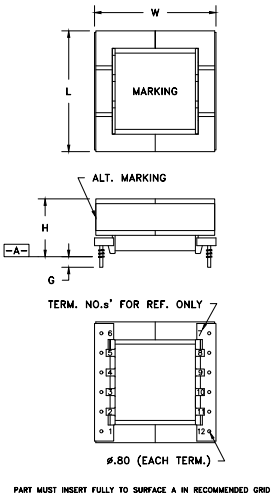
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5491	Functional	20.5	2.79	45.62	69	68	4692	150-2308

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5491	33 max.	32 max.	14.48 max.	2.03 min.

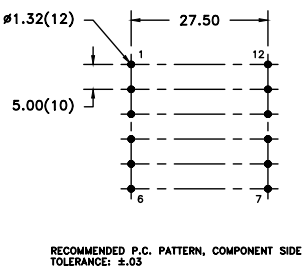
Estimated Maximum Power Level:



Dimensions:



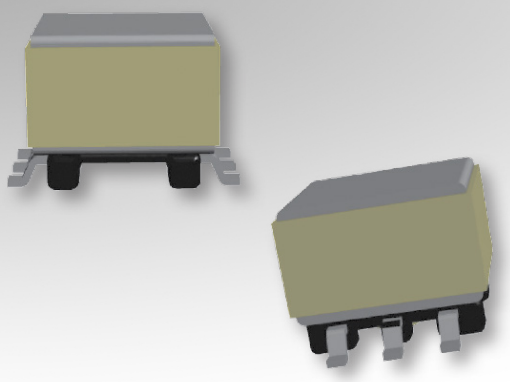
Footprint (mm):



Bobbin Packages

EP5

6-Terminal, SMT, Horizontal



Characteristics:

This SMT EP5 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

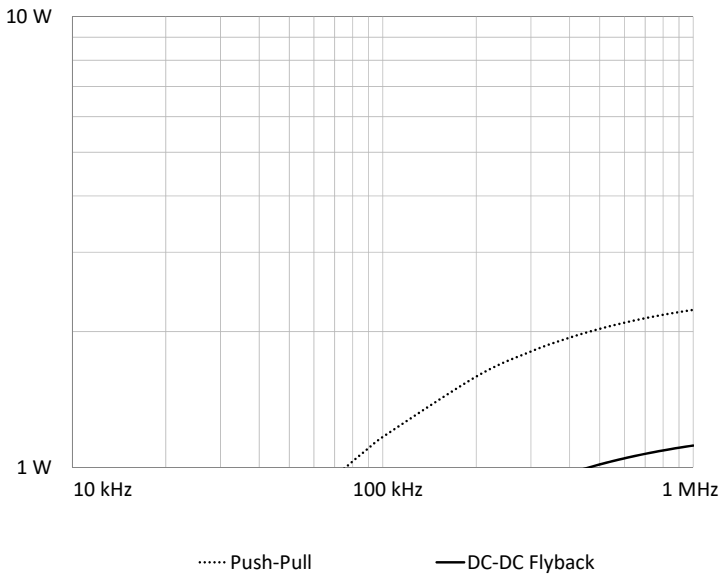
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- DSL
- CMC

Technical Data:

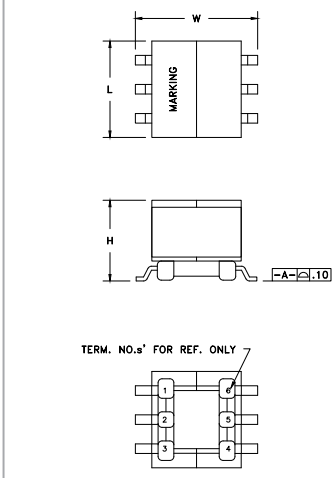
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-4426	Functional	2.9	0.76	7.85	3.1	9.7	30	150-1219	150-1306

Order Code	L (mm)	W (mm)	H (mm)
070-4426	6.6 max.	8.26 max.	5.59 max.

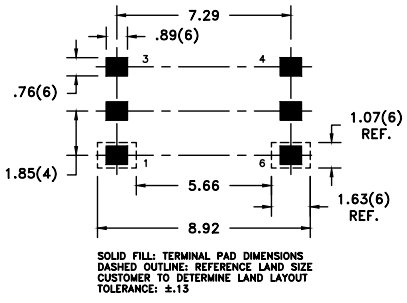
Estimated Maximum Power Level:



Dimensions:



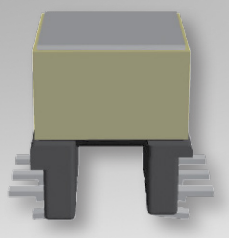
Footprint (mm):

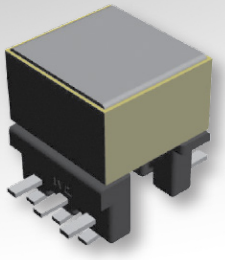


Bobbin Packages

EP5

6-Terminal, SMT, Horizontal





Characteristics:

This SMT EP5 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

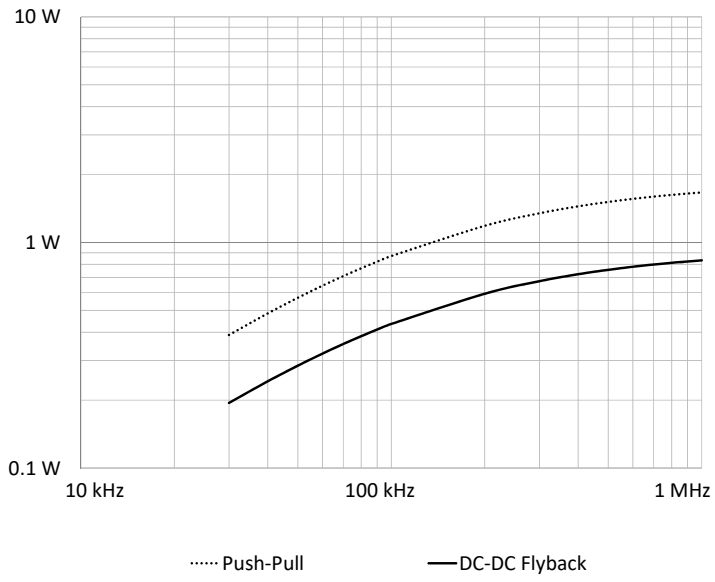
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- DSL

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-6279	Basic/ Supplementary	2.9	0.81	7.85	3.1	9.7	30	150-1219	150-1306

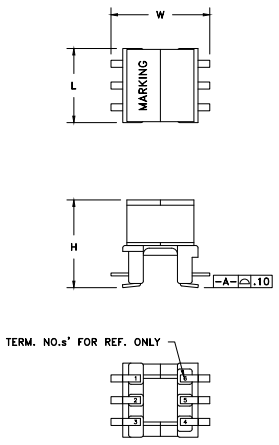
Order Code	L (mm)	W (mm)	H (mm)
070-6279	7 max.	9.1 max.	7.8 max.

Estimated Maximum Power Level:

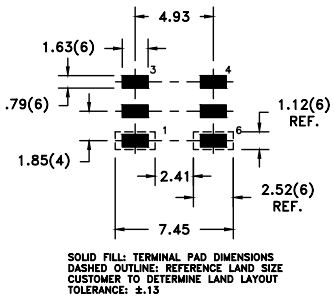


Curves shown are for Supplementary Insulation designs

Dimensions:



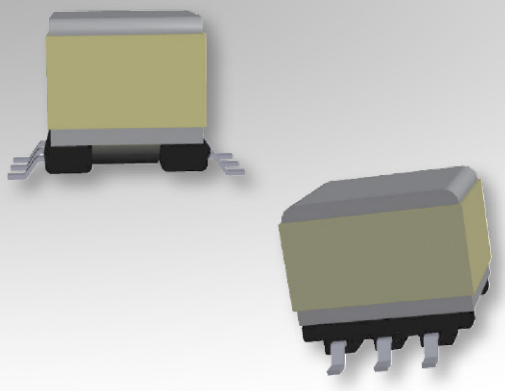
Footprint (mm):



Bobbin Packages

EP7

6-Terminal, SMT, Horizontal



Characteristics:

This SMT EP7 package was developed for functional insulation cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

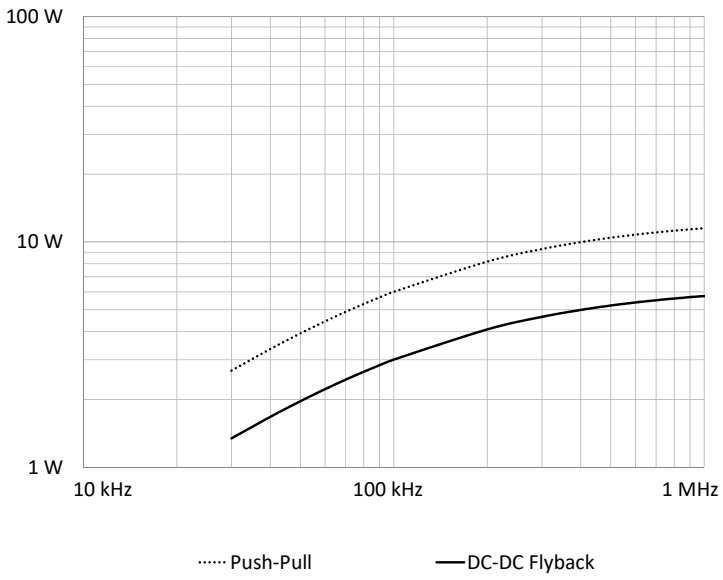
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- DSL
- CMC

Technical Data:

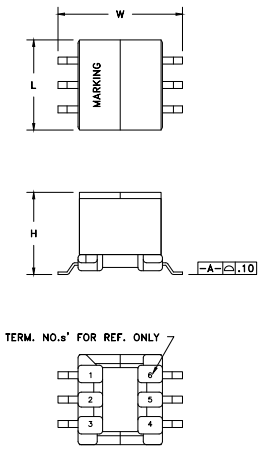
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-5801	Functional	3.61	1.24	14.15	10.3	15.7	162	150-2365	150-0341

Order Code	L (mm)	W (mm)	H (mm)
070-5801	10.16 max.	13.36 max.	9.14 max.

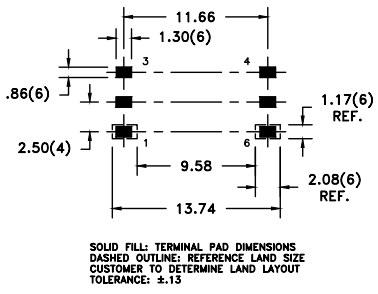
Estimated Maximum Power Level:



Dimensions:



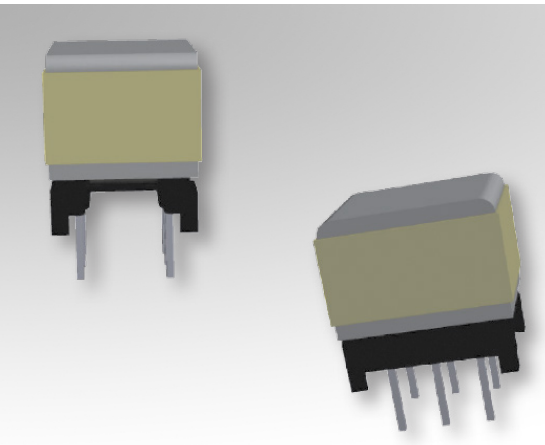
Footprint (mm):



Bobbin Packages

EP7

6-Terminal, THT, Horizontal



Characteristics:

This TH EP7 package was developed for functional insulation cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

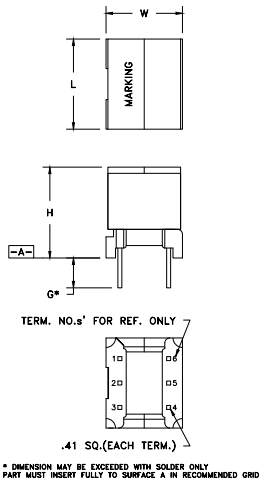
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- DSL
- CMC

Technical Data:

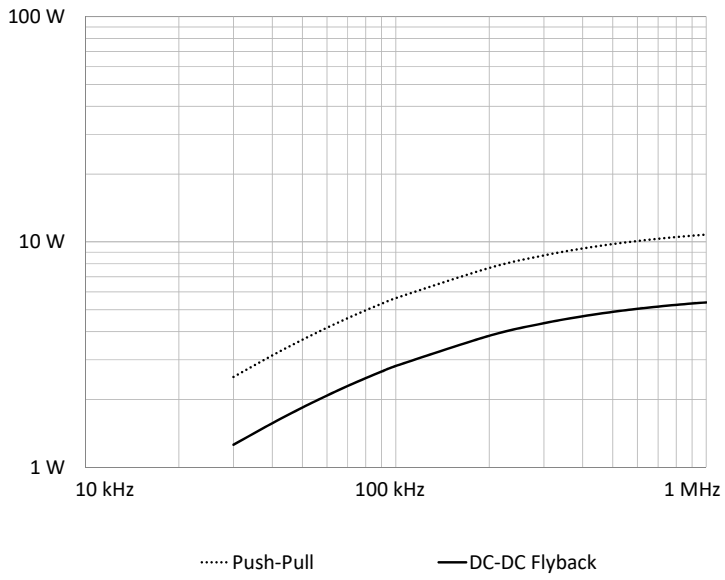
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-2150	Functional	3.68	1.14	14.2	10.3	15.7	162	150-2365	150-0341

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-2150	10.16 max.	8.26 max.	9.78 max.	3.05 ±0.25

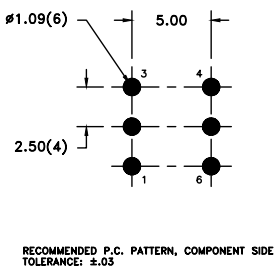
Dimensions:



Estimated Maximum Power Level:



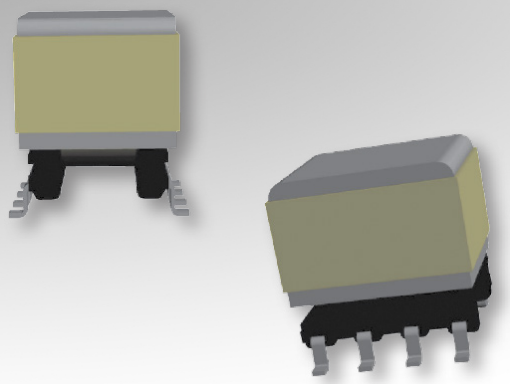
Footprint (mm):



Bobbin Packages

EP7

8-Terminal, SMT, Horizontal



Characteristics:

This SMT EP7 package was developed for special safety cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

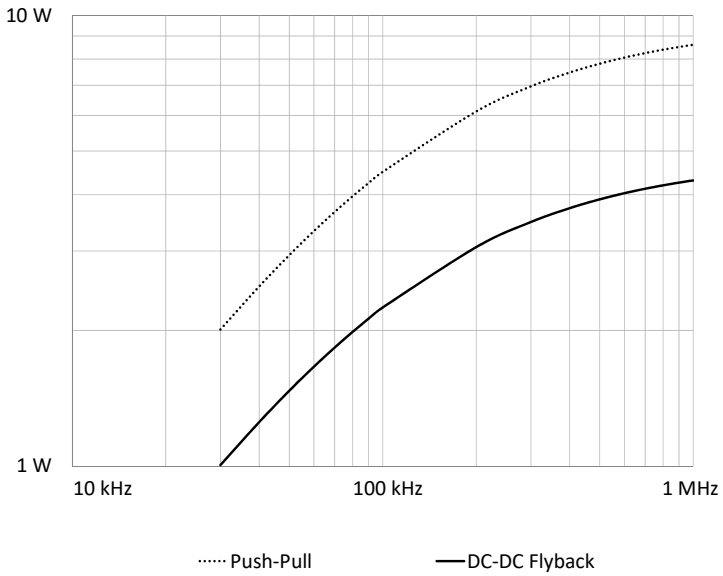
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- DSL
- CMC

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-7148	Basic/ Supplementary	3.86	1.24	14.2	10.3	15.7	162	150-2365	150-0341

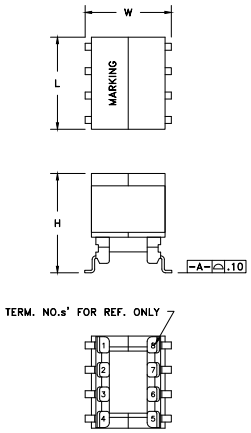
Order Code	L (mm)	W (mm)	H (mm)
070-7148	9.78 max.	9.5 max.	10.54 max.

Estimated Maximum Power Level:

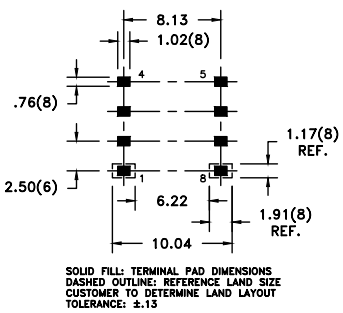


Curves shown are for Supplementary Insulation designs

Dimensions:



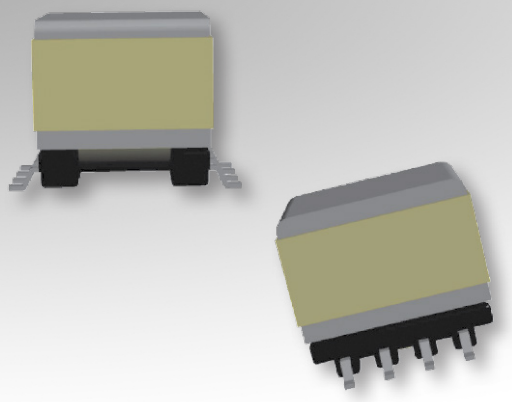
Footprint (mm):



Bobbin Packages

EP10

8-Terminal, SMT, Horizontal



Characteristics:

This SMT EP10 package was developed for functional insulation cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

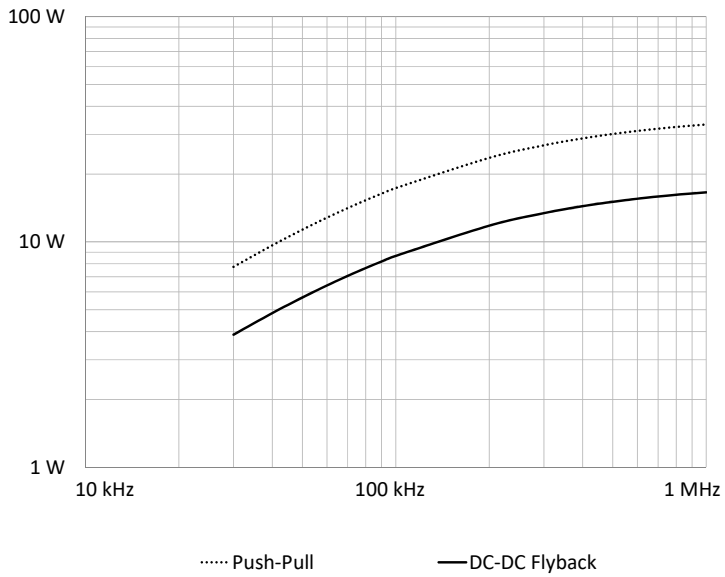
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL
- CMC

Technical Data:

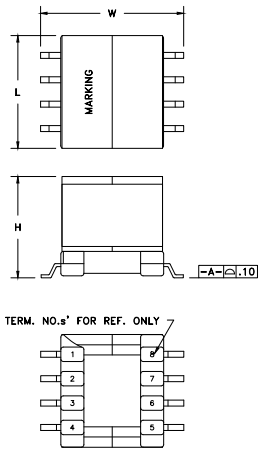
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-6052	Functional	5.79	2.1	15.08	11.3	19.3	218	150-2361	150-0339

Order Code	L (mm)	W (mm)	H (mm)
070-6052	13.34 max.	15.24 max.	11.43 max.

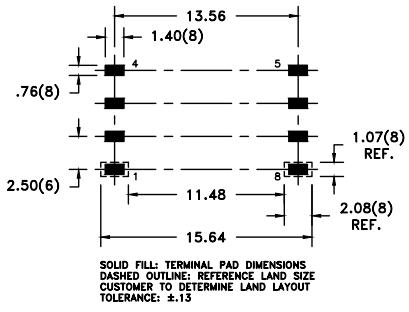
Estimated Maximum Power Level:



Dimensions:



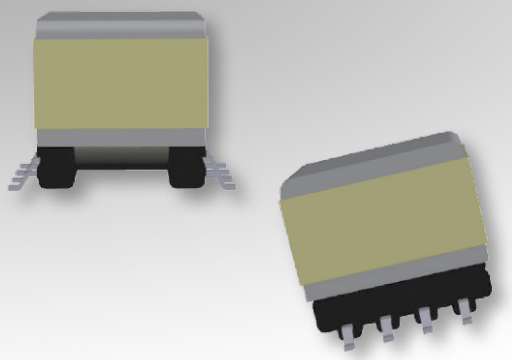
Footprint (mm):



Bobbin Packages

EP10

8-Terminal, SMT, Horizontal



Characteristics:

This SMT EP10 package was developed for special safety cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

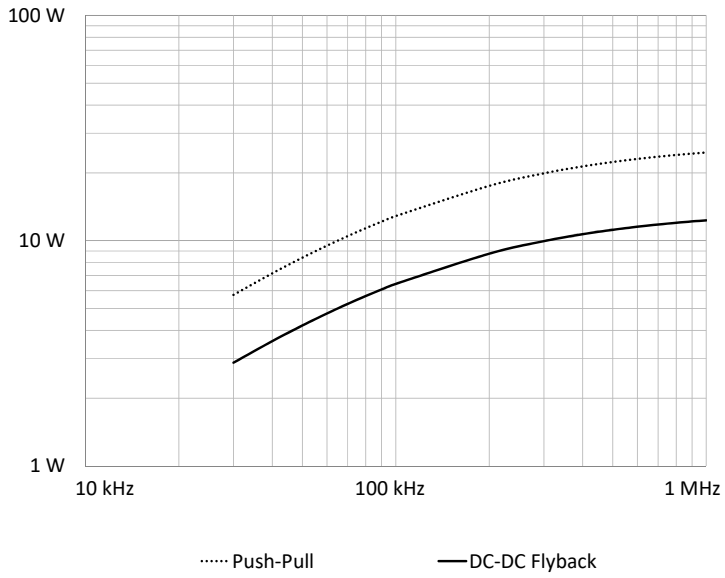
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL
- CMC

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-4413	Basic/ Supplementary	6.05/2.74	2.13	16.23	11.3	19.3	218	150-2361	150-0339

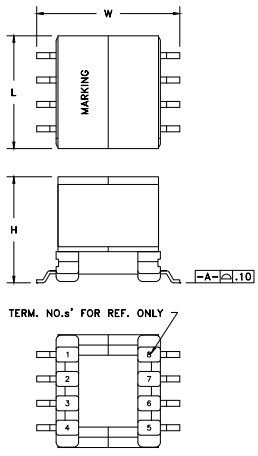
Order Code	L (mm)	W (mm)	H (mm)
070-4413	13.34 max.	15.24 max.	11.56 max.

Estimated Maximum Power Level:

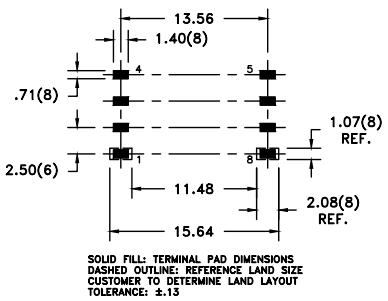


Curves shown are for Supplementary Insulation designs

Dimensions:



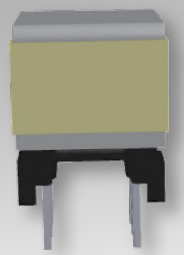
Footprint (mm):

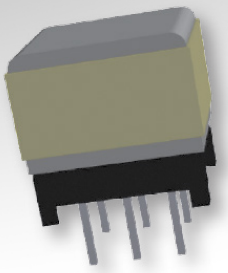


Bobbin Packages

EP10

8-Terminal, THT, Horizontal





Characteristics:

This TH EP10 package was developed for functional insulation cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

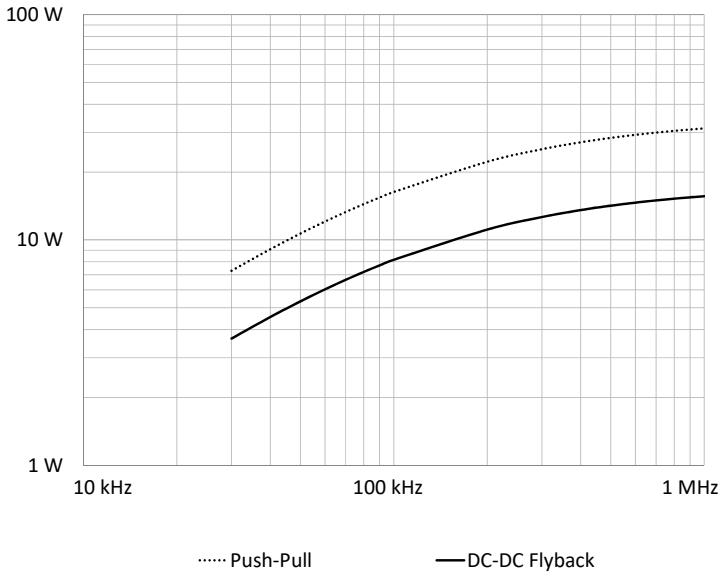
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL
- CMC

Technical Data:

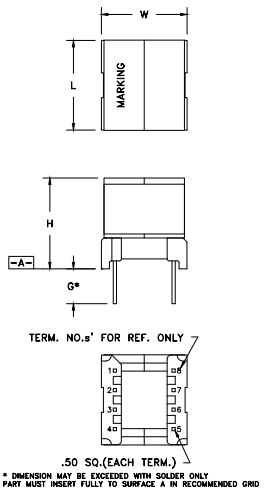
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-2365	Functional	5.84	1.96	15.32	11.3	19.3	218	150-2361	150-0339

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-2365	13.34 max.	11.68 max.	12.57 max.	4.45 ±0.25

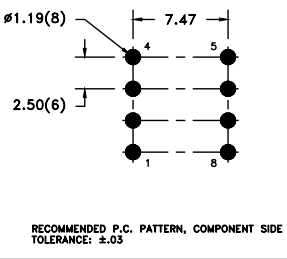
Estimated Maximum Power Level:



Dimensions:



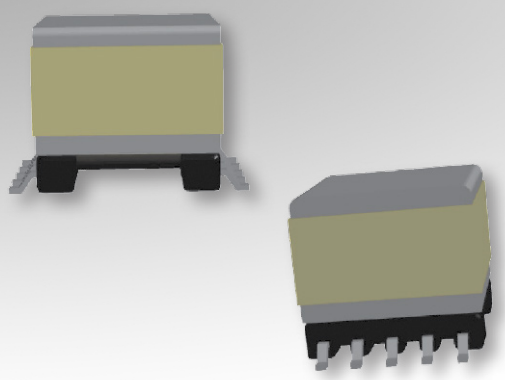
Footprint (mm):



Bobbin Packages

EP13

10-Terminal, SMT, Horizontal



Characteristics:

This SMT EP13 package was developed for functional insulation cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

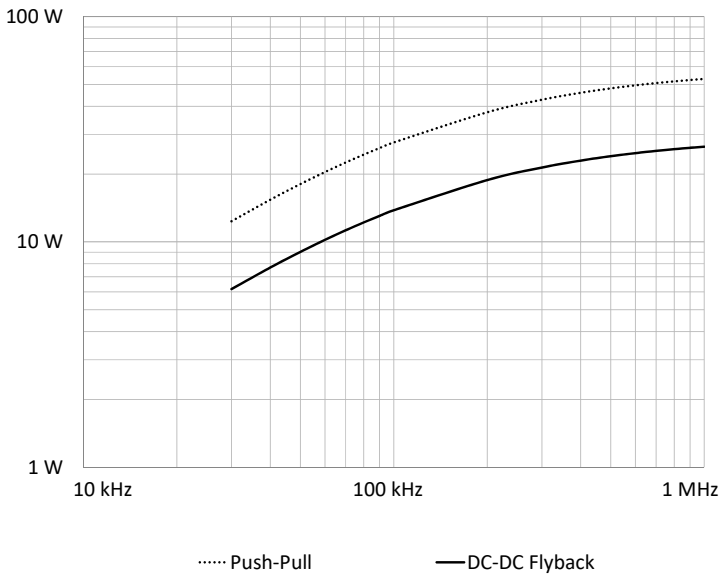
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL
- CMC

Technical Data:

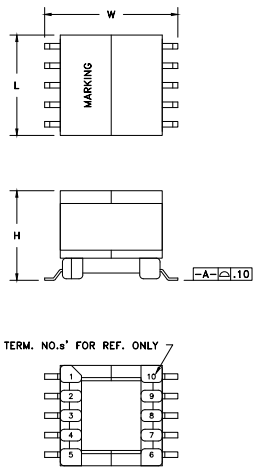
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-7150	Functional	7.57	1.85	18.21	19.5	24.2	472	150-2363	150-0899

Order Code	L (mm)	W (mm)	H (mm)
070-7150	13.46 max.	17.75 max.	12.7 max.

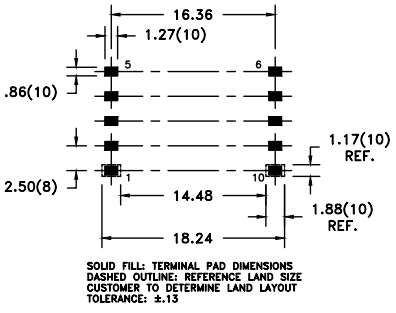
Estimated Maximum Power Level:



Dimensions:



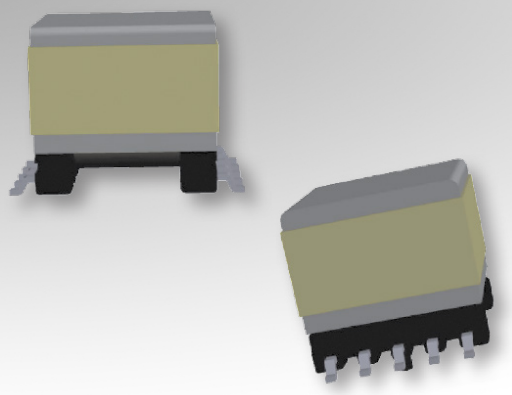
Footprint (mm):



Bobbin Packages

EP13

10-Terminal, SMT, Horizontal



Characteristics:

This SMT EP13 package was developed for special safety cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

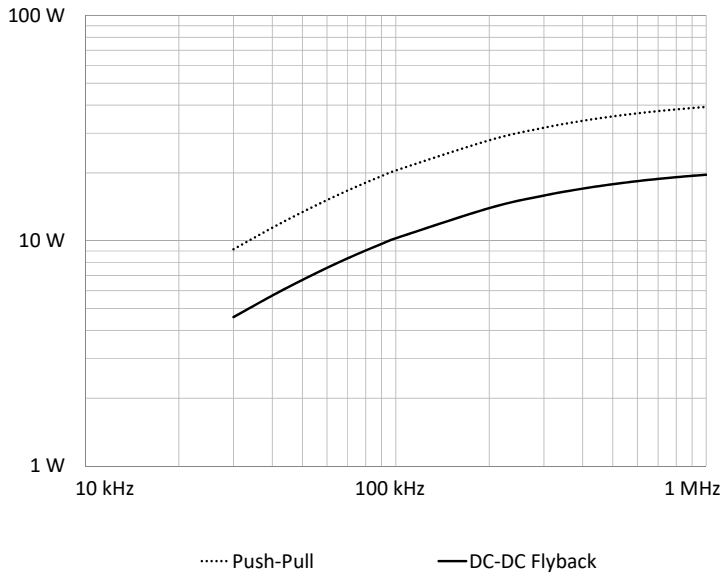
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL
- CMC

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-4378	Basic/ Supplementary	7.77/4.47	1.91	18.03	19.5	24.2	472	150-2363	150-0899

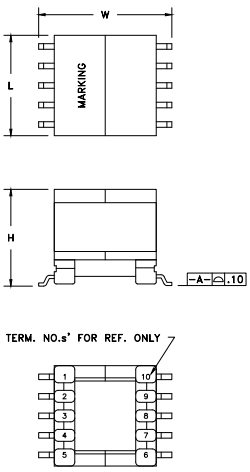
Order Code	L (mm)	W (mm)	H (mm)
070-4378	13.46 max.	17.75 max.	12.7 max.

Estimated Maximum Power Level:

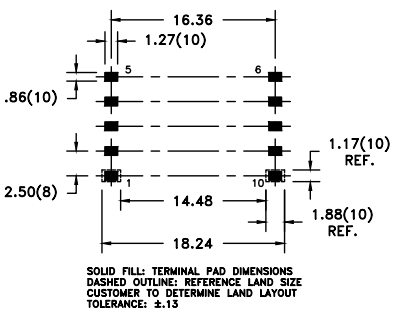


Curves shown are for Supplementary Insulation designs

Dimensions:



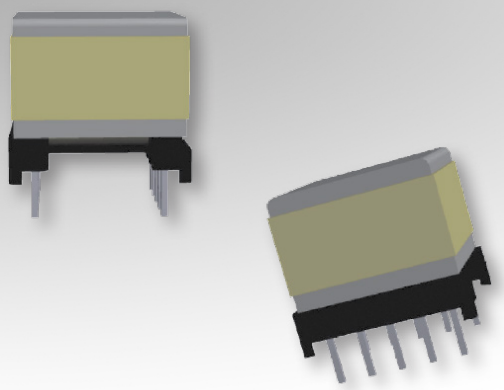
Footprint (mm):



Bobbin Packages

EP13

10-Terminal, THT, Horizontal



Characteristics:

This TH EP13 package was developed for functional insulation cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

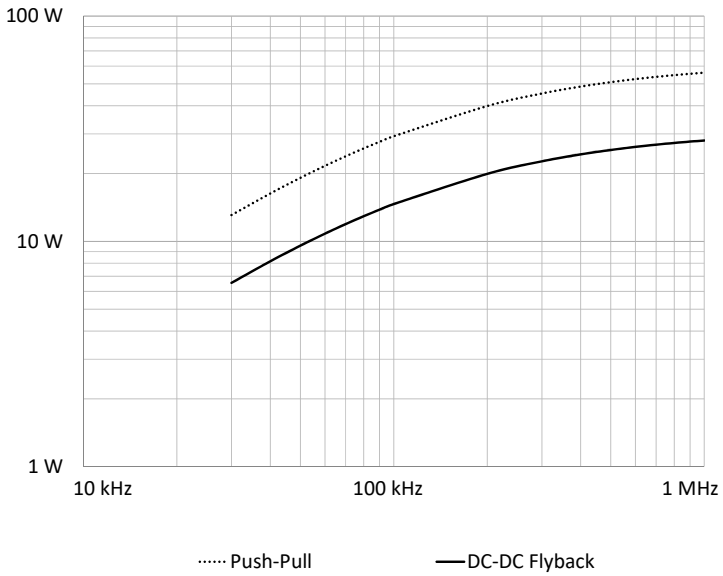
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL
- CMC

Technical Data:

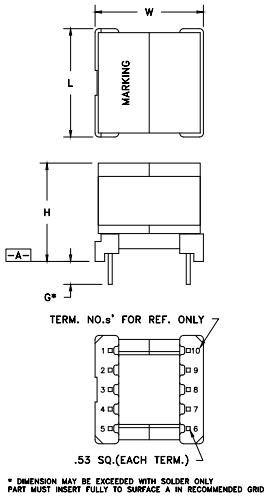
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-4300	Functional	7.77	1.91	18.54	19.5	24.2	472	150-2363	150-0899

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-4300	13.97 max.	13.97 max.	12.7 max.	2.92 ±0.38

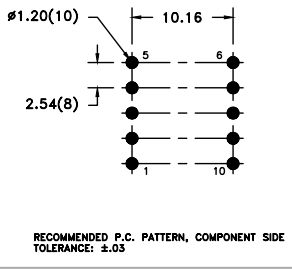
Estimated Maximum Power Level:



Dimensions:



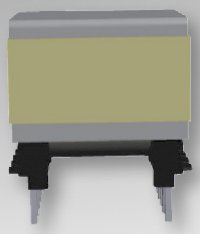
Footprint (mm):

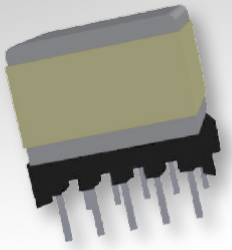


Bobbin Packages

EP13

10-Terminal, THT, Horizontal





Characteristics:

This TH EP13 package was developed for special safety cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

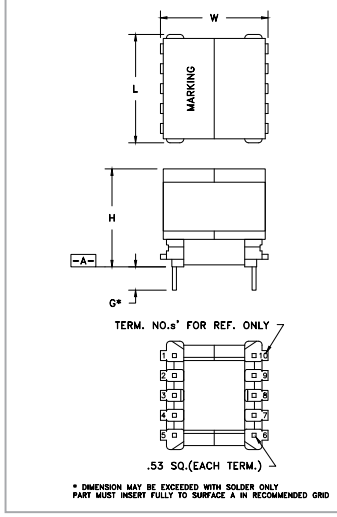
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL
- CMC

Technical Data:

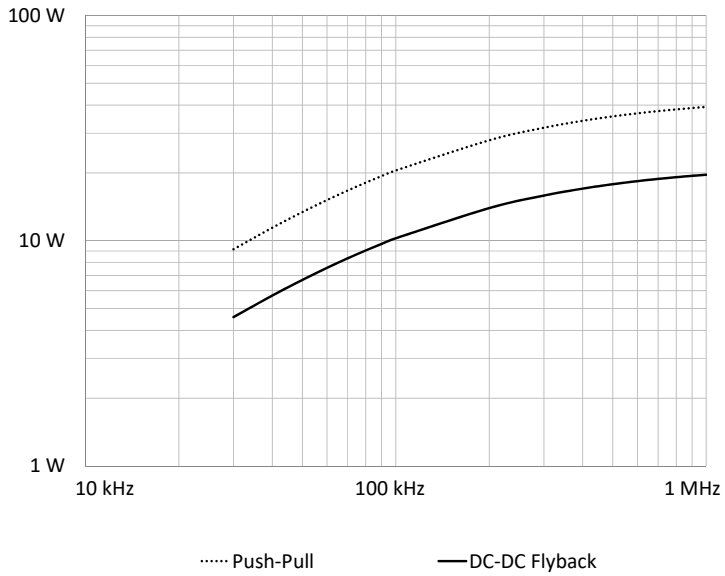
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-7180	Basic/ Supplementary	7.77/4.47	1.91	18.54	19.5	24.2	472	150-2363	150-0899

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-7180	13.97 max.	13.97 max.	12.7 max.	2.92 ±0.38

Dimensions:

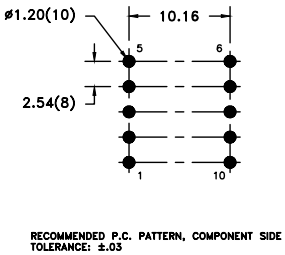


Estimated Maximum Power Level:



Curves shown are for Supplementary Insulation designs

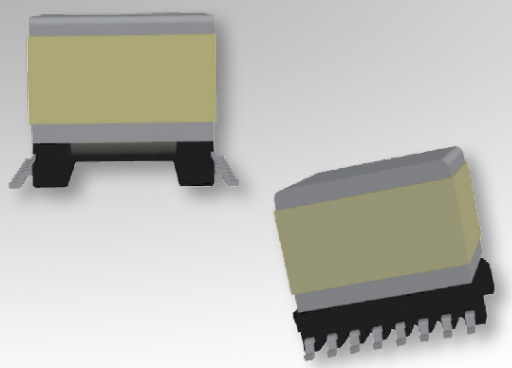
Footprint (mm):



Bobbin Packages

EP13

12-Terminal, SMT, Horizontal



Characteristics:

This SMT EP13 package was developed for functional insulation cases and low cost, compact footprint requirements. It features self-shielding cores for EMI improvement, and many terminals for multiple outputs, split coils, or parallel high current winds.

There is an option to add built-in shelves to this bobbin for basic or supplementary insulation designs.

Applications:

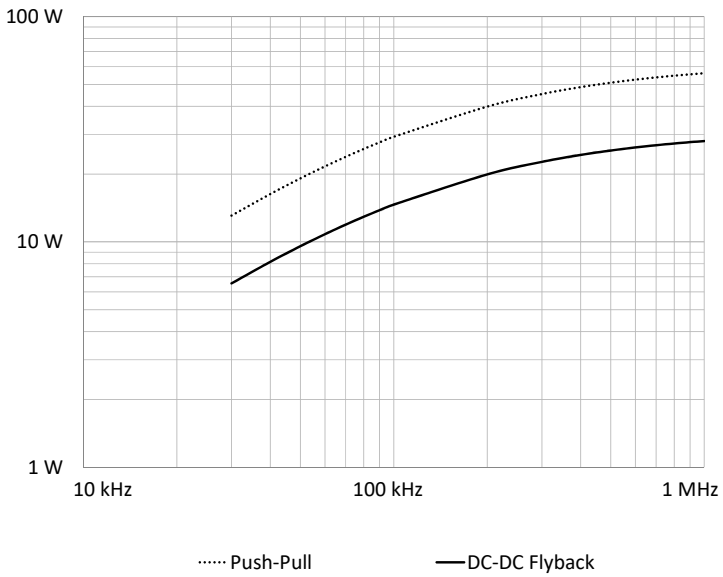
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL
- CMC

Technical Data:

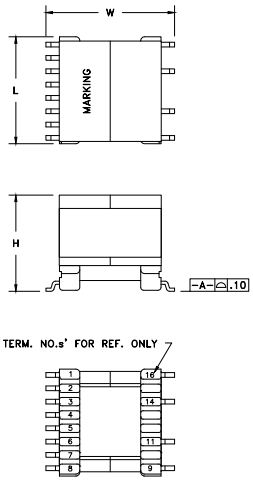
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)	Core Order Code (Digital)
070-7037	Functional	7.77	1.91	18.03	19.5	24.2	472	150-2363	150-0899

Order Code	L (mm)	W (mm)	H (mm)
070-7037	13.97 max.	17.17 max.	12.7 max.

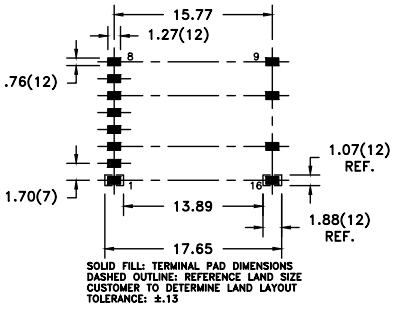
Estimated Maximum Power Level:



Dimensions:



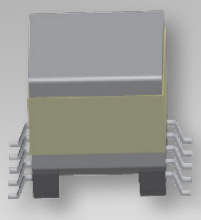
Footprint (mm):

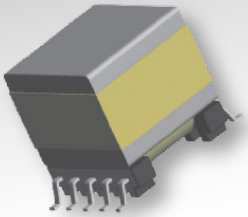


Bobbin Packages

EPQ13

10-Terminal, SMT, Horizontal





Characteristics:

This SMT EPQ13 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, and large core cross-sectional area for high power density.

Applications:

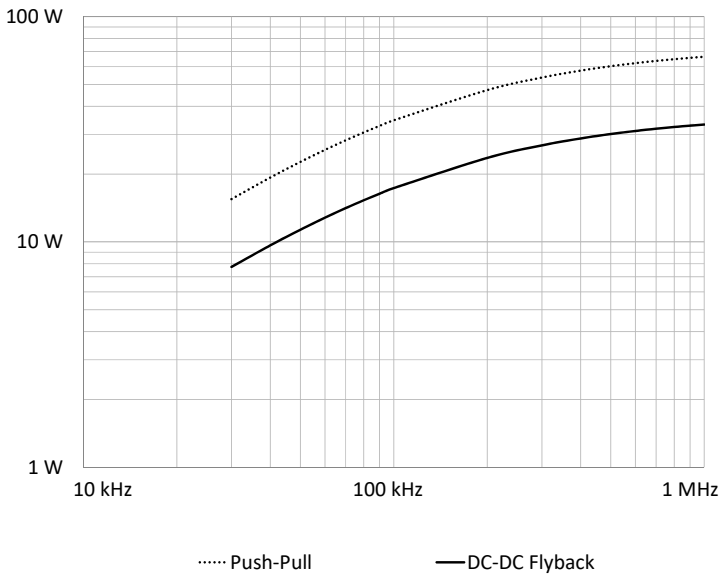
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL
- CMC

Technical Data:

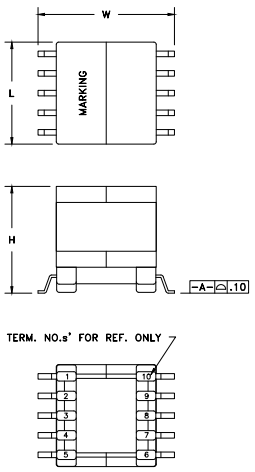
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6389	Functional	7.65	1.8	26.95	31.7	27.8	881	150-3262

Order Code	L (mm)	W (mm)	H (mm)
070-6389	13.97 max.	18.25 max.	14.5 max.

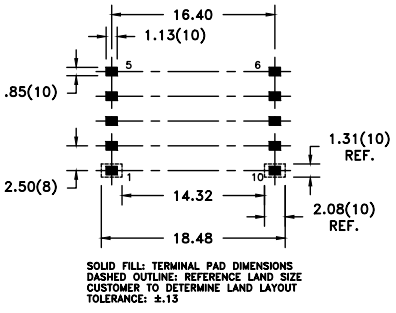
Estimated Maximum Power Level:



Dimensions:



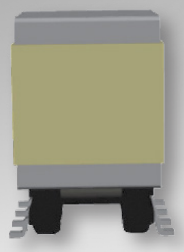
Footprint (mm):

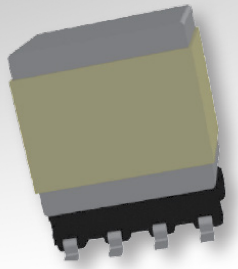


Bobbin Packages

EPX7

8-Terminal, SMT, Horizontal





Characteristics:

This SMT EPX7 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

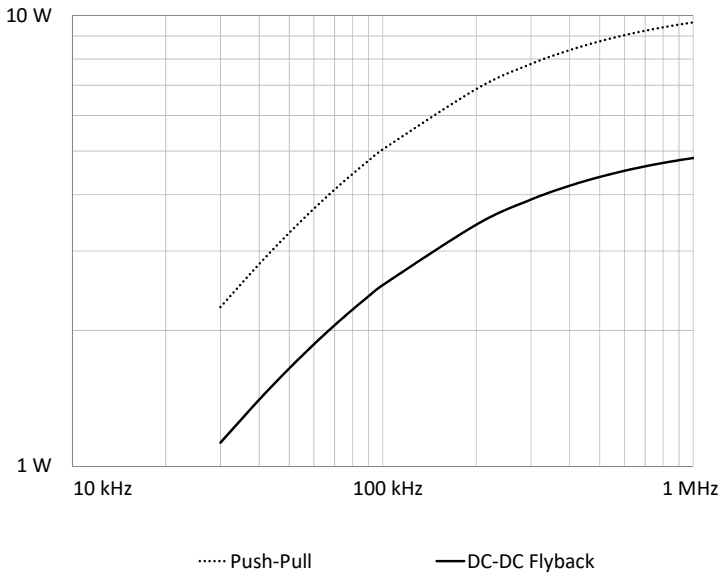
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- DSL
- CMC

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Digital)
070-7147	Basic/ Supplementary	3.23	1.24	19.18	16.5	15.4	254	150-1152

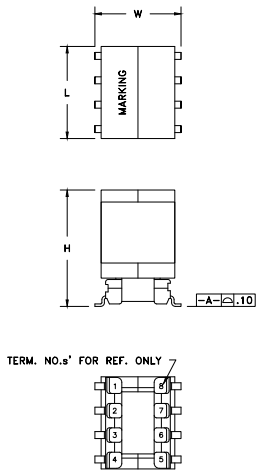
Order Code	L (mm)	W (mm)	H (mm)
070-7147	10.16 max.	9.14 max.	12.32 max.

Estimated Maximum Power Level:

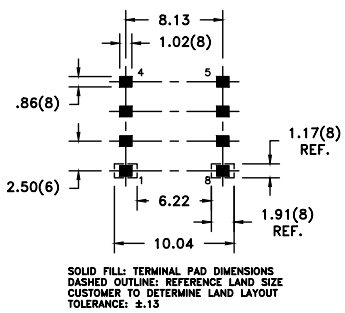


Curves shown are for Supplementary Insulation designs

Dimensions:



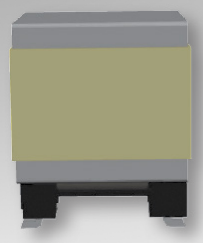
Footprint (mm):

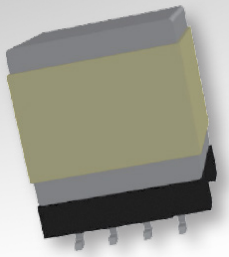


Bobbin Packages

EPX9

8-Terminal, SMT, Horizontal





Characteristics:

This SMT EPX9 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement.

Applications:

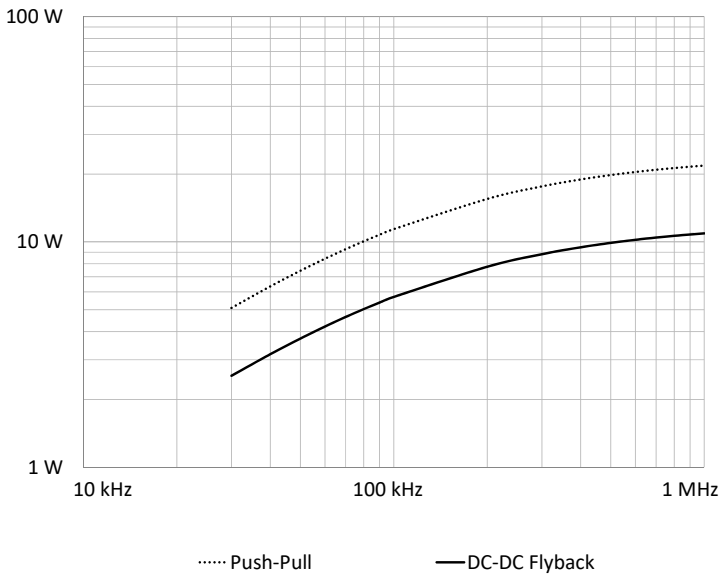
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL
- CMC

Technical Data:

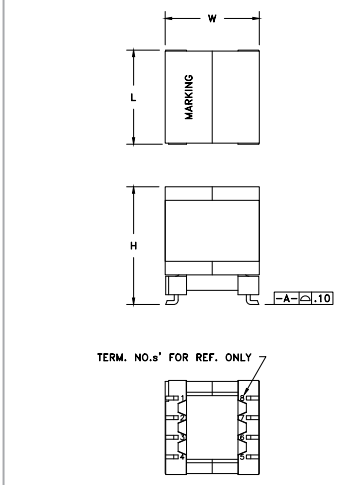
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Digital)
070-7151	Functional	5.26	1.3	19.13	14.5	18.7	271	150-1293

Order Code	L (mm)	W (mm)	H (mm)
070-7151	10.16 max.	10.16 max.	12.7 max.

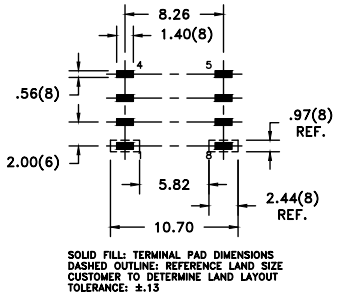
Estimated Maximum Power Level:



Dimensions:



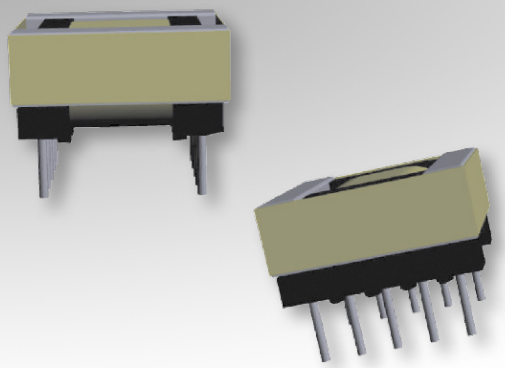
Footprint (mm):



Bobbin Packages

EPC13

10-Terminal, THT, Horizontal



Characteristics:

This TH EPC13 package was developed for functional insulation cases and low profile, compact footprint requirements.

Applications:

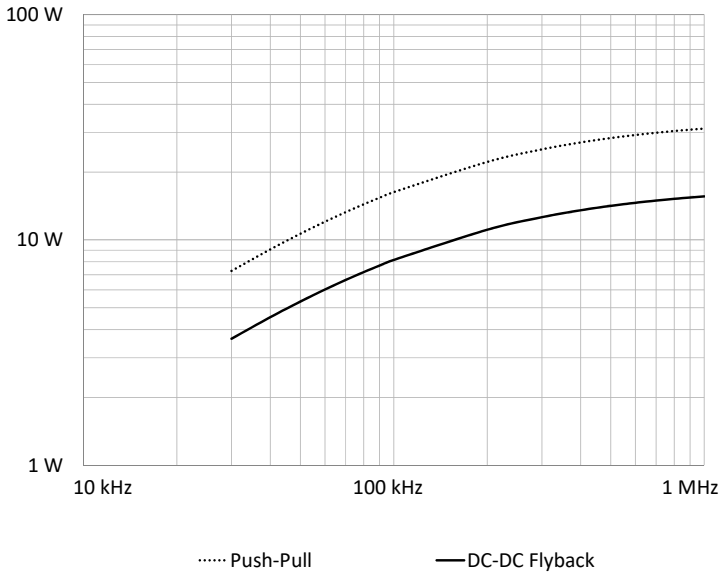
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

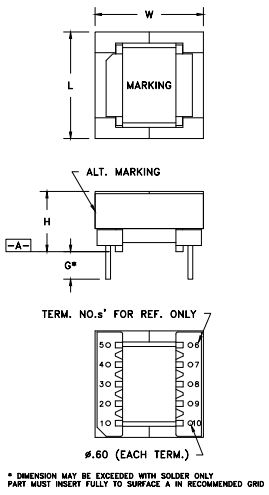
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5483	Functional	6.81	1.55	21	12.8	28.8	368	150-2883

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5483	14.6 max.	14.73 max.	8.5 max.	3.18 ±0.64

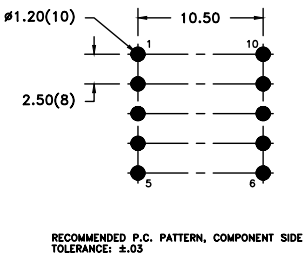
Estimated Maximum Power Level:



Dimensions:



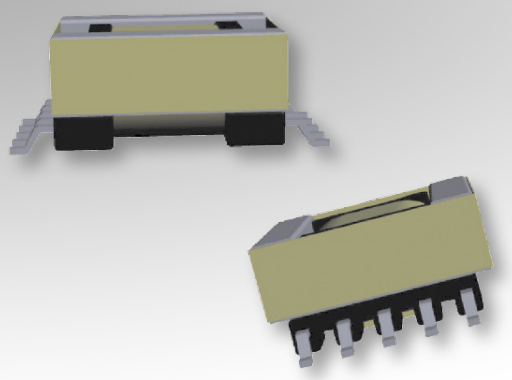
Footprint (mm):



Bobbin Packages

EPC13

10-Terminal, SMT, Horizontal



Characteristics:

This SMT EPC13 package was developed for functional insulation cases and low profile, compact footprint requirements.

Applications:

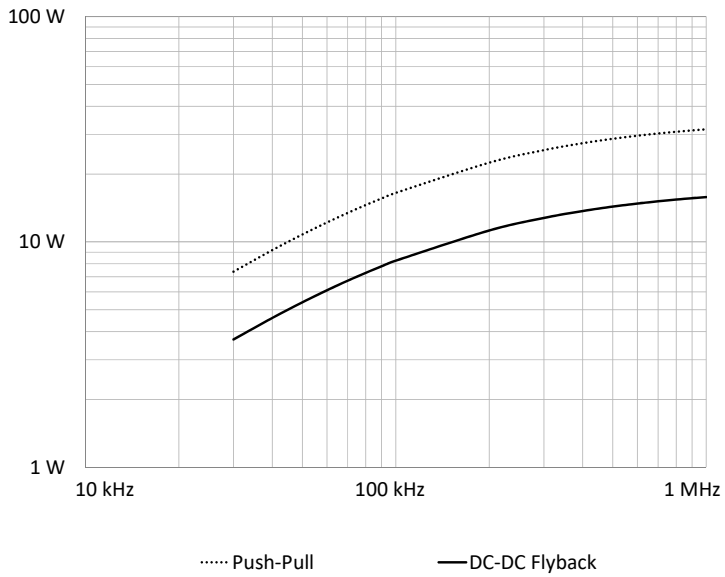
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

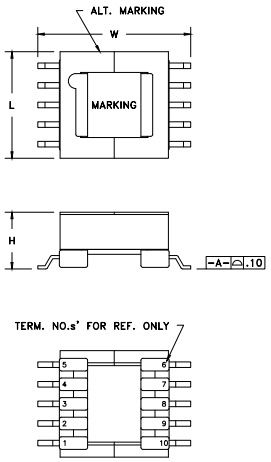
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-4887	Functional	6.81	1.57	21	12.8	28.8	368	150-2883

Order Code	L (mm)	W (mm)	H (mm)
070-4887	14.6 max.	20.92 max.	8.25 max.

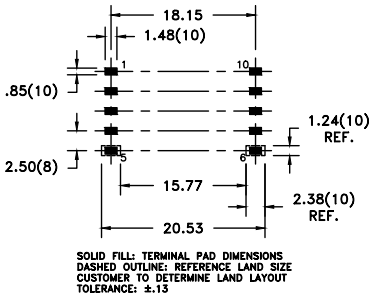
Estimated Maximum Power Level:



Dimensions:



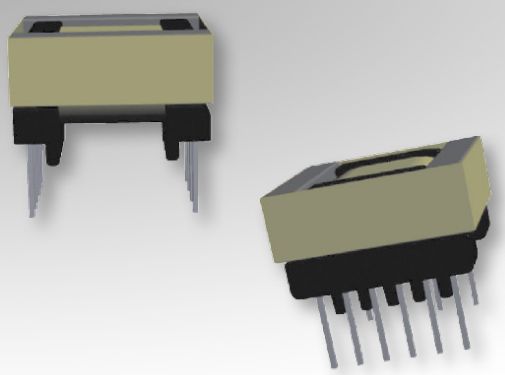
Footprint (mm):



Bobbin Packages

EPC17

10-Terminal, THT, Horizontal



Characteristics:

This TH EPC17 package was developed for functional insulation cases and low profile, compact footprint requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

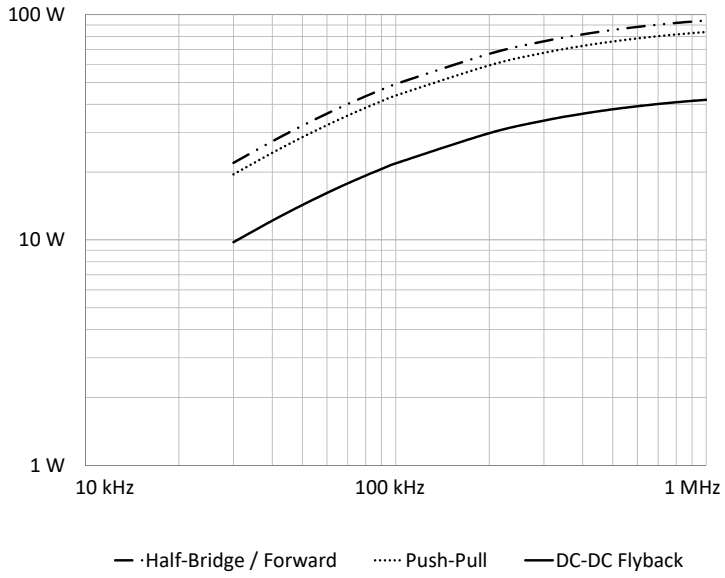
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

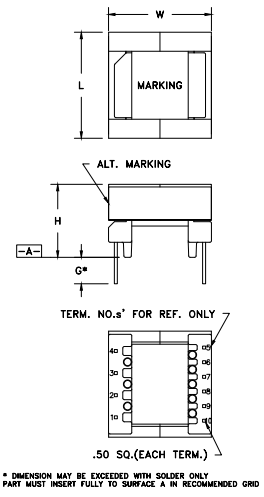
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5620	Functional	9.6	2.16	29.6	22.1	38.9	858	150-2884

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5620	19 max.	18.5 max.	12.5 max.	4.75 ±0.75

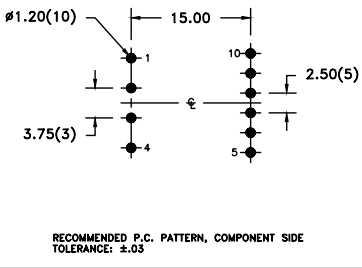
Estimated Maximum Power Level:



Dimensions:



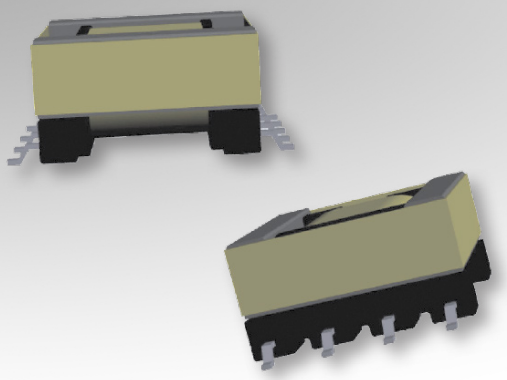
Footprint (mm):



Bobbin Packages

EPC17

9-Terminal, SMT, Horizontal



Characteristics:

This SMT EPC17 package was developed for functional insulation cases and low profile, compact footprint requirements.

Applications:

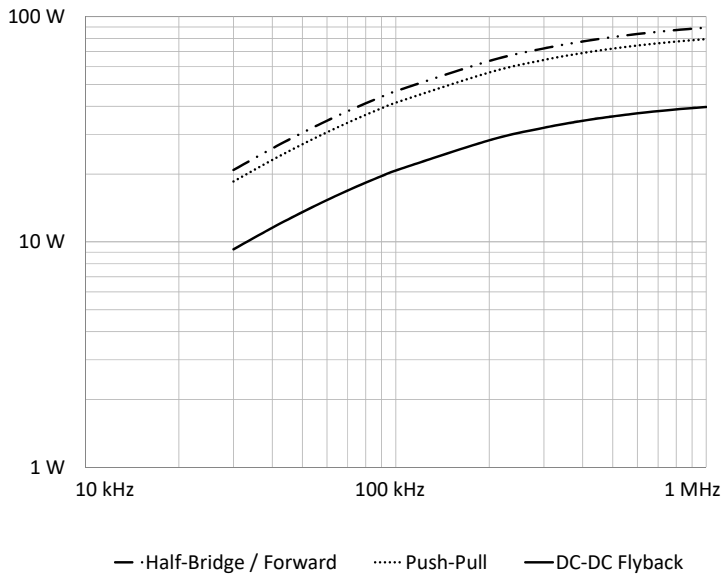
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

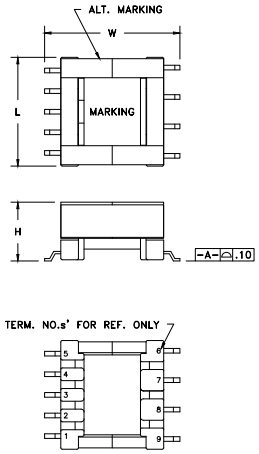
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-4890	Functional	9.6	2.05	25.7	22.1	38.9	858	150-2884

Order Code	L (mm)	W (mm)	H (mm)
070-4890	19.2 max.	23.75 max.	10.16 max.

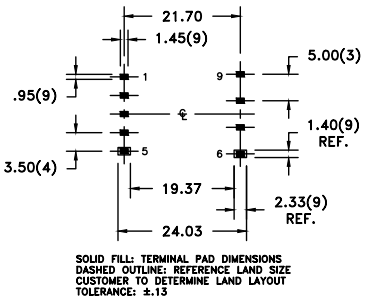
Estimated Maximum Power Level:



Dimensions:



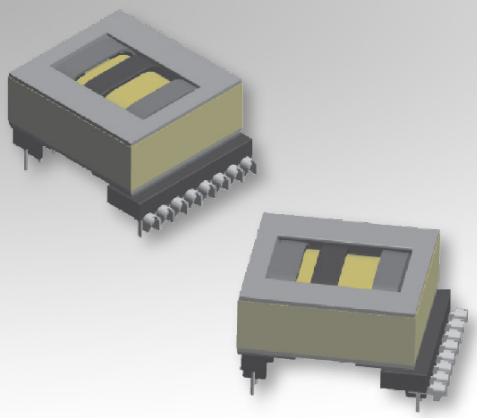
Footprint (mm):



Bobbin Packages

EPC40

16-Terminal EXT, THT, Horizontal



Characteristics:

This TH EPC40 package was developed for special safety cases and low profile, compact footprint requirements. It features crimp terminals for high current applications, a two section bobbin to control leakage inductance in LLC applications, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

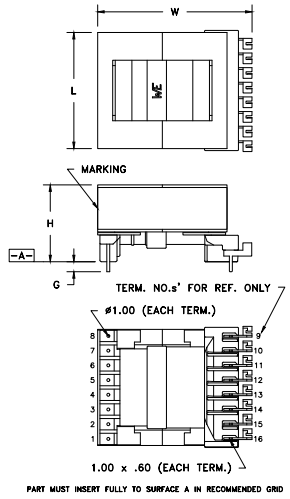
- Offline
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- Charging
- Stand-by power
- PFC

Technical Data:

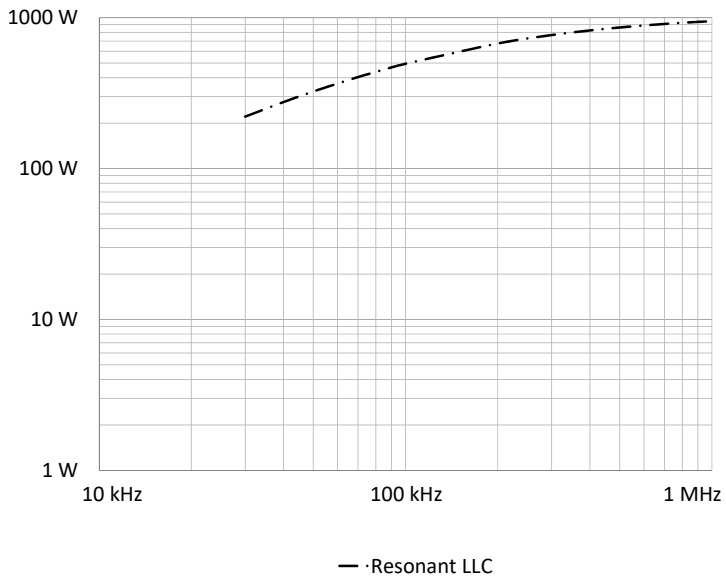
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6495	Reinforced	11.68	3.5	61.97	158.5	91.2	14455	150-2923
070-6494		13						

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6495	41.91 max.	53.98 max.	26.9 max.	3 min.
070-6494				

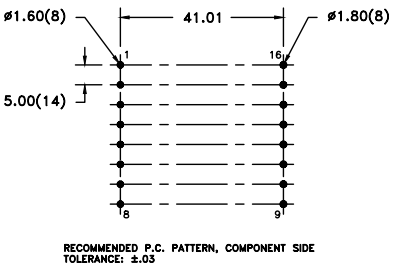
Dimensions:



Estimated Maximum Power Level:



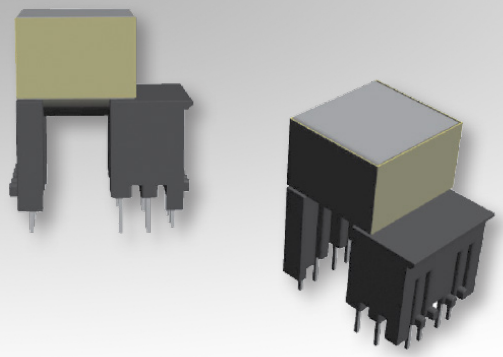
Footprint (mm):



Bobbin Packages

EPW15

15-Terminal EXT, THT, Horizontal



Characteristics:

This TH EPW15 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

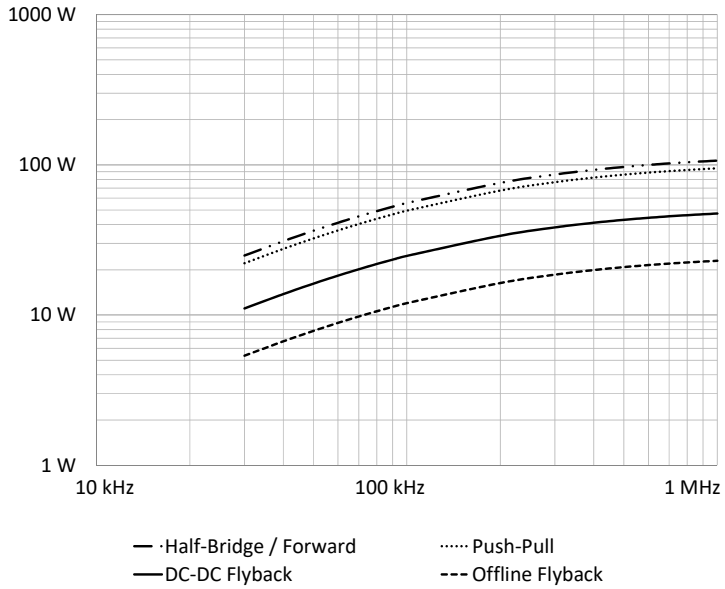
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5996	Reinforced	7.76	2.74	25.1	26.9	30.6	825	150-2874

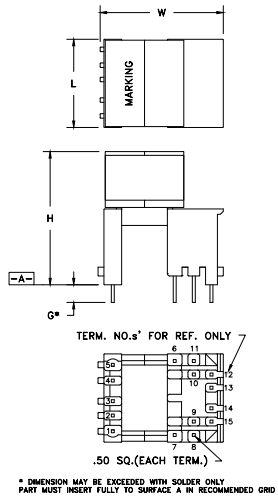
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5996	15.7 max.	22.1 max.	23.3 max.	3.2 ±0.3

Estimated Maximum Power Level:

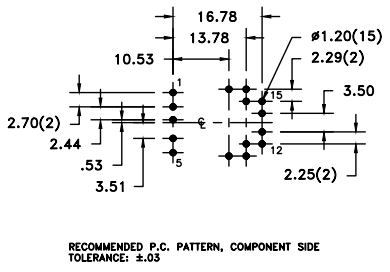


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



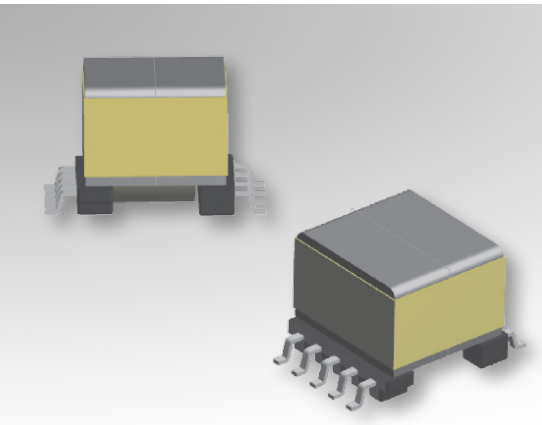
Footprint (mm):



Bobbin Packages

EPW15

9-Terminal, SMT, Horizontal



Characteristics:

This SMT EPW15 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, and large core cross-sectional area for high power density.

Applications:

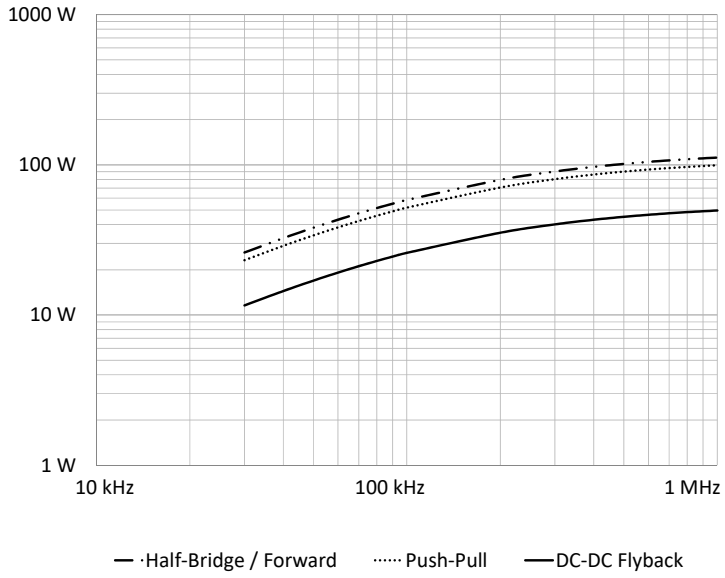
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- DSL

Technical Data:

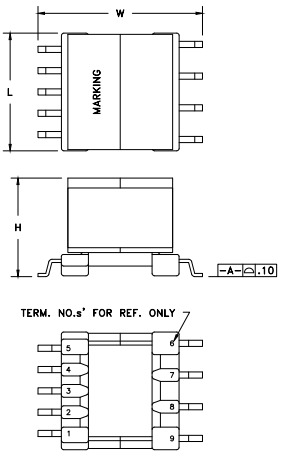
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6782	Functional	8.13	2.74	20.17	26.9	30.6	825	150-2874

Order Code	L (mm)	W (mm)	H (mm)
070-6782	15.5 max.	21.69 max.	13.5 max.

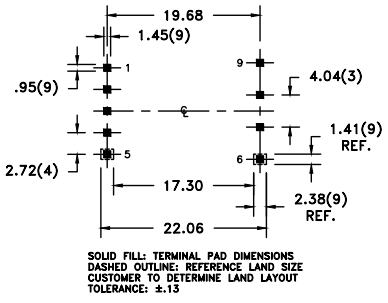
Estimated Maximum Power Level:



Dimensions:



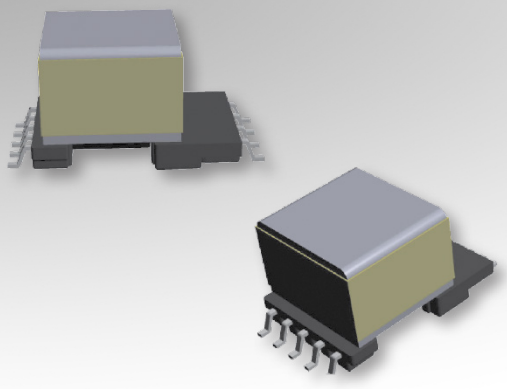
Footprint (mm):



Bobbin Packages

EPW15

9-Terminal EXT, SMT, Horizontal



Characteristics:

This SMT EPW15 package was developed for special safety cases and self-shielding cores for EMI improvement requirements. It features large core cross-sectional area for high power density.

Applications:

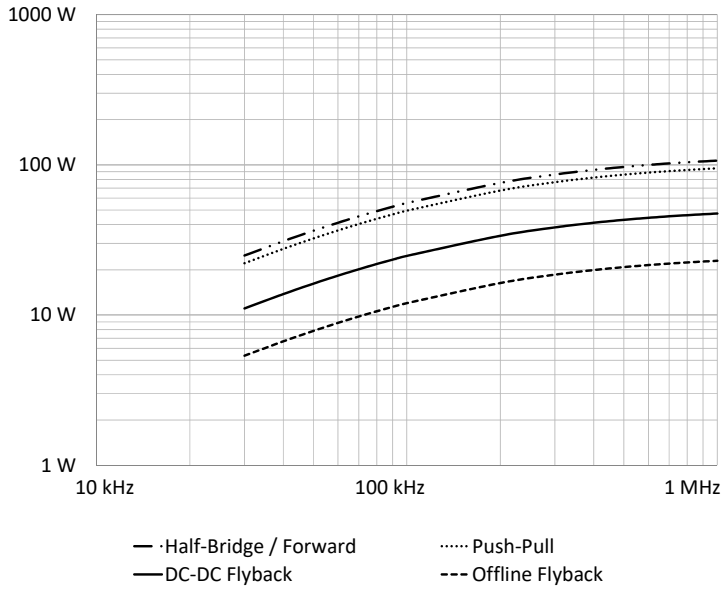
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- Charging
- Stand-by power
- DSL

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6386	Reinforced	7.76	2.74	20.15	26.9	30.6	825	150-2874

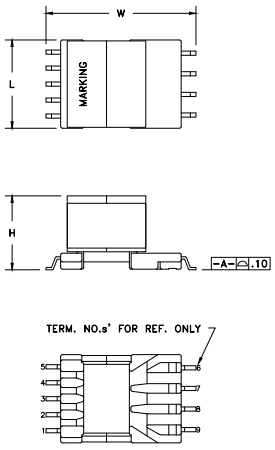
Order Code	L (mm)	W (mm)	H (mm)
070-6386	15.8 max.	26.5 max.	13.5 max.

Estimated Maximum Power Level:

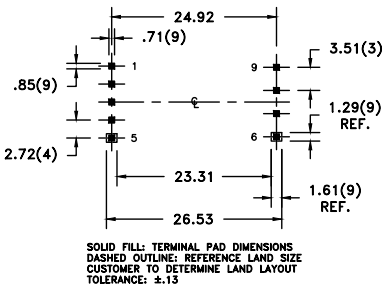


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



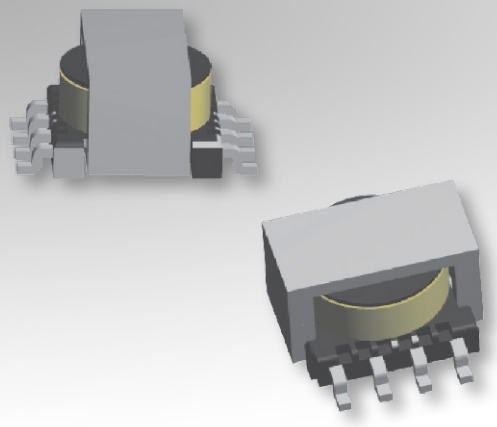
Footprint (mm):



Bobbin Packages

ER9.5

8-Terminal, SMT, Vertical



Characteristics:

This SMT ER9.5 package was developed for functional insulation cases and low profile requirements.

Applications:

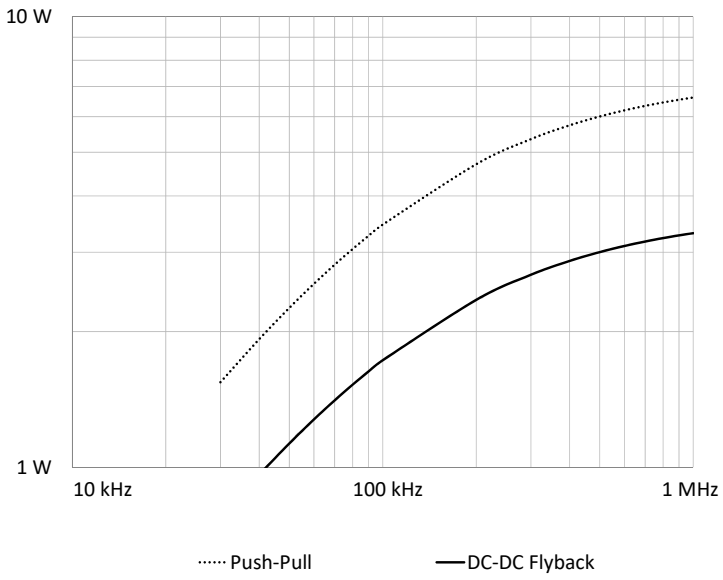
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom

Technical Data:

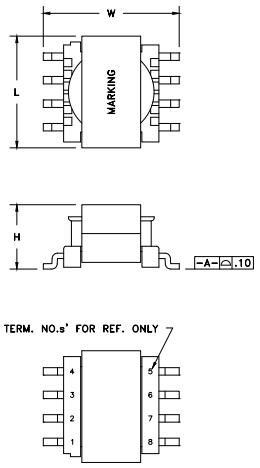
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6051	Functional	2.16	1.42	13.97	8	14.2	114	150-1188

Order Code	L (mm)	W (mm)	H (mm)
070-6051	10 max.	12.21 max.	5.97 max.

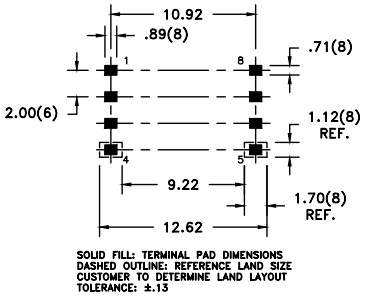
Estimated Maximum Power Level:



Dimensions:



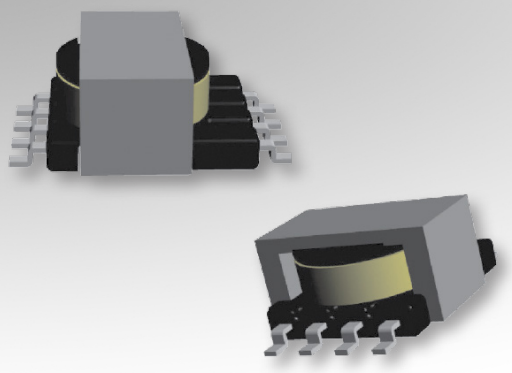
Footprint (mm):



Bobbin Packages

ER9.5S

8-Terminal EXT, SMT, Vertical



Characteristics:

This SMT ER9.5S package was developed for special safety cases and low profile requirements.

Applications:

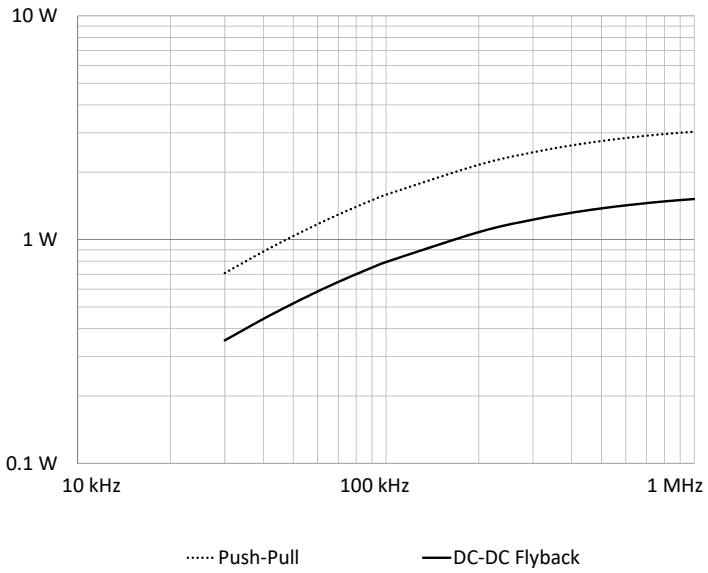
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6310	Basic/ Supplementary	1.9	1.42	13.95	8.5	13.3	113	150-3018

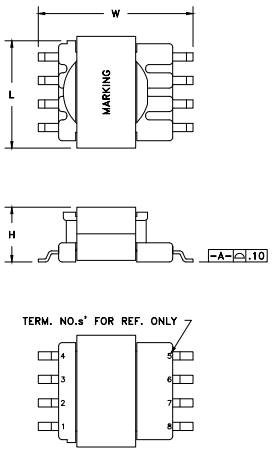
Order Code	L (mm)	W (mm)	H (mm)
070-6310	10 max.	14 max.	5 max.

Estimated Maximum Power Level:

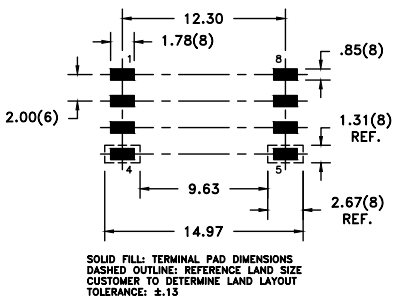


Curves shown are for Supplementary Insulation designs

Dimensions:



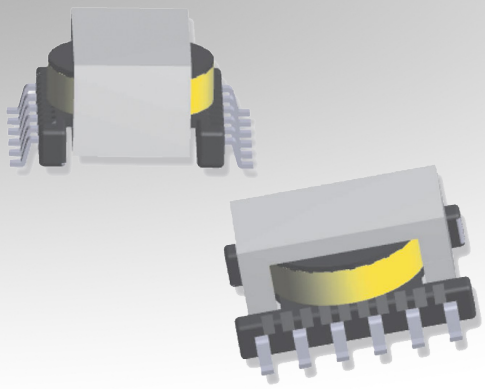
Footprint (mm):



Bobbin Packages

ER11.5

12-Terminal, SMT, Vertical



Characteristics:

This SMT ER11.5 package was developed for functional insulation cases and low profile requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

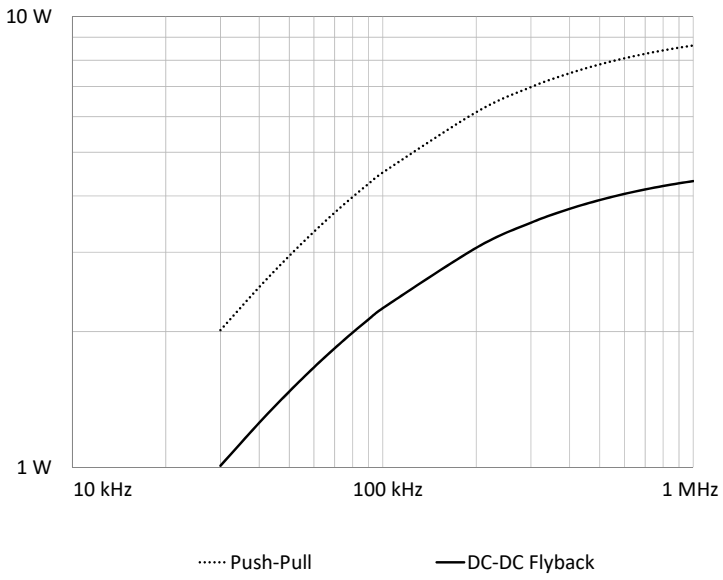
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

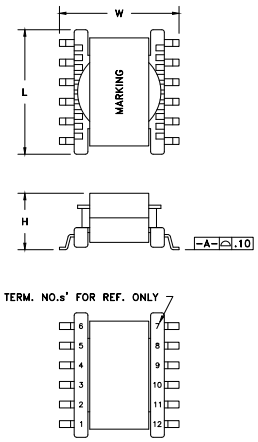
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6058	Functional	2.01	1.6	16.33	11	14.7	162	150-2140

Order Code	L (mm)	W (mm)	H (mm)
070-6058	12.95 max.	12.85 max.	6.35 max.

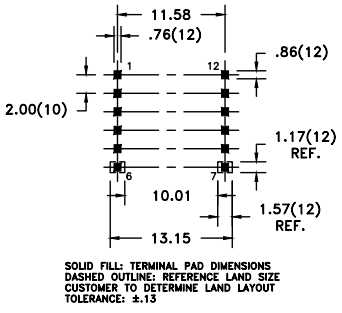
Estimated Maximum Power Level:



Dimensions:



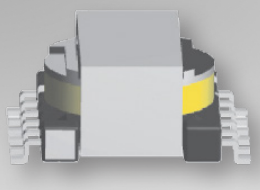
Footprint (mm):

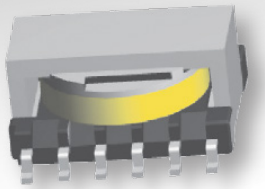


Bobbin Packages

ER14.5

12-Terminal, SMT, Vertical





Characteristics:

This SMT ER14.5 package was developed for functional insulation cases and low profile requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

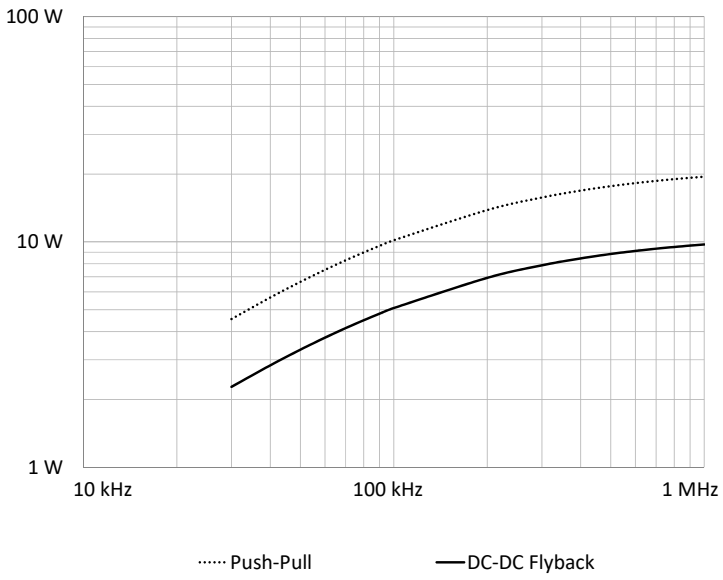
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom

Technical Data:

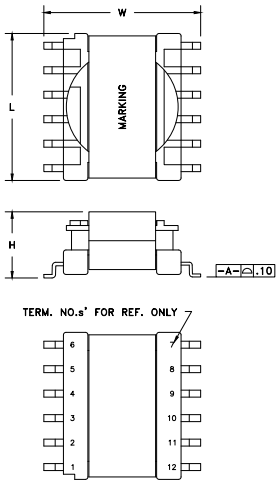
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-4477	Functional	2.01	2.74	18.54	17.3	19	329	150-2340

Order Code	L (mm)	W (mm)	H (mm)
070-4477	16 max.	16.8 max.	7.62 max.

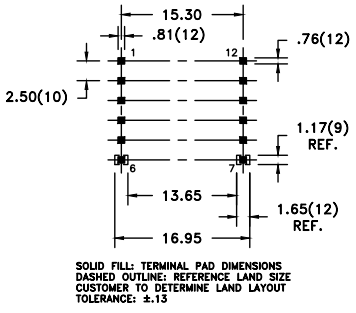
Estimated Maximum Power Level:



Dimensions:



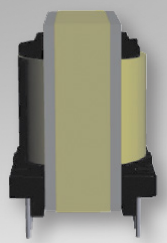
Footprint (mm):

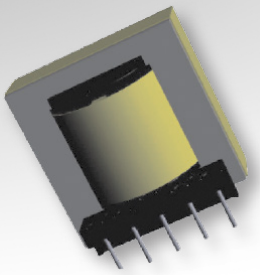


Bobbin Packages

ER28/14

10-Terminal, THT, Vertical





Characteristics:

This TH ER28/14 package was developed for functional or special safety cases and low cost, compact footprint requirements.

Applications:

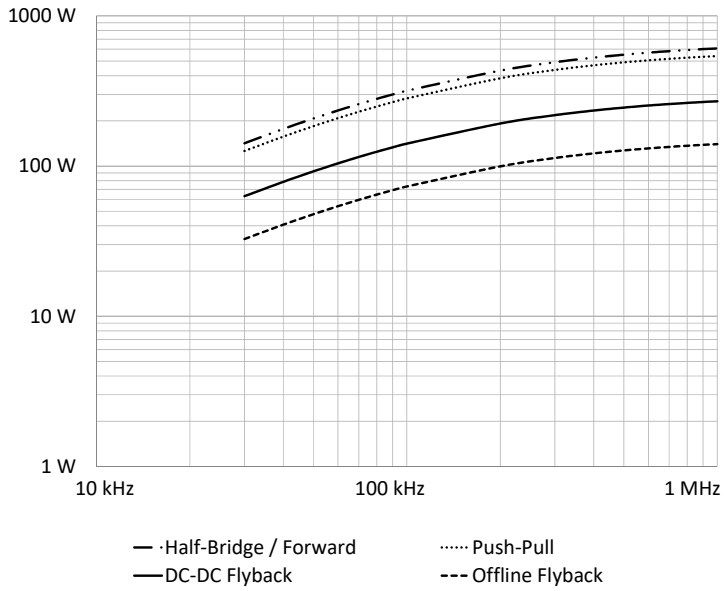
- Offline
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- Charging
- Stand-by power
- PFC

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5576	Functional/ Reinforced	16.61	4.39	38.33	82.1	64	5254	150-2670

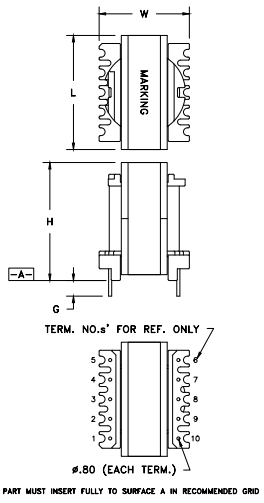
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5576	29.84 max.	24 max.	33 max.	2.54 min.

Estimated Maximum Power Level:

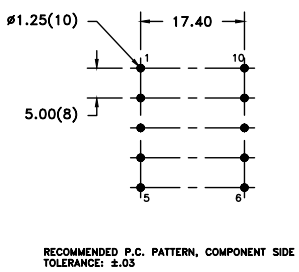


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



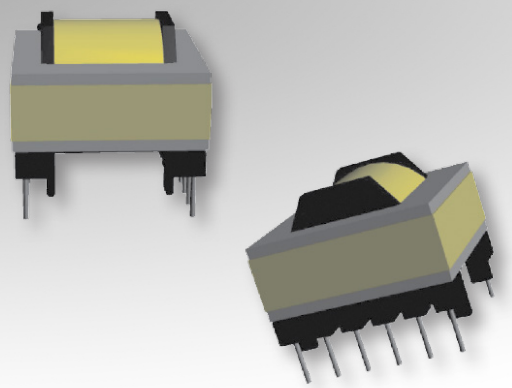
Footprint (mm):



Bobbin Packages

ER28/14

12-Terminal, THT, Horizontal



Characteristics:

This TH ER28/14 package was developed for functional or special safety cases and low cost requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

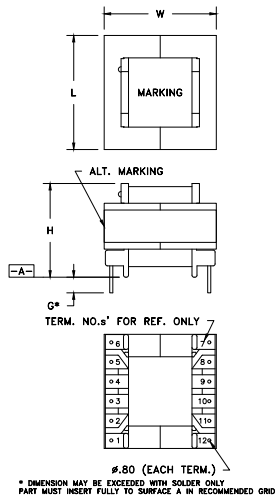
- Offline
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- Charging
- Stand-by power
- PFC

Technical Data:

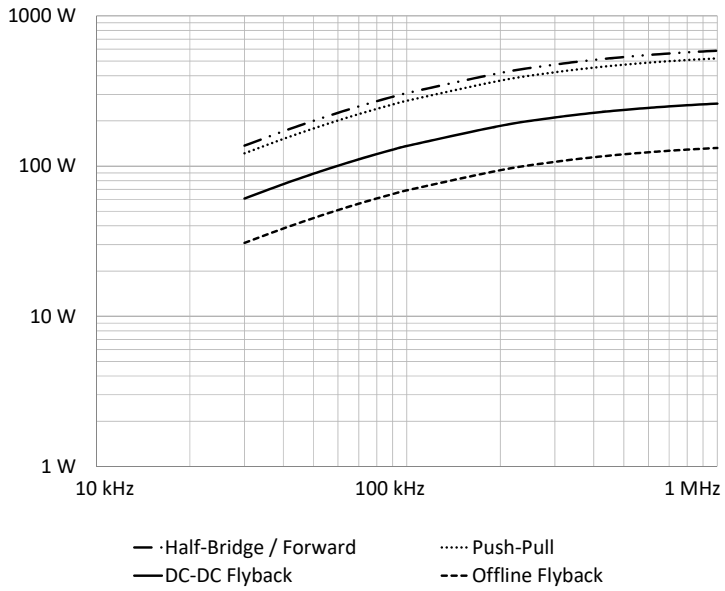
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-4869	Functional/ Reinforced	16.21	4.34	38.33	82.1	64	5254	150-2670

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-4869	31 max.	31 max.	25 max.	4 ±0.5

Dimensions:

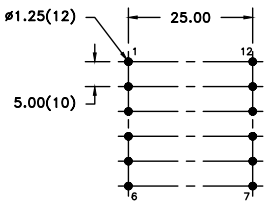


Estimated Maximum Power Level:



All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

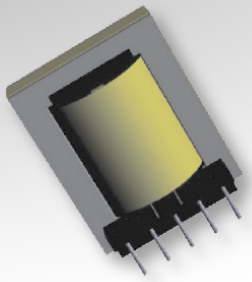
Footprint (mm):



Bobbin Packages

ER28/17

10-Terminal, THT, Vertical



Characteristics:

This TH ER28/17 package was developed for functional or special safety cases and low cost, compact footprint requirements.

Applications:

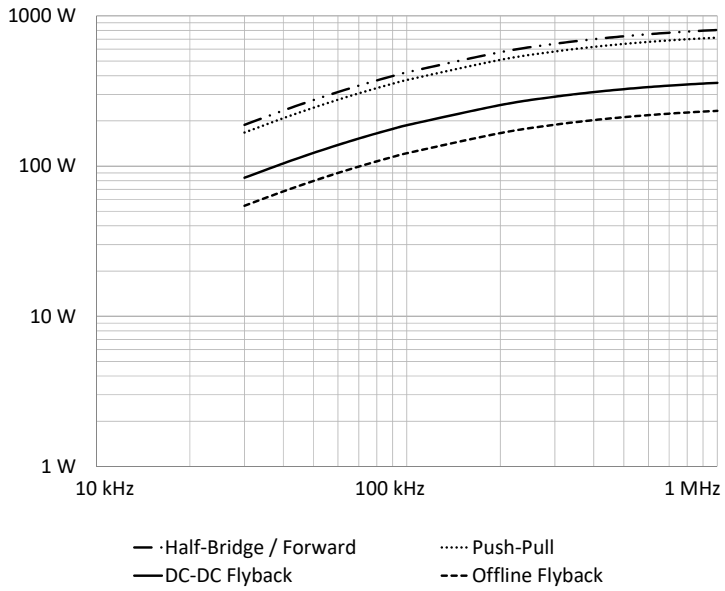
- Offline
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- Charging
- Stand-by power
- PFC

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5565	Functional/ Reinforced	22.91	4.24	38.63	81.4	75.5	6146	150-2504

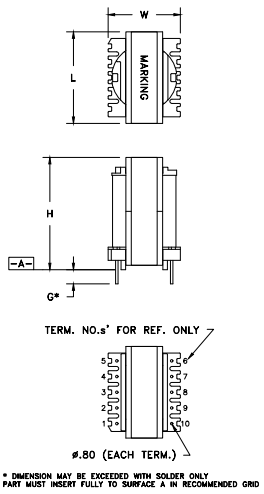
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5565	29.85 max.	24 max.	36 max.	4.5 ±0.64

Estimated Maximum Power Level:

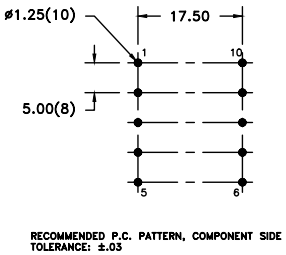


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



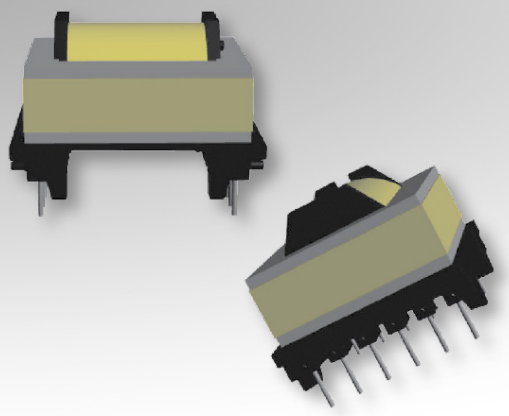
Footprint (mm):



Bobbin Packages

ER28/17

12-Terminal, THT, Horizontal



Characteristics:

This TH ER28/17 package was developed for functional or special safety cases and low cost requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

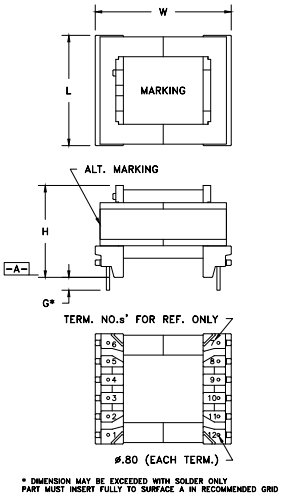
- Offline
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- Charging
- Stand-by power
- PFC

Technical Data:

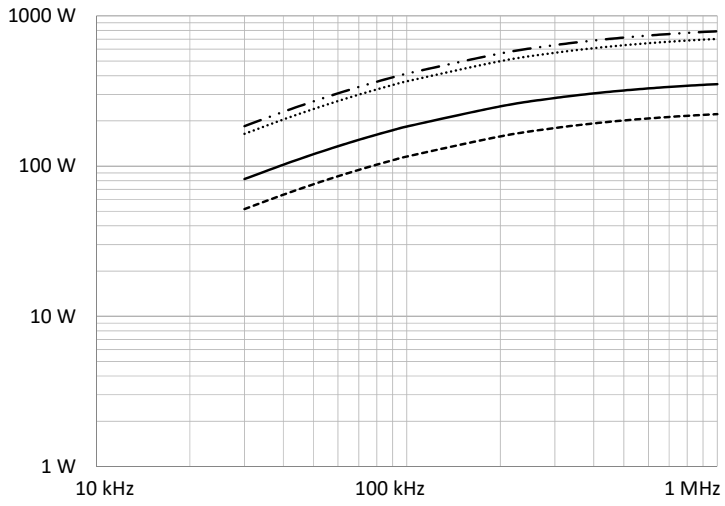
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5652	Functional/ Reinforced	21.69	4.39	37.64	81.4	75.5	6146	150-2504

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5652	32 max.	39 max.	26 max.	3.5 ±0.5

Dimensions:

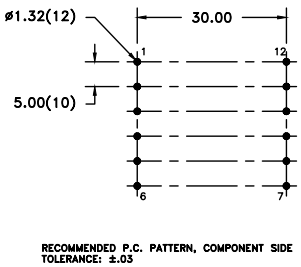


Estimated Maximum Power Level:



All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

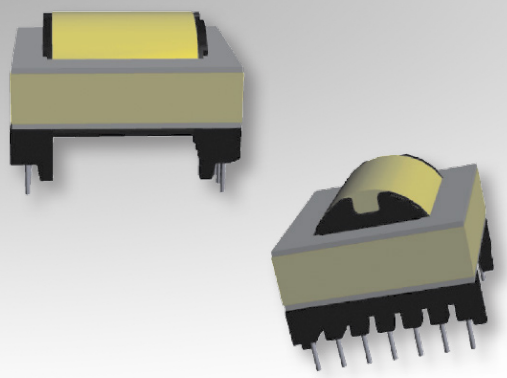
Footprint (mm):



Bobbin Packages

ERL35

14-Terminal, THT, Horizontal



Characteristics:

This TH ERL35 package was developed for functional or special safety cases and low cost requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

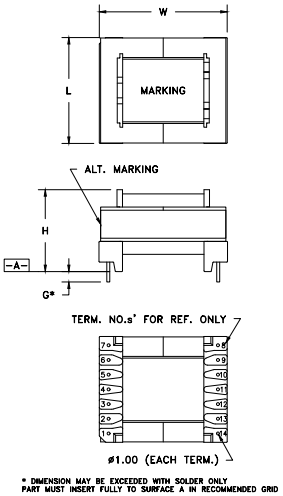
- Offline
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- Charging
- Stand-by power
- PFC

Technical Data:

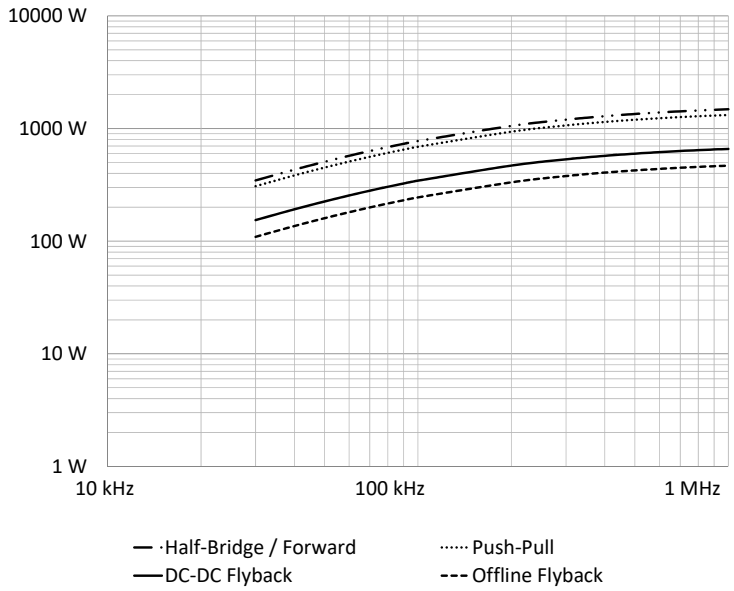
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5783	Functional/ Reinforced	27.61	5.71	42.7	103	92.7	9548	150-2171

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5783	36.5 max.	44 max.	28.5 max.	3.4 ±0.4

Dimensions:

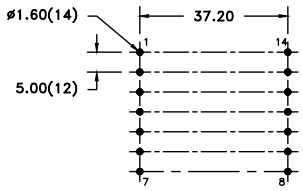


Estimated Maximum Power Level:



All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

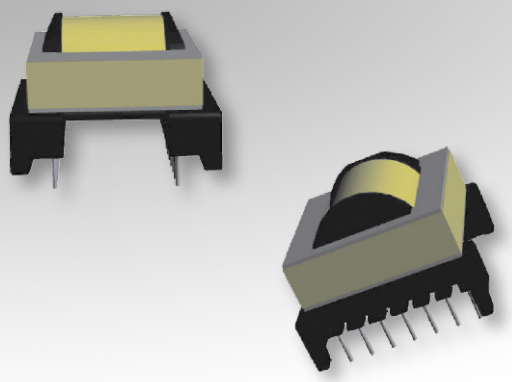
Footprint (mm):



Bobbin Packages

ETD34

14-Terminal, THT, Horizontal



Characteristics:

This TH ETD34 package was developed for functional or special safety cases and low cost requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

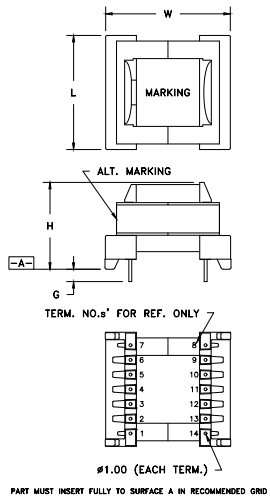
- Offline
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- Charging
- Stand-by power
- PFC

Technical Data:

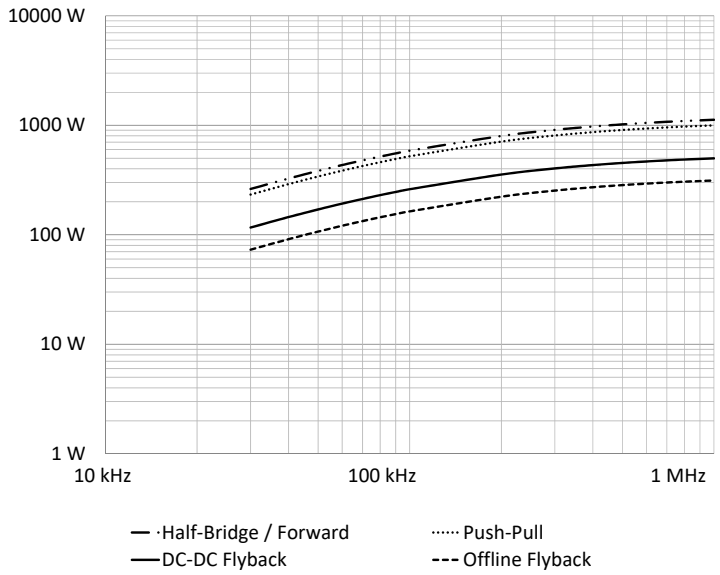
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5455	Functional/ Reinforced	21.49	5.74	41.48	97.1	78.6	7632	150-0897

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5455	39.6 max.	43.18 max.	30.48 max.	3.8 min.

Dimensions:

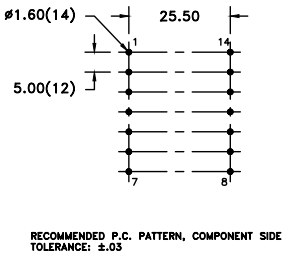


Estimated Maximum Power Level:



All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

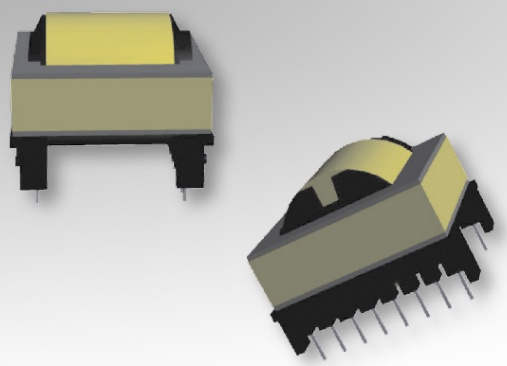
Footprint (mm):



Bobbin Packages

ETD39

16-Terminal, THT, Horizontal



Characteristics:

This TH ETD39 package was developed for functional or special safety cases and low cost requirements. It features many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

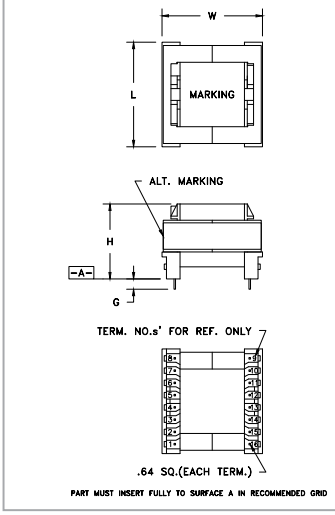
- Offline
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- Charging
- Stand-by power
- PFC

Technical Data:

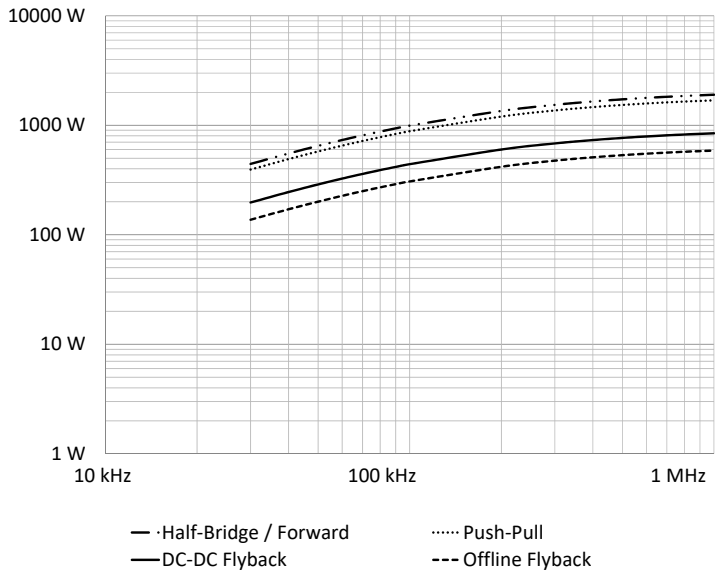
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5724	Functional/ Reinforced	26.3	6.8	47.75	124.7	92.2	11497	150-2669

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5724	49 max.	41.9 max.	31.75 max.	3.8 min.

Dimensions:

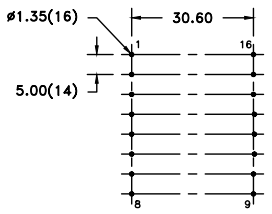


Estimated Maximum Power Level:



All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

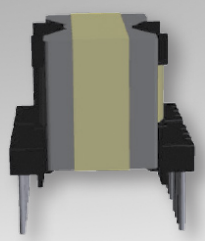
Footprint (mm):

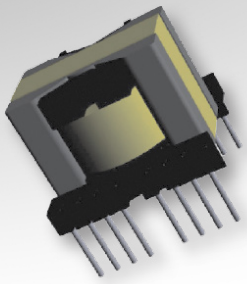


Bobbin Packages

PQ2016

14-Terminal, THT, Vertical





Characteristics:

This TH PQ2016 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

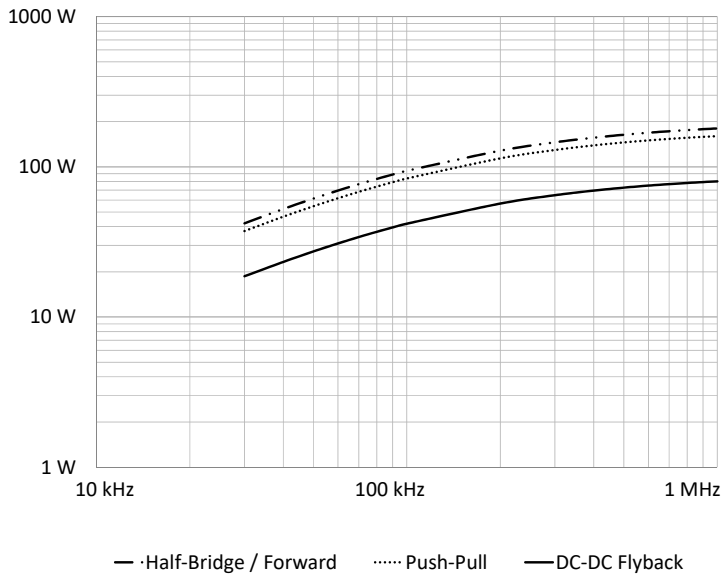
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- PFC

Technical Data:

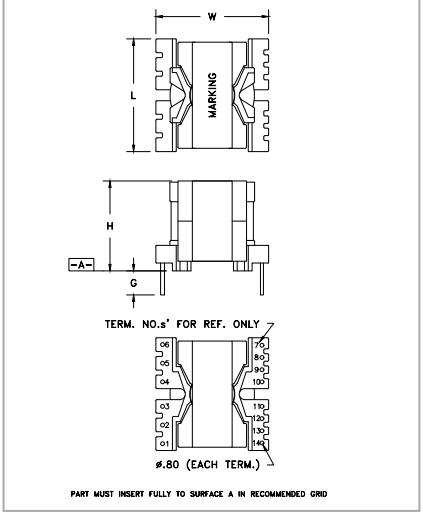
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5674	Functional	7.9	3.12	34.54	62	37.4	2319	150-0240

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5674	24 max.	24 max.	18.67 max.	2.54 min.

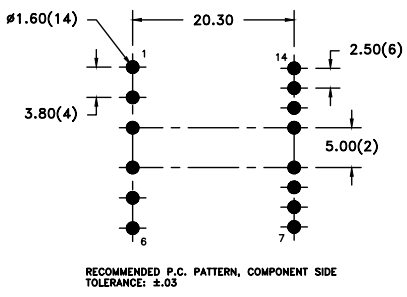
Estimated Maximum Power Level:



Dimensions:



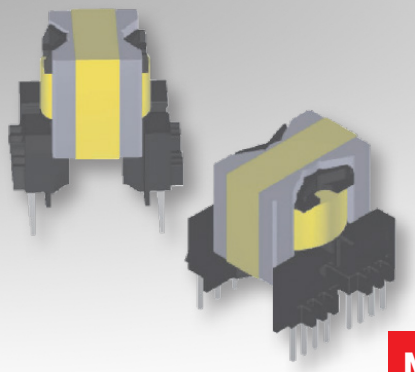
Footprint (mm):



Bobbin Packages

PQ2016

14-Terminal EXT, THT, Vertical



NEW!

Characteristics:

This TH PQ2016 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

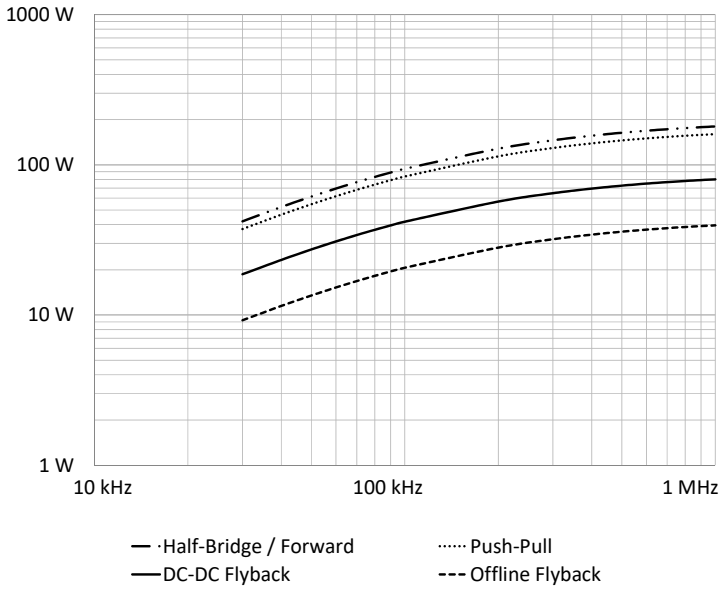
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6905	Reinforced	7.9	3.12	34.54	62	37.4	2319	150-0240

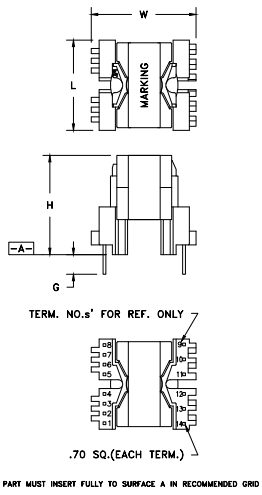
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6905	23.9 max.	27.58 max.	25.2 max.	2.54 min.

Estimated Maximum Power Level:

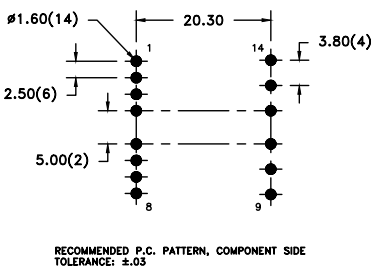


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



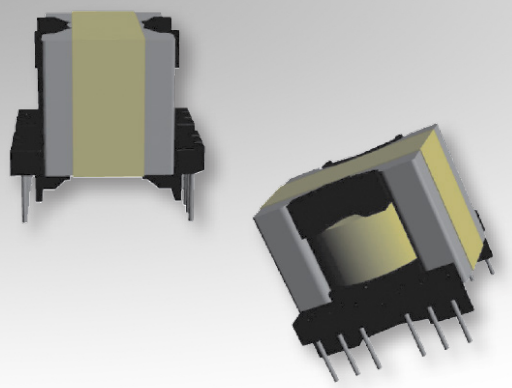
Footprint (mm):



Bobbin Packages

PQ2620

12-Terminal, THT, Vertical



Characteristics:

This TH PQ2620 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

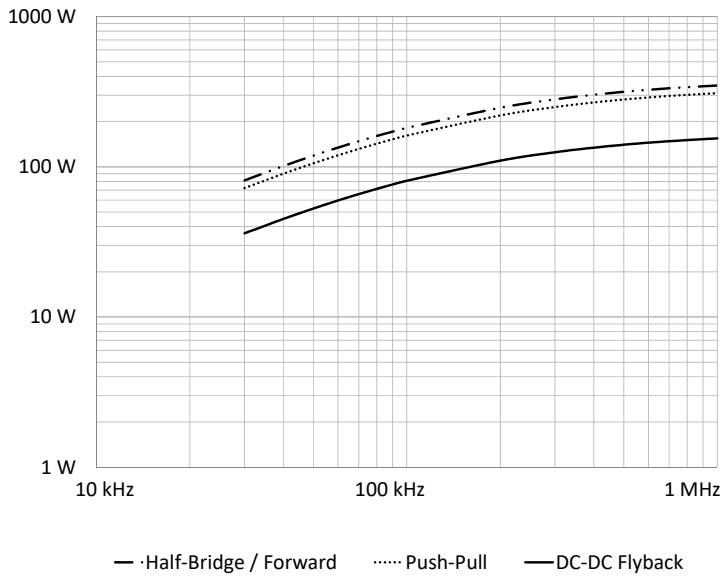
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- PFC

Technical Data:

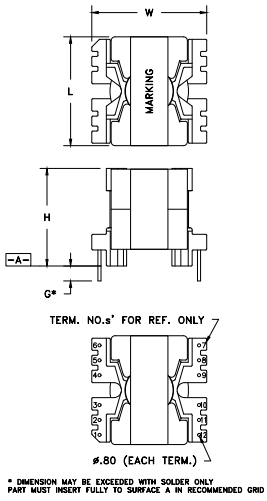
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-7149	Functional	8.99	3.76	44.58	119	46.3	5510	150-0693

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-7149	29.2 max.	30.35 max.	25.9 max.	3.3 ±0.3

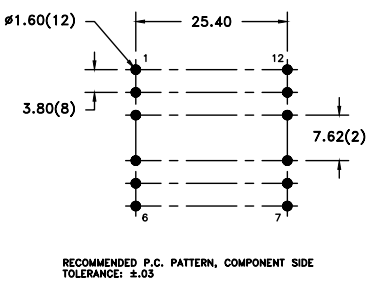
Estimated Maximum Power Level:



Dimensions:



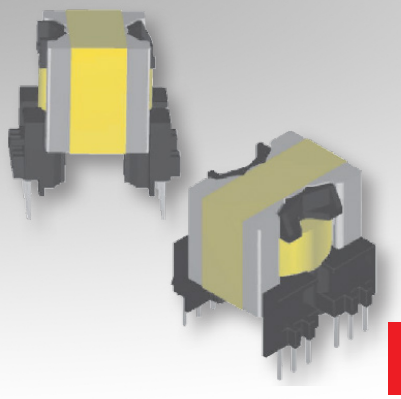
Footprint (mm):



Bobbin Packages

PQ2620

12-Terminal EXT, THT, Vertical



NEW!

Characteristics:

This TH PQ2620 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

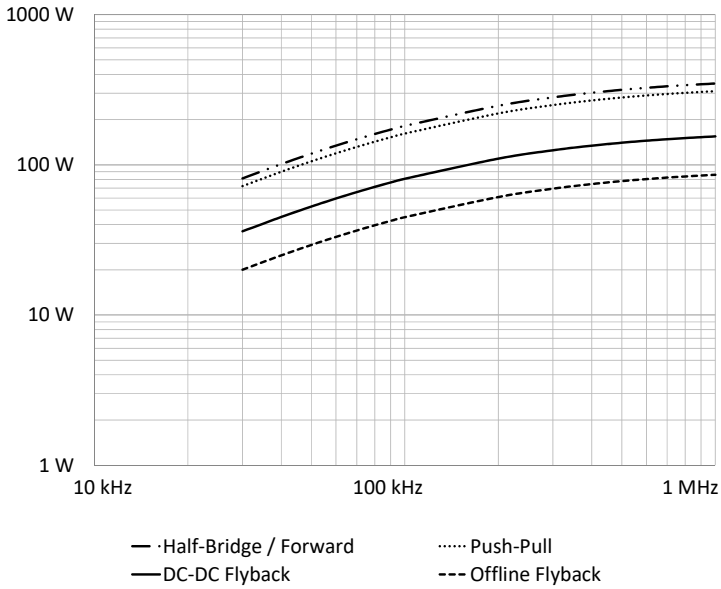
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6947	Reinforced	8.99	3.76	44.58	119	46.3	5510	150-0693

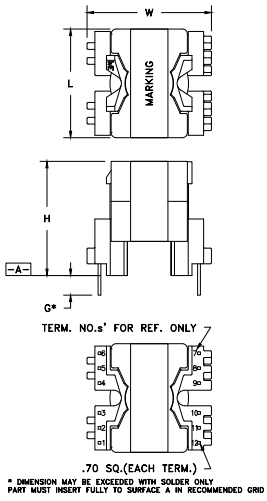
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6947	29.2 max.	33 max.	30.2 max.	5 ±0.2

Estimated Maximum Power Level:

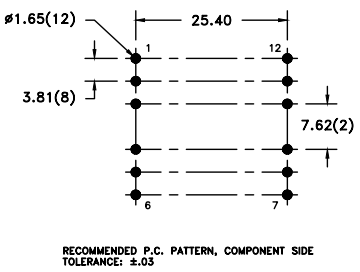


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



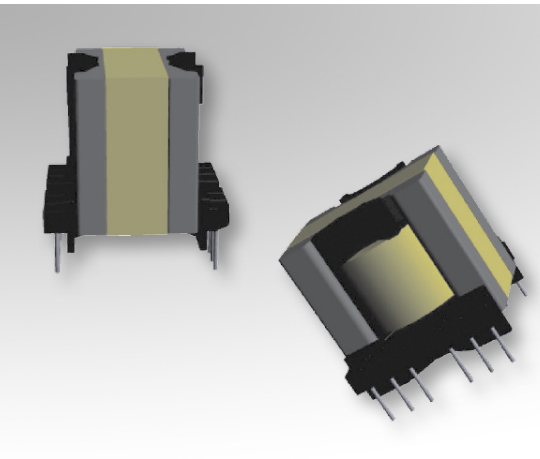
Footprint (mm):



Bobbin Packages

PQ2625

12-Terminal, THT, Vertical



Characteristics:

This TH PQ2625 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

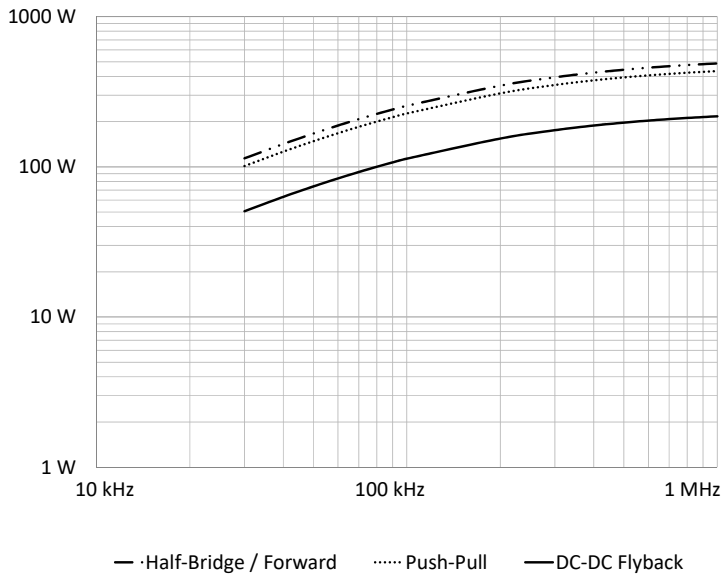
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- PFC

Technical Data:

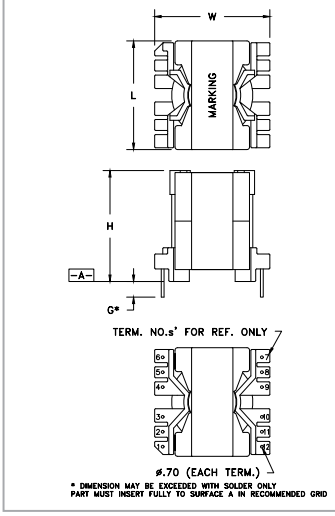
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-7011	Functional	13.59	3.51	45.57	118	55.5	6549	150-2239

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-7011	29.2 max.	30.35 max.	29.3 max.	4.07 ±0.32

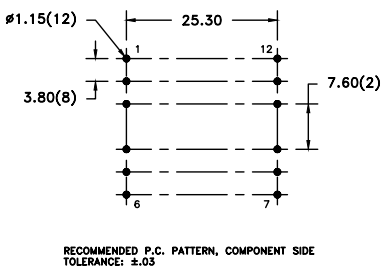
Estimated Maximum Power Level:



Dimensions:



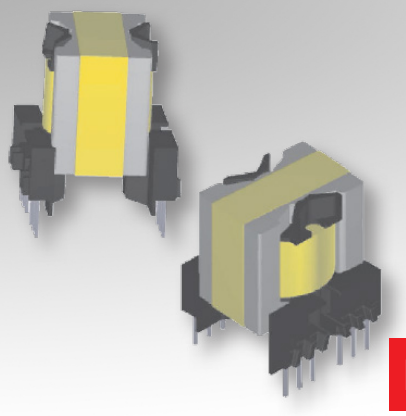
Footprint (mm):



Bobbin Packages

PQ2625

12-Terminal EXT, THT, Vertical



NEW!

Characteristics:

This TH PQ2625 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

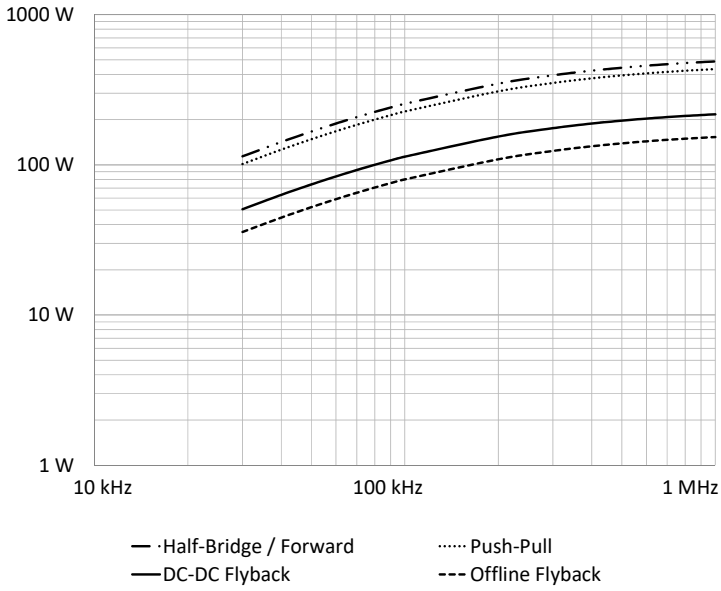
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6952	Reinforced	13.59	3.51	45.57	118	55.5	6549	150-2239

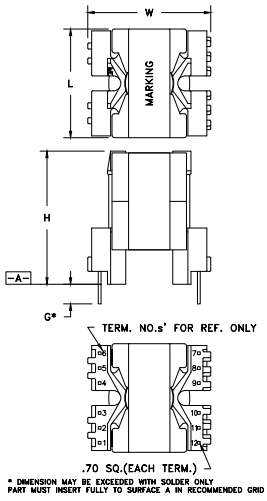
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6952	29.2 max.	32.5 max.	35.2 max.	5 ±0.2

Estimated Maximum Power Level:

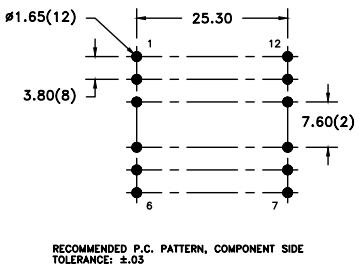


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



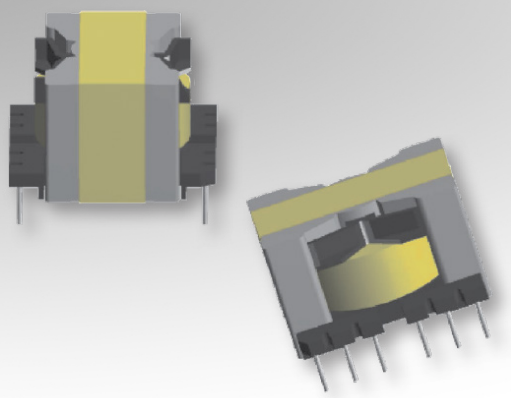
Footprint (mm):



Bobbin Packages

PQ3220

12-Terminal, THT, Vertical



Characteristics:

This TH PQ3220 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

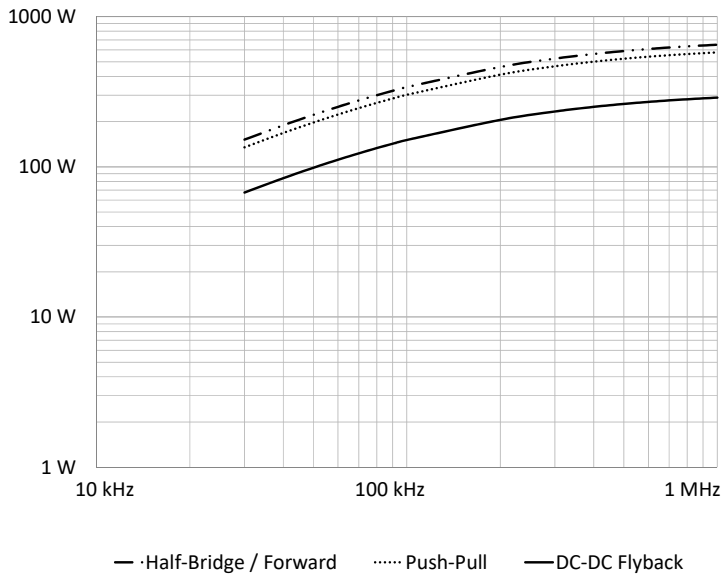
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- PFC

Technical Data:

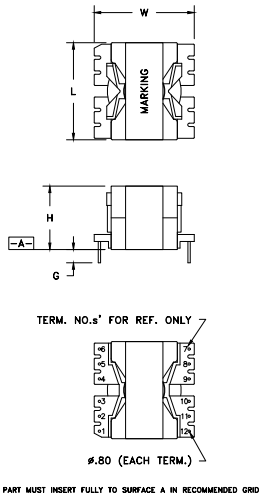
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5050	Functional	9.09	5.18	50.27	169	55.9	9447	150-2449

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5050	35.56 max.	37.34 max.	24.13 max.	2.8 min.

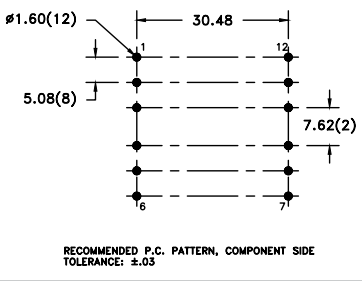
Estimated Maximum Power Level:



Dimensions:



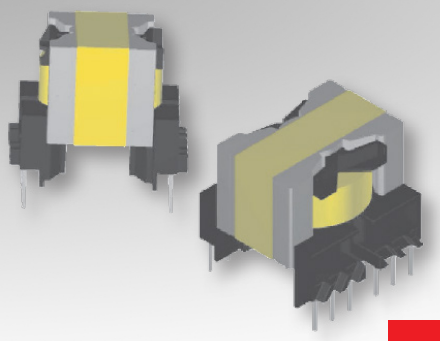
Footprint (mm):



Bobbin Packages

PQ3220

12-Terminal EXT, THT, Vertical



NEW!

Characteristics:

This TH PQ3220 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

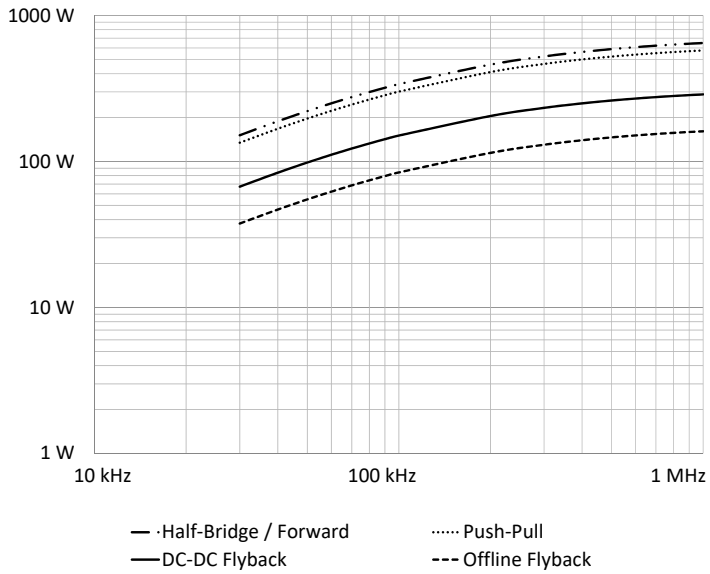
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6957	Reinforced	9.07	5.18	50.27	169	55.9	9447	150-2449

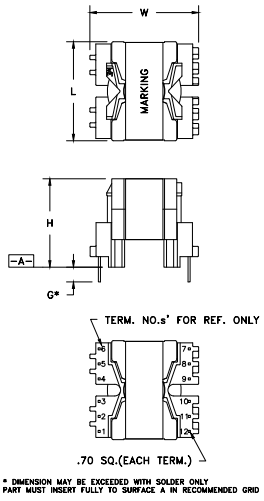
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6957	35.56 max.	40.1 max.	34 max.	5 ±0.2

Estimated Maximum Power Level:

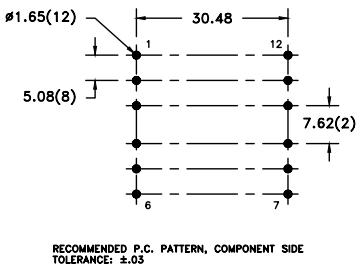


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



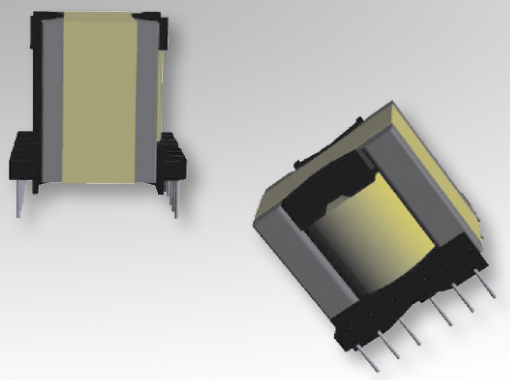
Footprint (mm):



Bobbin Packages

PQ3230

12-Terminal, THT, Vertical



Characteristics:

This TH PQ3230 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

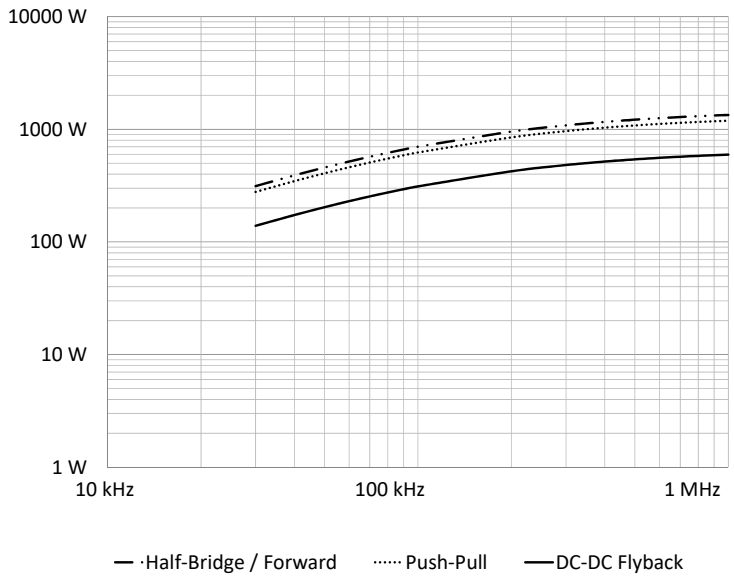
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- Telecom
- PFC

Technical Data:

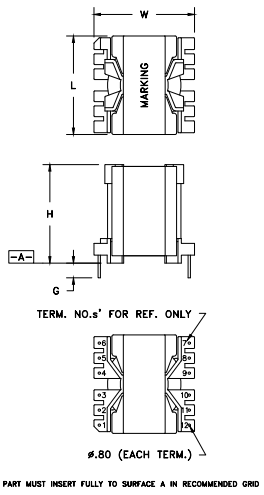
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-4796	Functional	18.69	5.26	50.27	167	74.7	12475	150-2411

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-4796	35.56 max.	37.34 max.	34.29 max.	2.8 min.

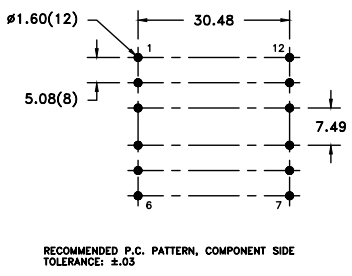
Estimated Maximum Power Level:



Dimensions:



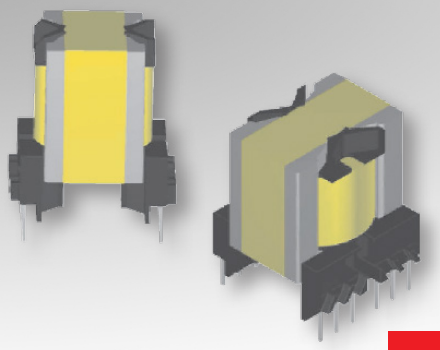
Footprint (mm):



Bobbin Packages

PQ3230

12-Terminal EXT, THT, Vertical



NEW!

Characteristics:

This TH PQ3230 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

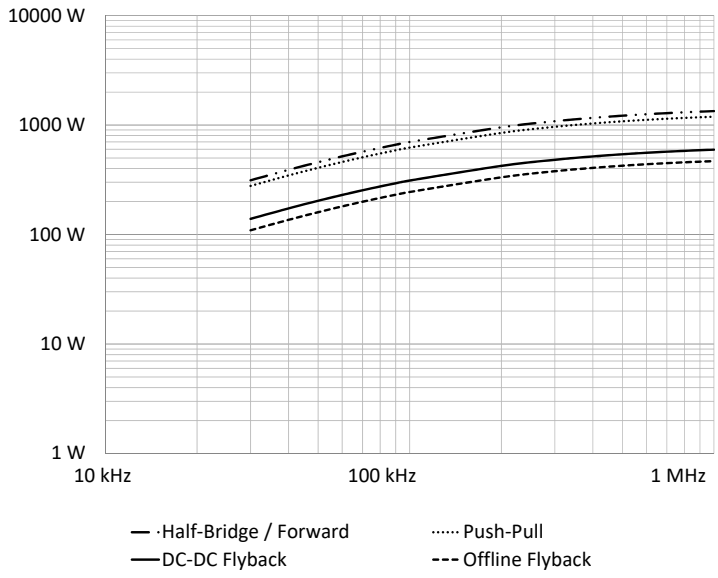
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6962	Reinforced	18.69	5.26	51.21	167	74.7	12475	150-2411

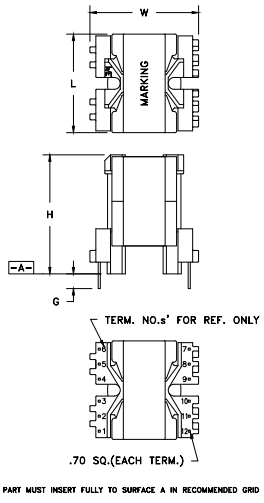
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6962	35.56 max.	38.1 max.	41.28 max.	2.8 min.

Estimated Maximum Power Level:

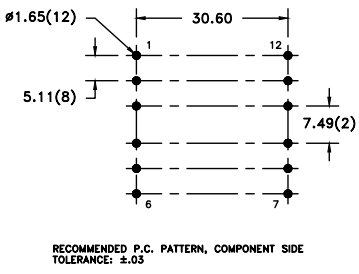


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



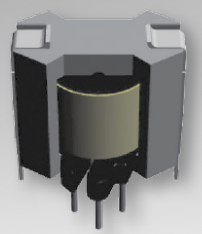
Footprint (mm):

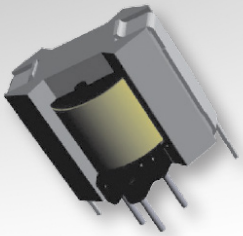


Bobbin Packages

RM4

6-Terminal, THT, Vertical





Characteristics:

This TH RM4 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, and large core cross-sectional area for high power density.

Applications:

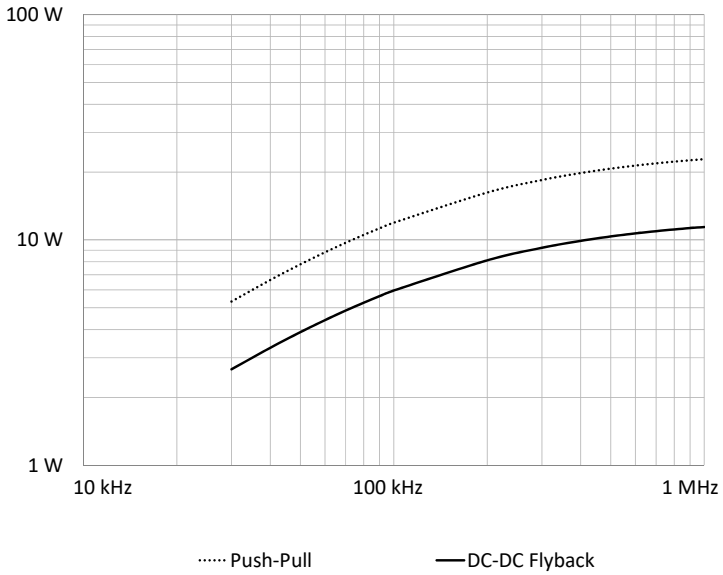
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- PFC
- CMC

Technical Data:

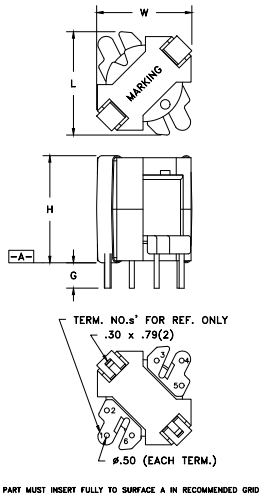
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5754	Functional	5.74	1.5	15.06	10.8	20.6	222	150-2620

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5754	11.44 max.	11.44 max.	11.18 max.	2.54 min.

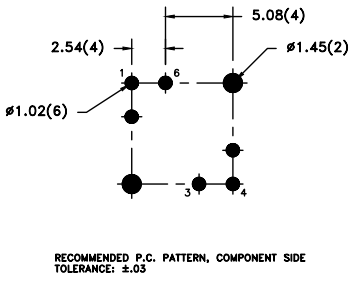
Estimated Maximum Power Level:



Dimensions:



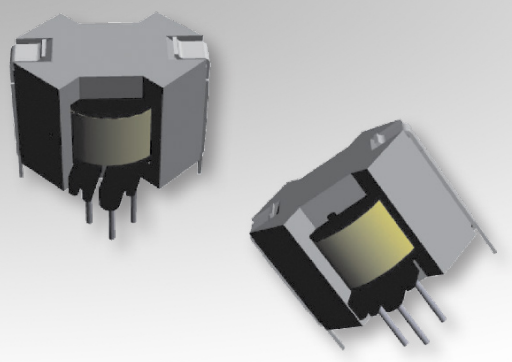
Footprint (mm):



Bobbin Packages

RM5

6-Terminal, THT, Vertical



Characteristics:

This TH RM5 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, and large core cross-sectional area for high power density.

Applications:

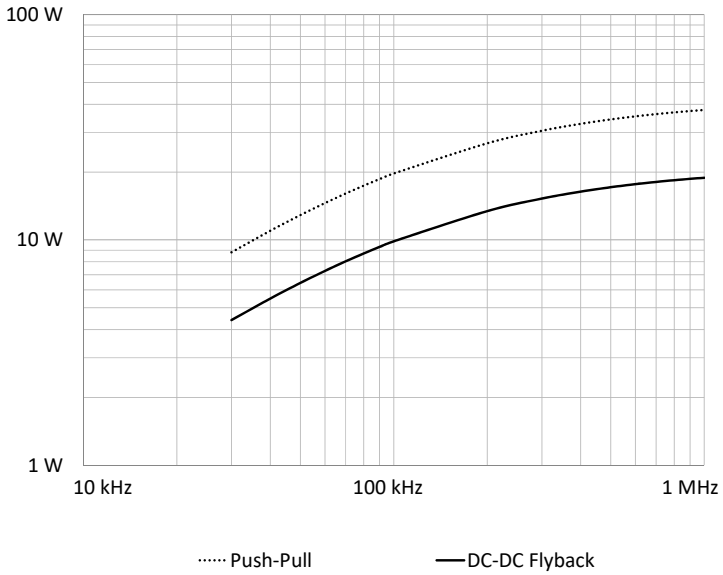
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- PFC
- CMC

Technical Data:

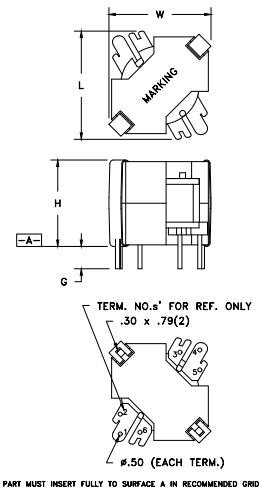
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-2250	Functional	4.85	1.98	18.62	21	21.4	449	150-2378

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-2250	13.97 max.	13.97 max.	11.18 max.	2.54 min.

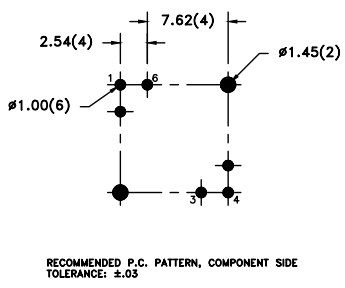
Estimated Maximum Power Level:



Dimensions:



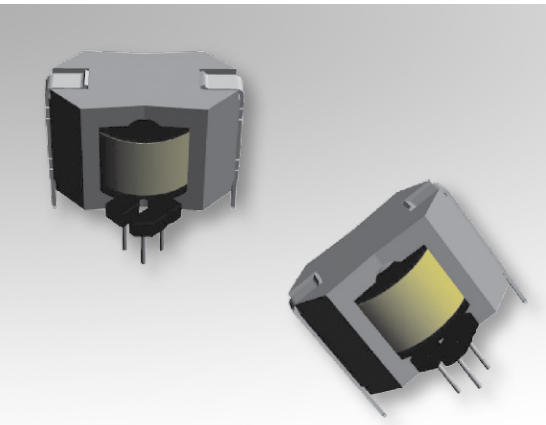
Footprint (mm):



Bobbin Packages

RM6

6-Terminal, THT, Vertical



Characteristics:

This TH RM6 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, and large core cross-sectional area for high power density.

Applications:

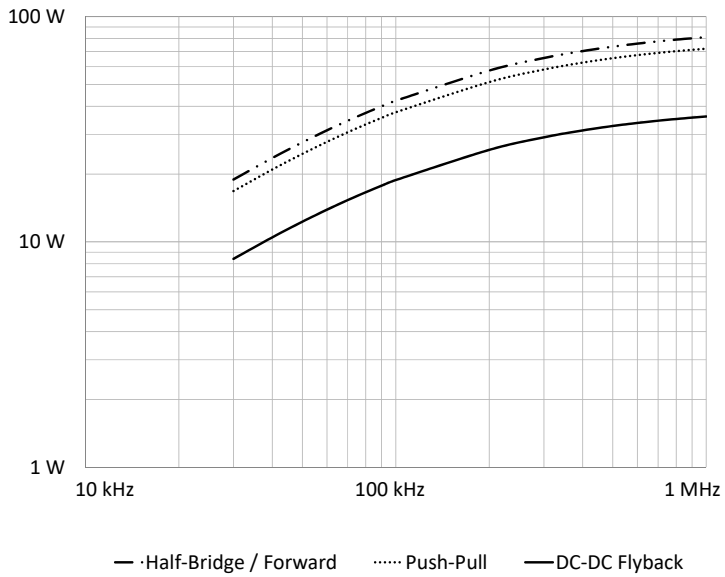
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- PFC
- CMC

Technical Data:

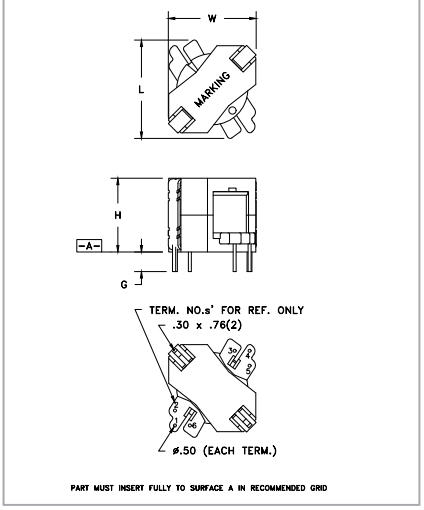
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5757	Functional	6.4	2.36	23.24	31	27	837	150-2622

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5757	17.65 max.	16.64 max.	13.2 max.	2.54 min.

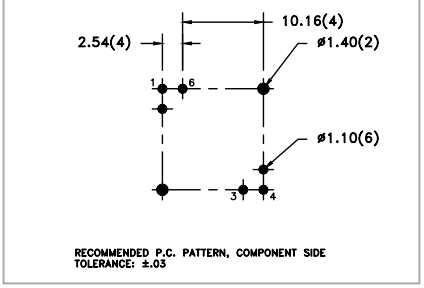
Estimated Maximum Power Level:



Dimensions:



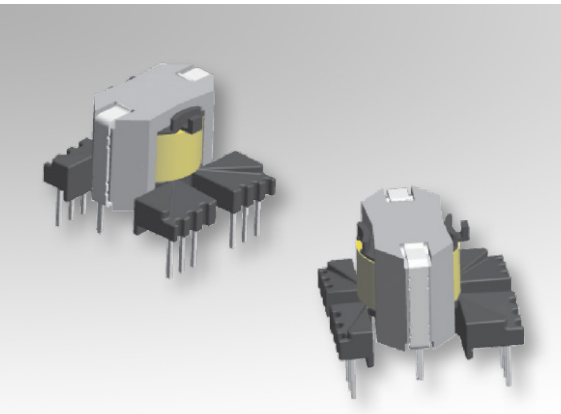
Footprint (mm):



Bobbin Packages

RM6

12-Terminal EXT, THT, Vertical



Characteristics:

This TH RM6 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

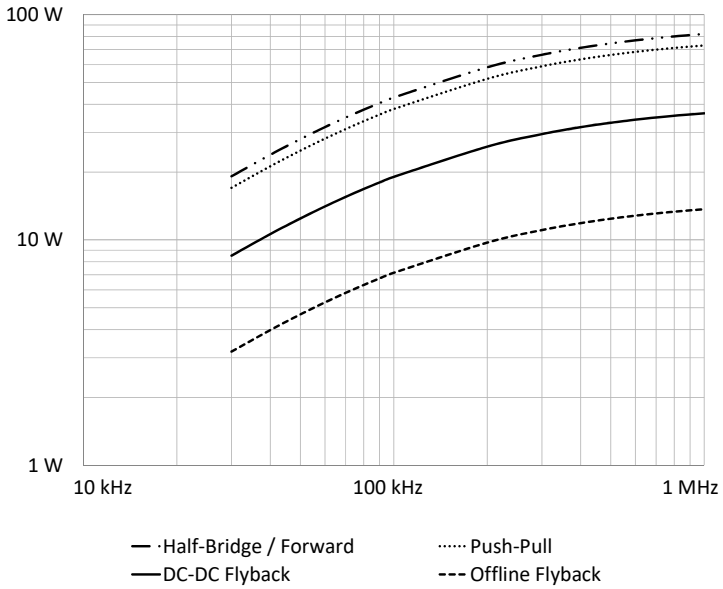
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6915	Reinforced	6.4	2.39	23.37	31	27	837	150-2622

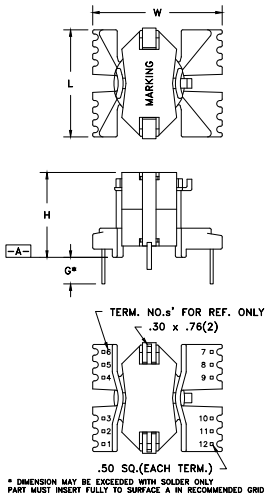
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6915	20.07 max.	23 max.	15 max.	4.5 ±0.25

Estimated Maximum Power Level:

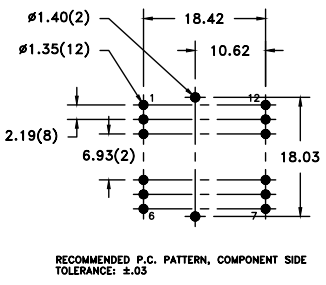


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



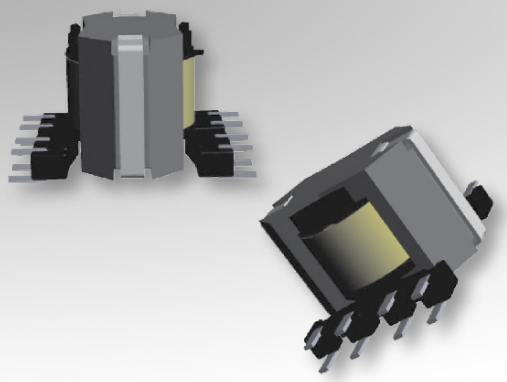
Footprint (mm):



Bobbin Packages

RM6

8-Terminal, SMT, Vertical



Characteristics:

This SMT RM6 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, and large core cross-sectional area for high power density.

Applications:

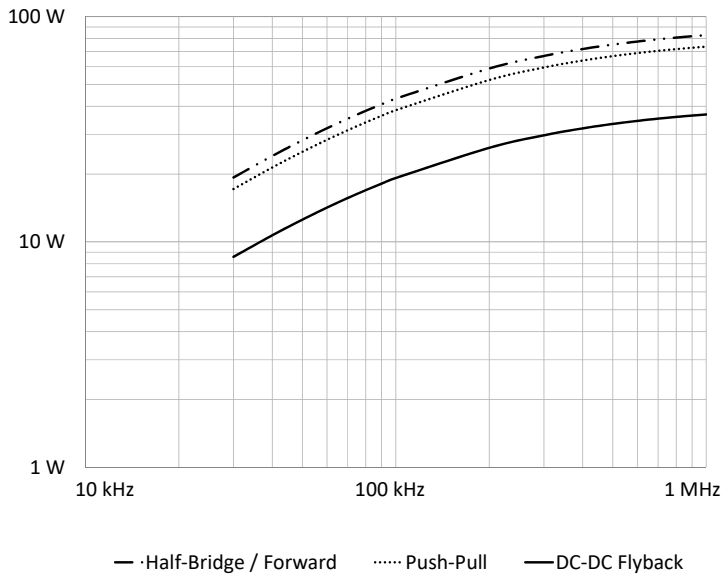
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- PFC
- CMC

Technical Data:

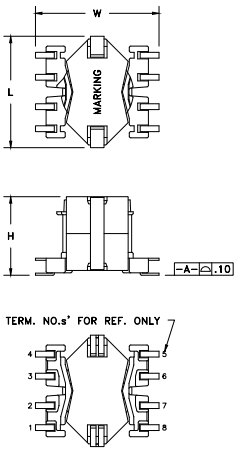
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5657	Functional	6.4	2.41	23.39	31	27	837	150-2622

Order Code	L (mm)	W (mm)	H (mm)
070-5657	20.07 max.	21.84 max.	13.46 max.

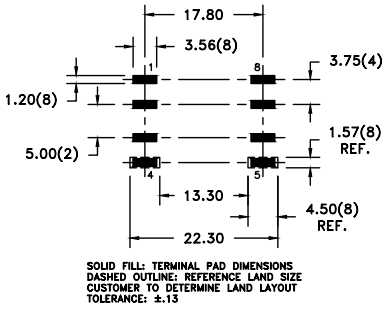
Estimated Maximum Power Level:



Dimensions:



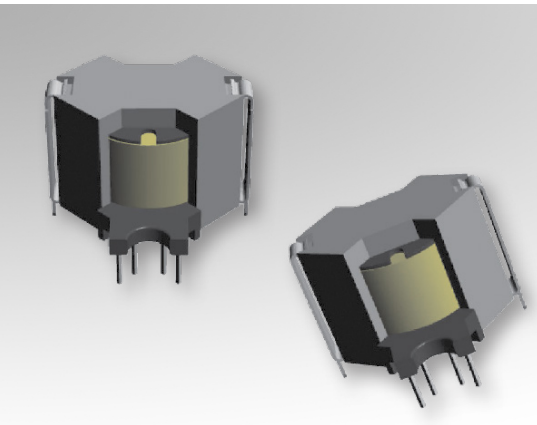
Footprint (mm):



Bobbin Packages

RM8

10-Terminal EXT, THT, Vertical



Characteristics:

This TH RM8 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

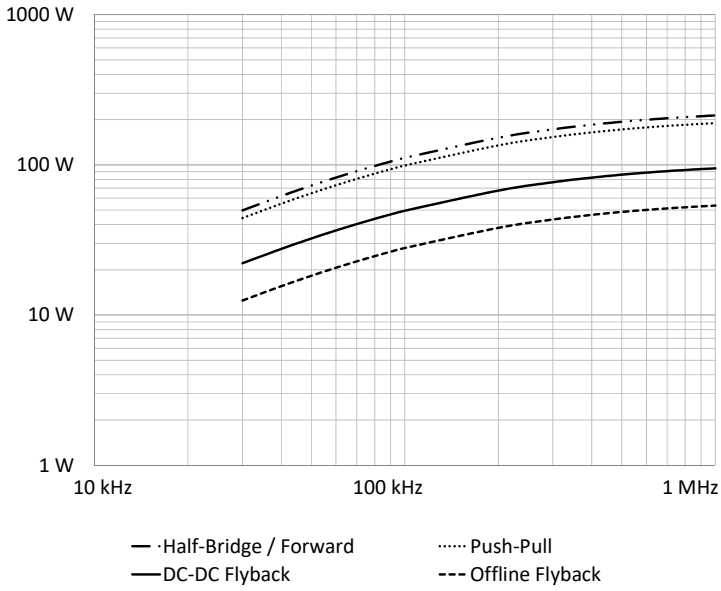
- Offline
- Industrial controls
- Lighting
- Metering
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6835	Reinforced	9.19	3.43	30.88	52	35.1	1825	150-2623

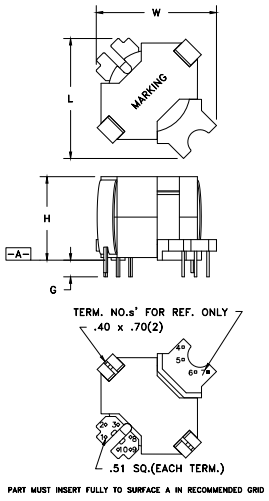
Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6835	24.64 max.	24.64 max.	17.32 max.	2.54 min.

Estimated Maximum Power Level:

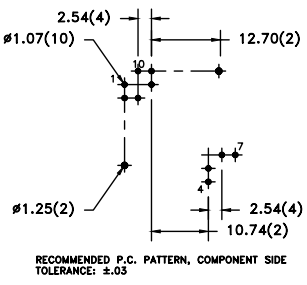


All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

Dimensions:



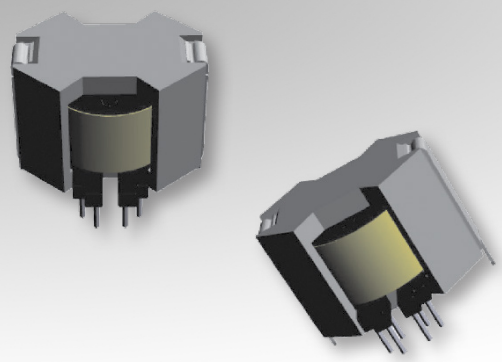
Footprint (mm):



Bobbin Packages

RM8

12-Terminal, THT, Vertical



Characteristics:

This TH RM8 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

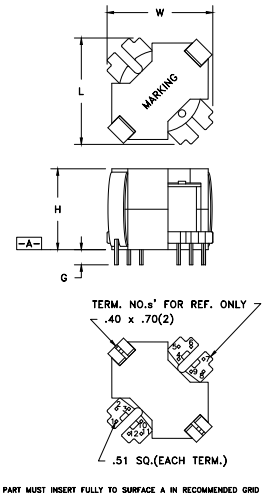
- DC/DC converter
- Industrial controls
- Lighting
- Metering
- White goods
- PoE
- Telecom
- PFC
- CMC

Technical Data:

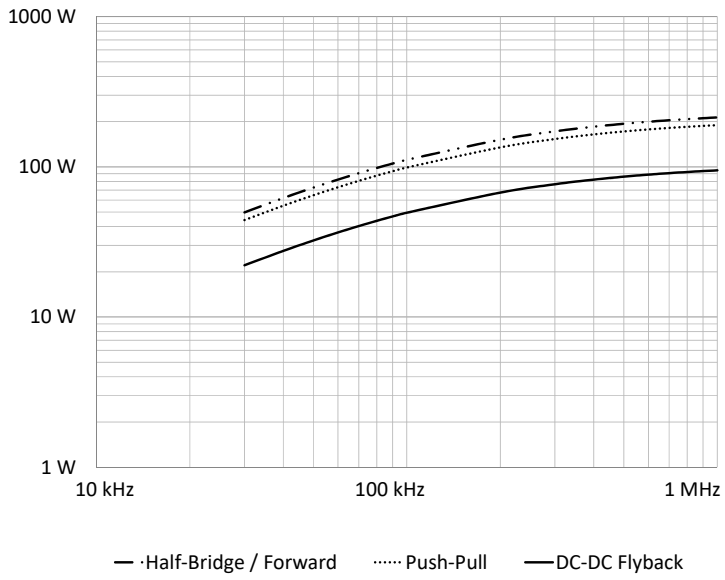
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-2255	Functional	9.19	3.43	30.89	52	35.1	1825	150-2623

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-2255	22 max.	22 max.	17.27 max.	2.54 min.

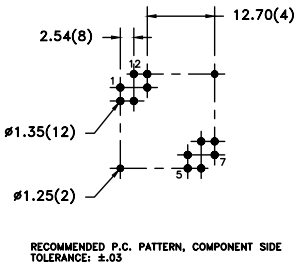
Dimensions:



Estimated Maximum Power Level:



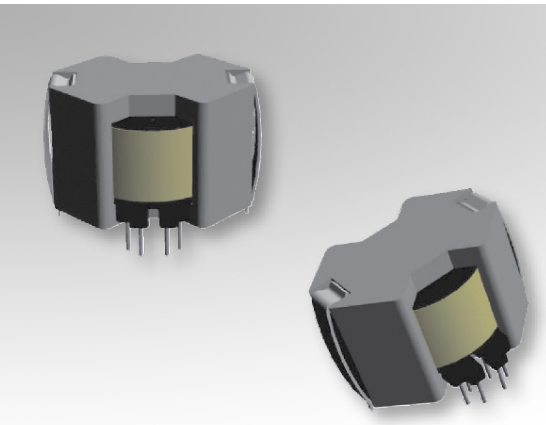
Footprint (mm):



Bobbin Packages

RM10

12-Terminal, THT, Vertical



Characteristics:

This TH RM10 package was developed for functional insulation cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

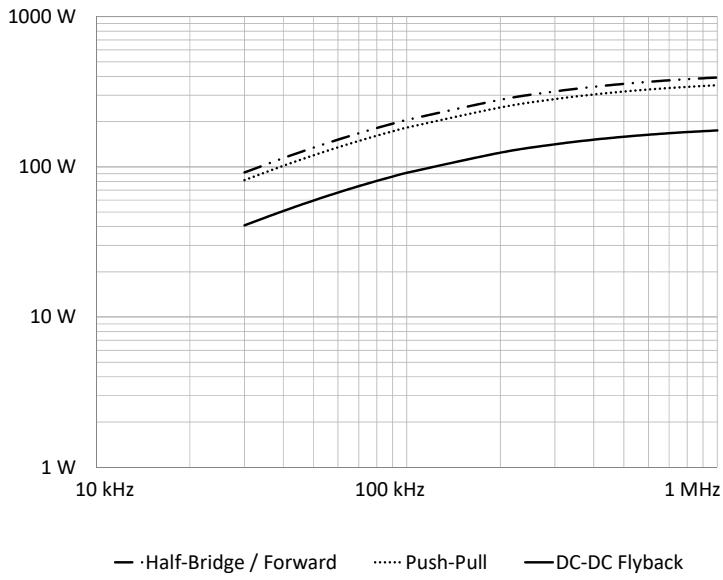
- DC/DC converter
- Industrial controls
- Lighting
- White goods
- PoE
- Telecom
- PFC
- CMC

Technical Data:

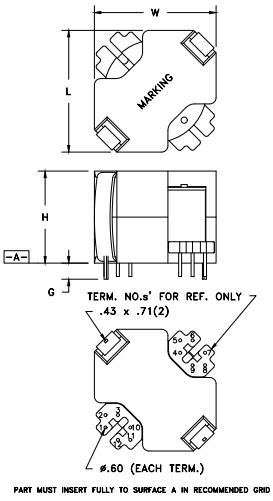
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-5680	Functional	10.49	4.29	38.63	90	44	3960	150-2624

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-5680	26.16 max.	26.16 max.	19.05 max.	2.54 min.

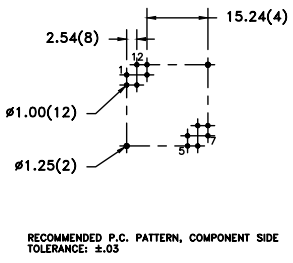
Estimated Maximum Power Level:



Dimensions:



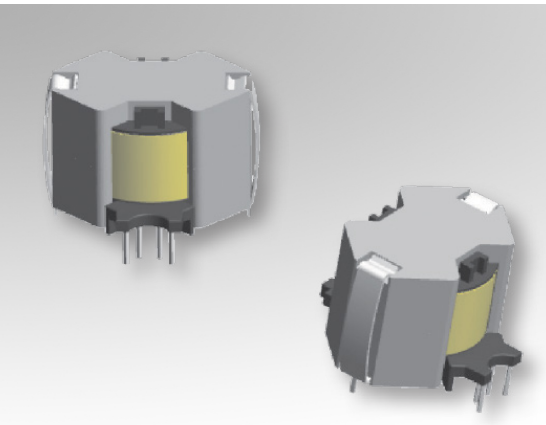
Footprint (mm):



Bobbin Packages

RM10

10-Terminal EXT, THT, Vertical



Characteristics:

This TH RM10 package was developed for special safety cases and compact footprint requirements. It features self-shielding cores for EMI improvement, large core cross-sectional area for high power density, and many terminals for multiple outputs, split coils, or parallel high current winds.

Applications:

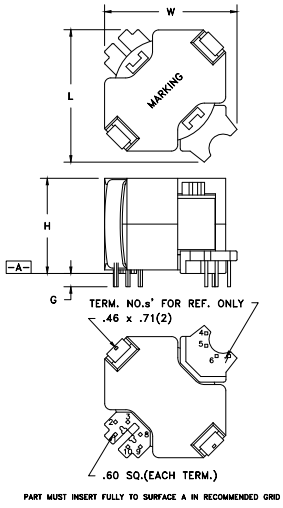
- Offline
- Industrial controls
- Lighting
- White goods
- Telecom
- Charging
- Stand-by power

Technical Data:

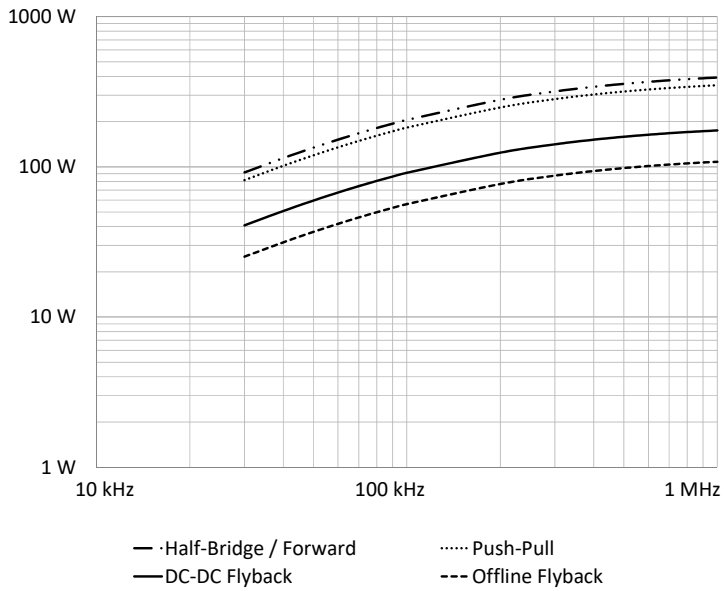
Order Code	Type of Insulation	Winding Width (mm)	Winding Build (mm)	Winding Perimeter (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Core Order Code (Power)
070-6920	Reinforced	10.49	4.29	38.61	90	44	3960	150-2624

Order Code	L (mm)	W (mm)	H (mm)	G (mm)
070-6920	31.5 max.	31.5 max.	20.5 max.	2.29 min.

Dimensions:

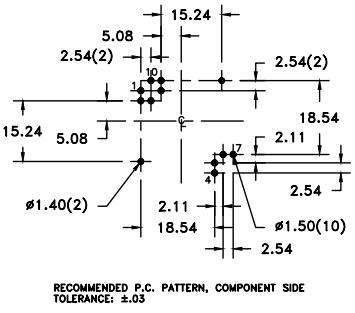


Estimated Maximum Power Level:



All curves are DC-DC unless otherwise noted. For offline applications, the power level must be derated as shown in the flyback curves.

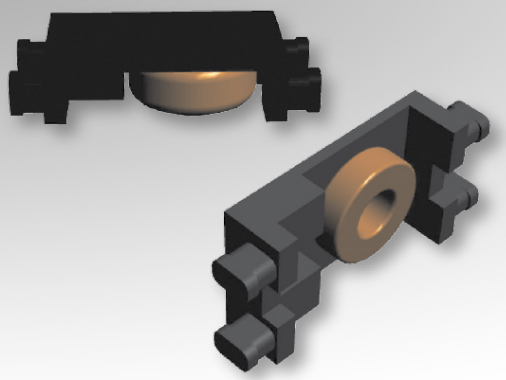
Footprint (mm):



Toroid Headers

TOR-4P-HT2-SFTY

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a low profile and an extended rail for special safety cases.

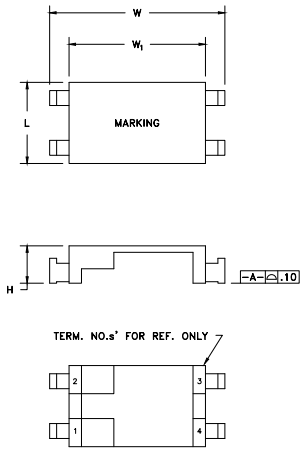
Applications:

- Analog modem
- Gate drive
- High voltage isolation
- Power line communication
- Signal isolation
- Telecom

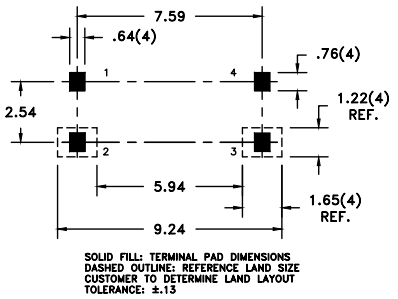
Technical Data:

Order Code	Type of Insulation	Creepage (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0511	Basic/ Supplemen-tary	1.65	0.61	7.19	4.37	4	1.57	4.39 max.	9.14 max.	1.98 max.	6.96 ref.

Dimensions:



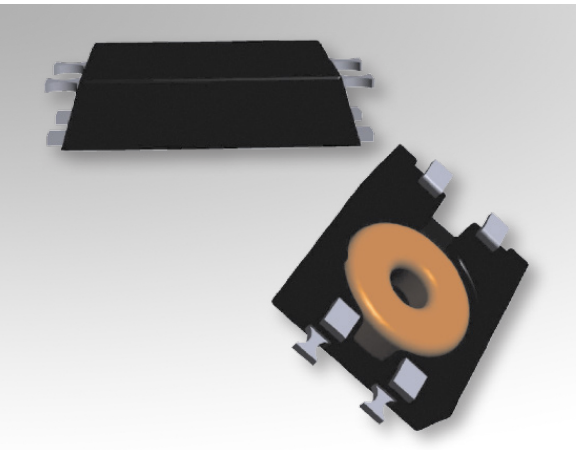
Footprint (mm):



Toroid Headers

TOR-4P-HT2.2-SFTY

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a low profile and an extended rail for special safety cases.

Applications:

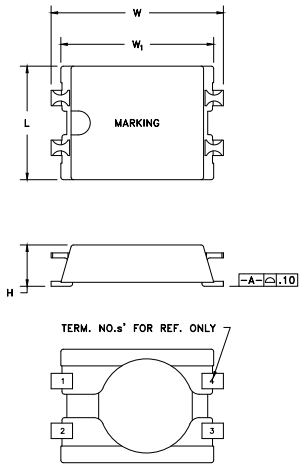
- Analog modem
- Gate drive
- High voltage isolation
- Power line communication
- Signal isolation
- Telecom

2

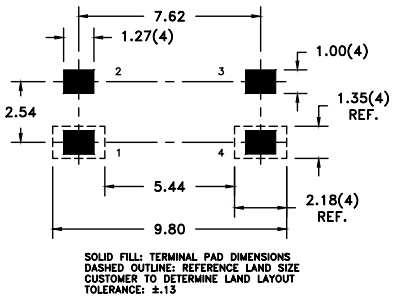
Technical Data:

Order Code	Type of Insulation	Creepage (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0989	Basic/ Supplemen-tary	1.65	0.92	9.35	8.63	4.8	1.65	6.05 max.	9.4 max.	2.2 max.	7.8 ref.

Dimensions:



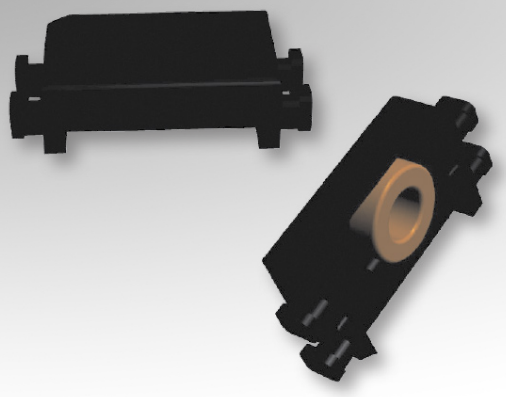
Footprint (mm):



Toroid Headers

TOR-4P-HT2.5-SFTY

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a low profile and an extended rail for special safety cases.

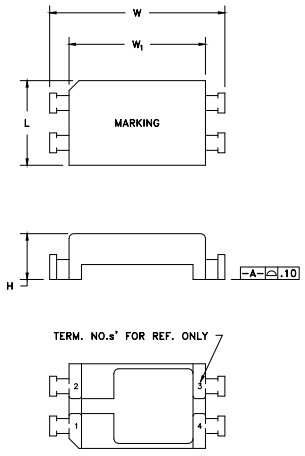
Applications:

- Analog modem
- Gate drive
- High voltage isolation
- Power line communication
- Signal isolation
- Telecom

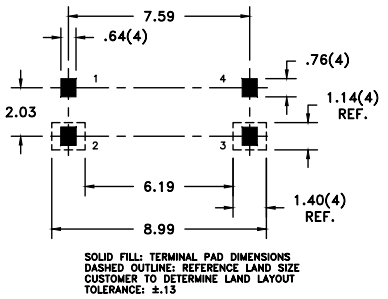
Technical Data:

Order Code	Type of Insulation	Creepage (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0581	Basic/ Supplemen-tary	1.65	0.81	7.59	6.12	4	2	4.39 max.	9.14 max.	2.54 max.	6.96 ref.

Dimensions:



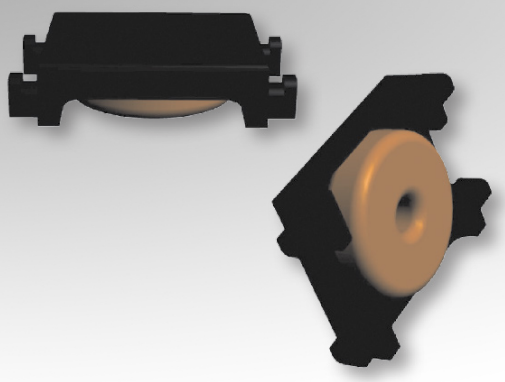
Footprint (mm):



Toroid Headers

TOR-4P-HT2

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a low profile and compact footprint for functional insulation cases.

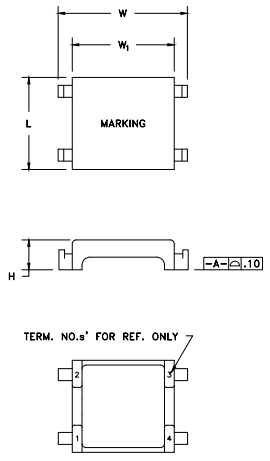
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

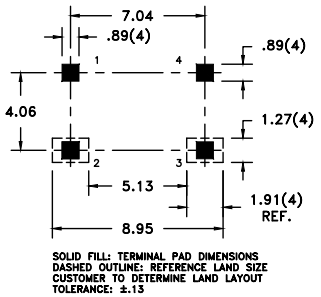
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1299	Functional	1	9.71	9.66	5.26	1.37	5.87 max.	8.26 max.	2 max.	6.5 ref.

Dimensions:



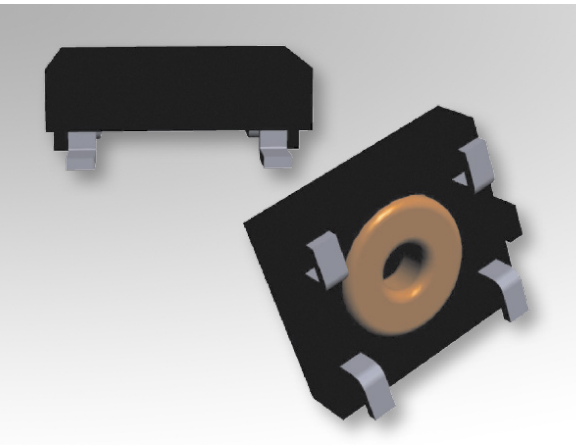
Footprint (mm):



Toroid Headers

TOR-4P-HT2.2

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a low profile and compact footprint for functional insulation cases.

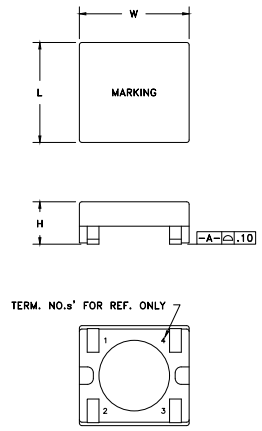
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

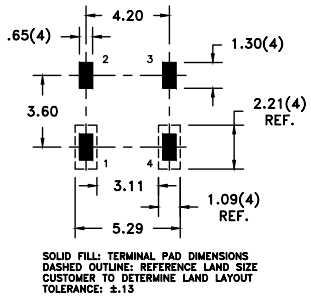
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)
250-0841	Functional	0.61	7.19	4.37	3.6	0.95	5.33 max.	5.84 max.	2.39 max.

Dimensions:



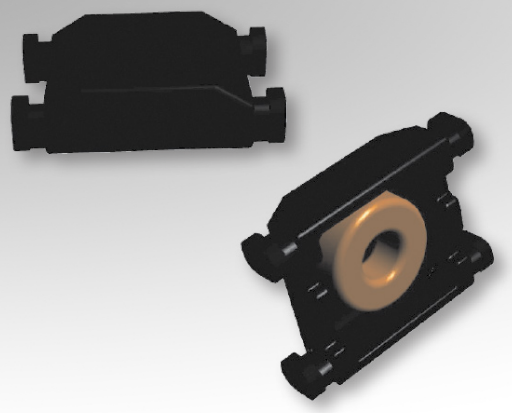
Footprint (mm):



Toroid Headers

TOR-4P-HT2.5

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a low profile and compact footprint for functional insulation cases.

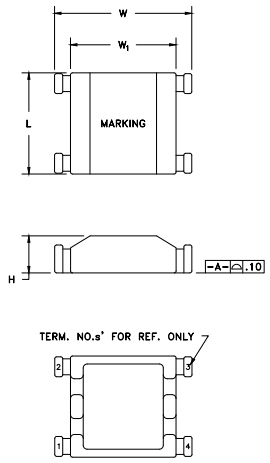
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

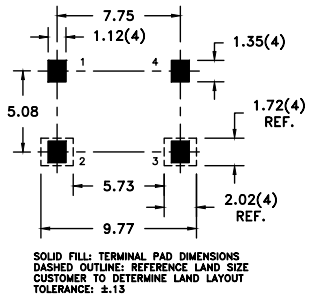
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1013	Functional	1.24	9.27	11.45	5	2.11	6.55 max.	8.86 max.	2.54 max.	6.73 ref.

Dimensions:



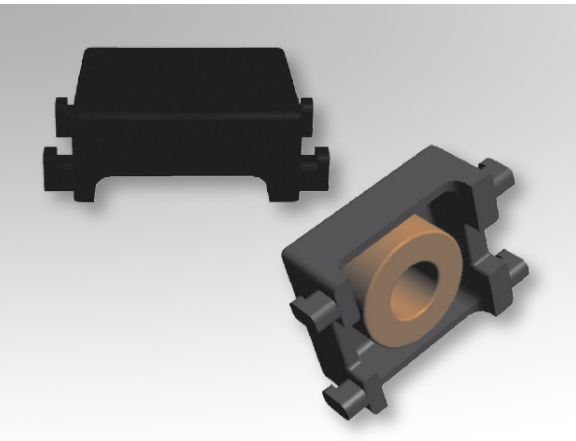
Footprint (mm):



Toroid Headers

TOR-4P-HT3

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a low profile and compact footprint for functional insulation cases.

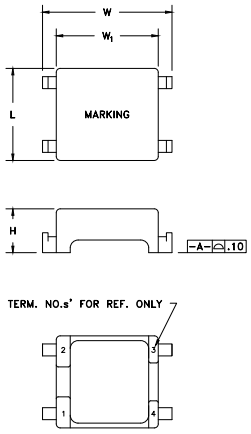
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

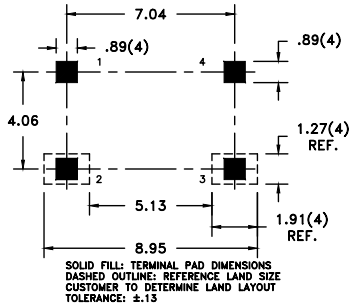
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1318	Functional	2.31	9.71	22.38	5	1.6	6 max.	8.26 max.	3 max.	6.5 ref.

Dimensions:



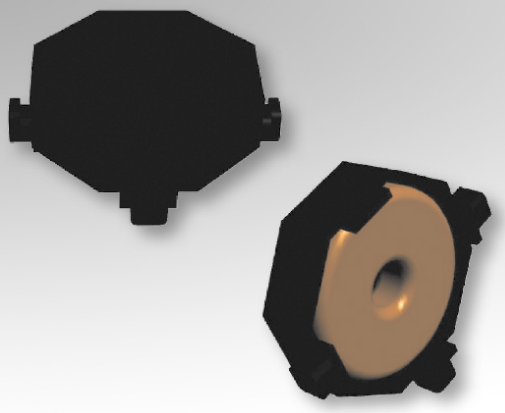
Footprint (mm):



Toroid Headers

TOR-4P-HT3.3

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a low profile and compact footprint for functional insulation cases.

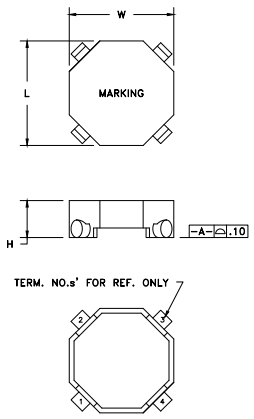
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

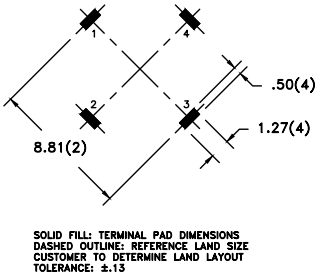
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)
250-1009	Functional	2.23	13.9	30.97	6.7	1.95	8.33 max.	8.33 max.	3.3 max.

Dimensions:



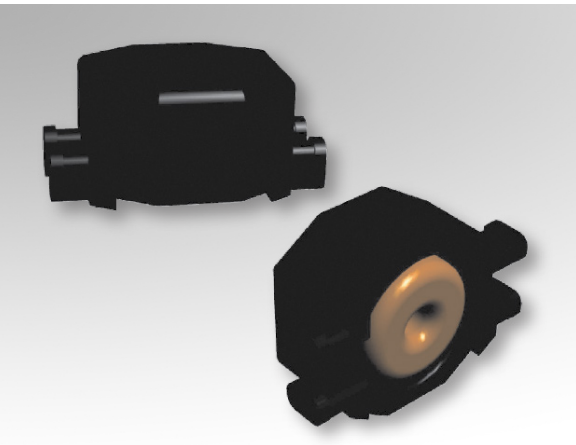
Footprint (mm):



Toroid Headers

TOR-4P-HT4.1

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a compact footprint for functional insulation cases.

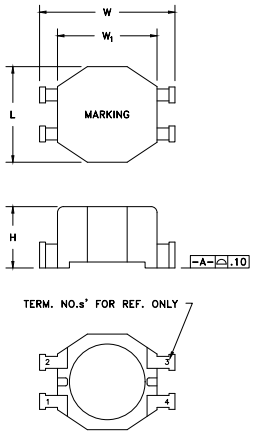
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

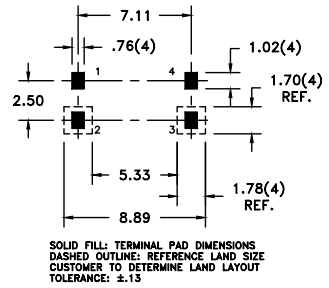
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0621	Functional	2.1	8.18	17.15	4.8	3.15	6.3 max.	8.89 max.	4.1 max.	6.6 max.

Dimensions:



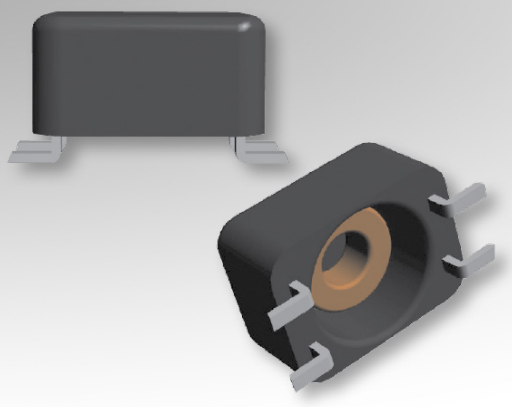
Footprint (mm):



Toroid Headers

TOR-4P-HT4.7

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a compact footprint for functional insulation cases.

Applications:

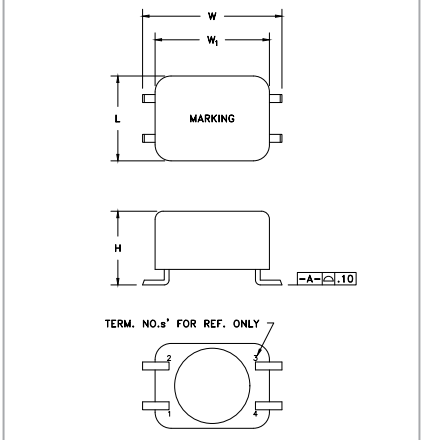
- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

2

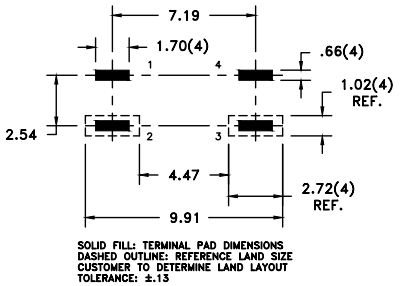
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1317	Functional	1.9	9.27	17.61	4.8	3.1	5.53 max.	9.6 max.	4.83 max.	7.3 ref.

Dimensions:



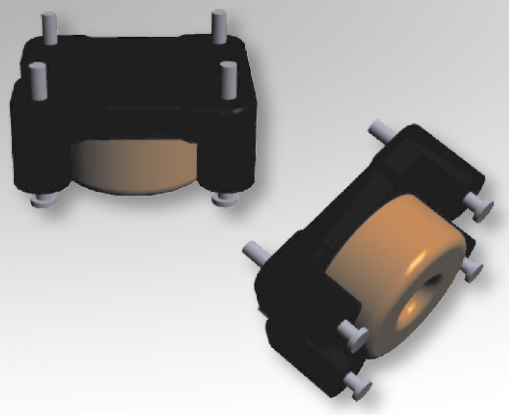
Footprint (mm):



Toroid Headers

TOR-4P-HT6.4

4-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a compact footprint for functional insulation cases.

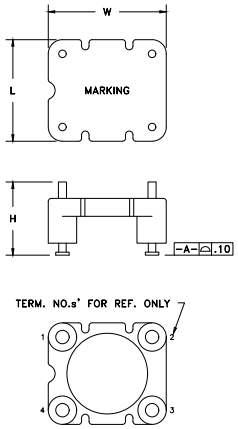
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

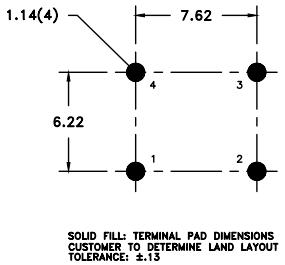
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)
250-0522	Functional	4.5	14.14	63.62	6.9	3.05	9.02 max.	10.16 max.	6.6 max.

Dimensions:



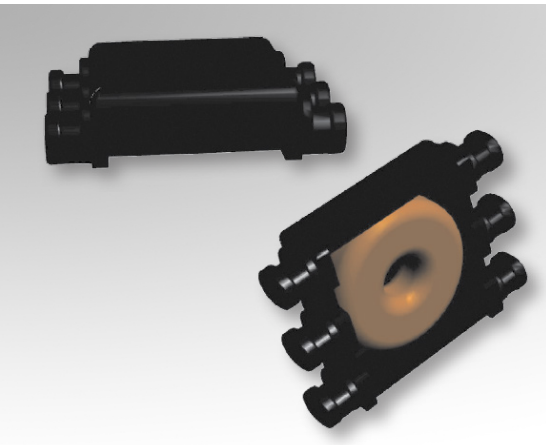
Footprint (mm):



Toroid Headers

TOR-6P-HT2.5

6-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a low profile and compact footprint for functional insulation cases.

Applications:

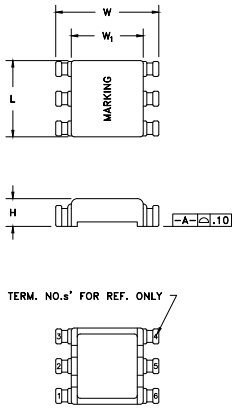
- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

2

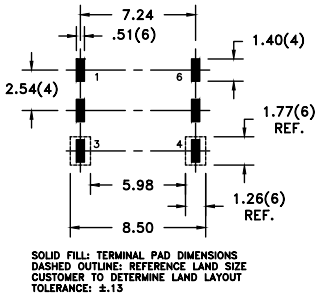
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0528	Functional	0.88	10.37	9.12	5	1.73	6.6 max.	8.86 max.	2.54 max.	6.25 ref.

Dimensions:



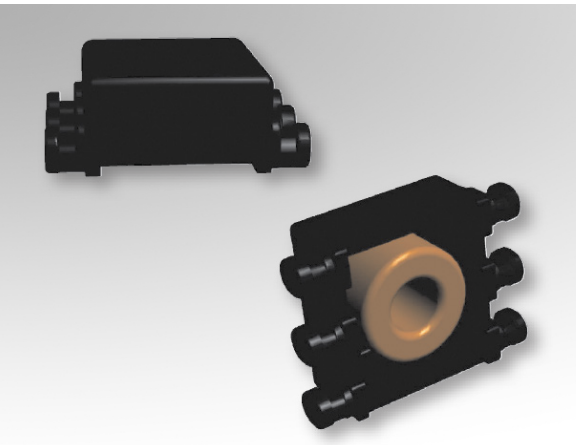
Footprint (mm):



Toroid Headers

TOR-6P-HT3.6

6-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a low profile and compact footprint for functional insulation cases.

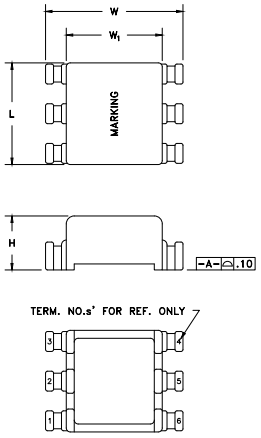
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

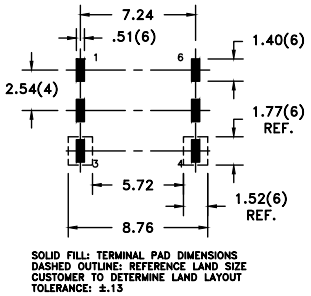
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0593	Functional	2.16	9.71	20.96	5	2.78	6.73 max.	9.02 max.	3.56 max.	6.12 ref.

Dimensions:



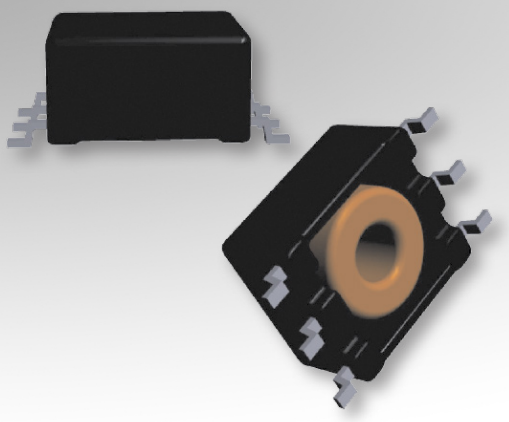
Footprint (mm):



Toroid Headers

TOR-6P-HT4

6-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a compact footprint for functional insulation cases. It also has a deep pocket which allows for encapsulation.

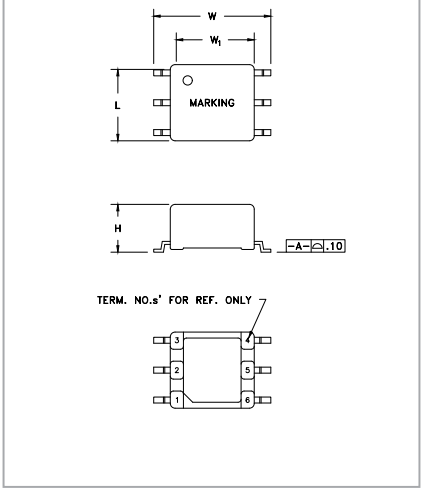
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

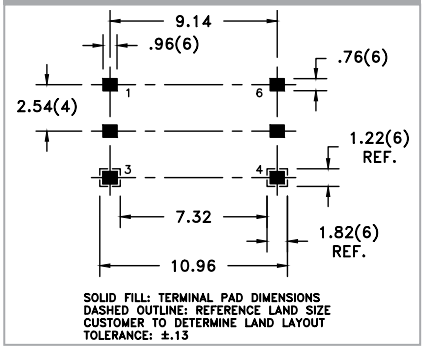
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1109	Functional	1.73	11.15	19.24	4.8	3.35	6.73 max.	10.46 max.	4.19 max.	7.14 ref.

Dimensions:



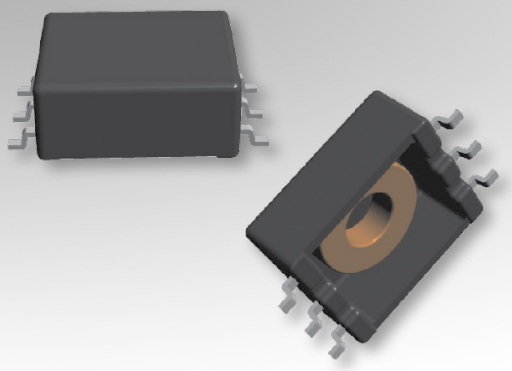
Footprint (mm):



Toroid Headers

TOR-6P-HT4

6-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a compact footprint for functional insulation cases. It also has a deep pocket which allows for encapsulation.

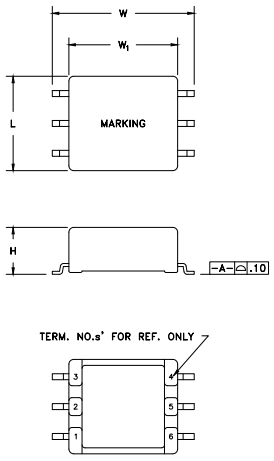
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

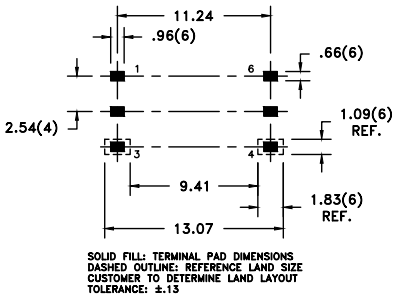
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1201	Functional	2.12	13.96	29.61	7	3.49	8.3 max.	12.6 max.	4.1 max.	9.25 ref.

Dimensions:



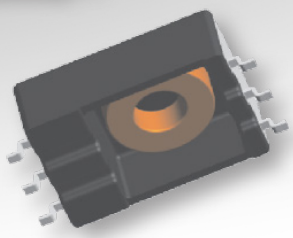
Footprint (mm):



Toroid Headers

TOR-6P-HT4-SFTY

6-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with an extended rail for special safety cases. It also has a deep pocket which allows for encapsulation.

Applications:

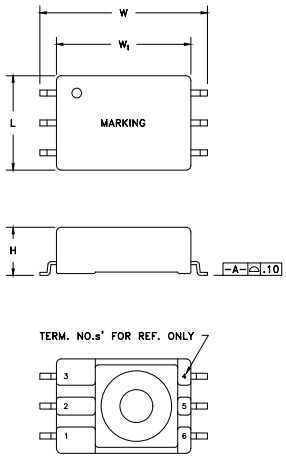
- CMC
- Gate drive
- High voltage isolation
- Inductor
- Signal isolation
- Telecom

2

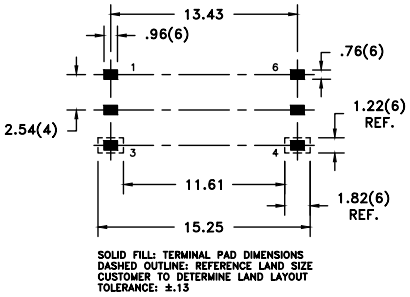
Technical Data:

Order Code	Type of Insulation	Creepage (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1268	Basic/ Suppleme-ntary	3.2	2.12	13.96	29.61	7	3.49	8.3 max.	14.75 max.	4.2 max.	11.43 ref.

Dimensions:



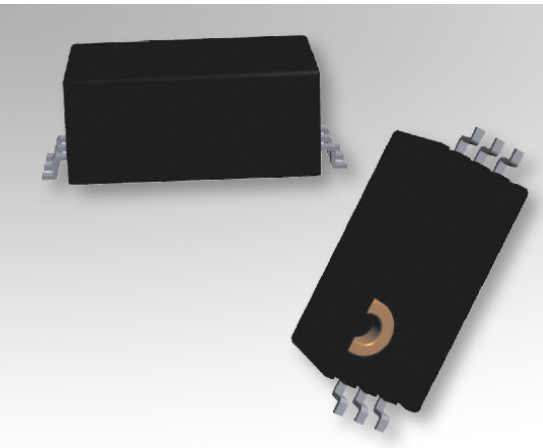
Footprint (mm):



Toroid Headers

TOR-6P-HT6.4-SFTY

6-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with an extended rail for special safety cases. It also has a deep pocket which allows for encapsulation.

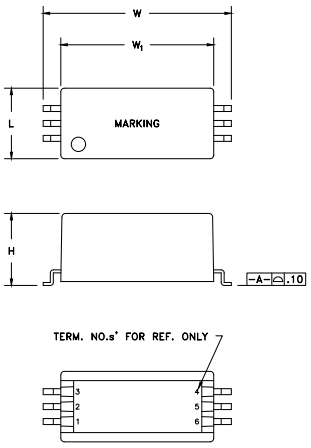
Applications:

- CMC
- Gate drive
- High voltage isolation
- Inductor
- Signal isolation
- Telecom

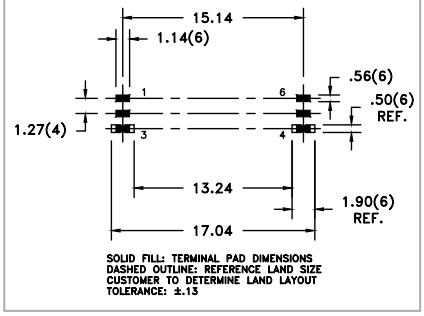
Technical Data:

Order Code	Type of Insulation	Cr (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1002	Reinforced	11.2	2	9.18	18.36	4.4	5.2	6.15 max.	16.3 max.	6.35 max.	13 ref.

Dimensions:



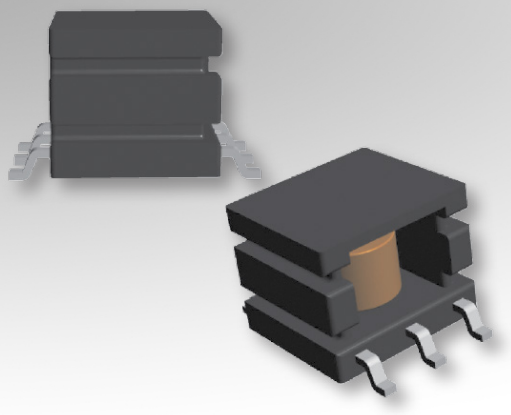
Footprint (mm):



Toroid Headers

TOR-6P-HT7.6-SFTY

6-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a compact footprint for special safety cases without encapsulation.

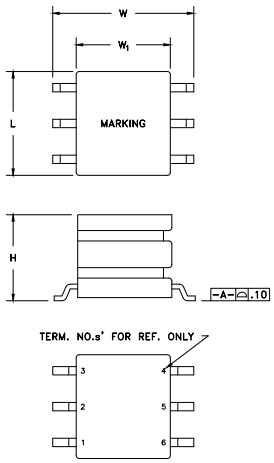
Applications:

- CMC
- Gate drive
- High voltage isolation
- Inductor
- Signal isolation
- Telecom

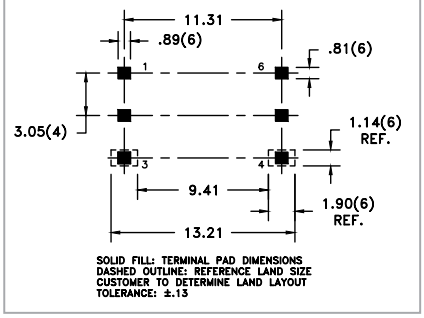
Technical Data:

Order Code	Type of Insulation	Creepage (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1123	Reinforced	8	2	12	24	5.8	7.37	9.14 max.	12.95 max.	7.62 max.	8 ref.

Dimensions:



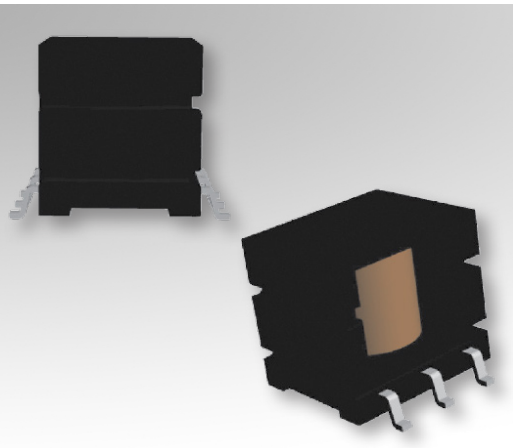
Footprint (mm):



Toroid Headers

TOR-6P-HT11.8-SFTY

6-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a compact footprint for special safety cases without encapsulation.

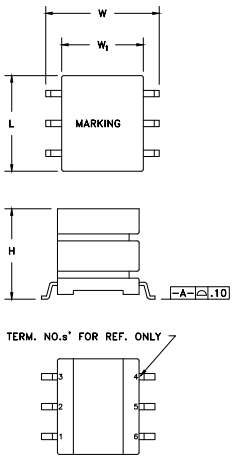
Applications:

- CMC
- Gate drive
- High voltage isolation
- Inductor
- Signal isolation
- Telecom

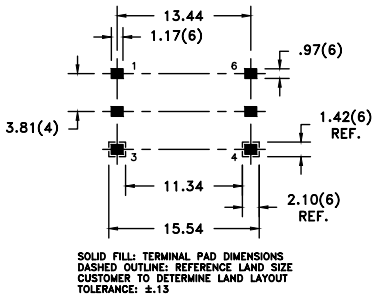
Technical Data:

Order Code	Type of Insulation	Creepage (mm)	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1243	Reinforced	11	7.92	15.3	121	8.9	8.5	12.32 max.	16.5 max.	11.89 max.	10.41 ref.

Dimensions:



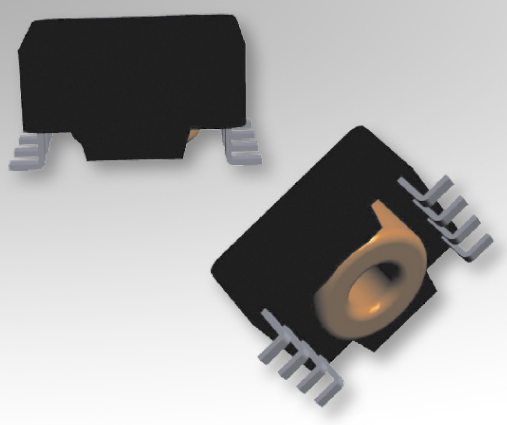
Footprint (mm):



Toroid Headers

TOR-8P-HT4

8-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a compact footprint for functional insulation cases.

Applications:

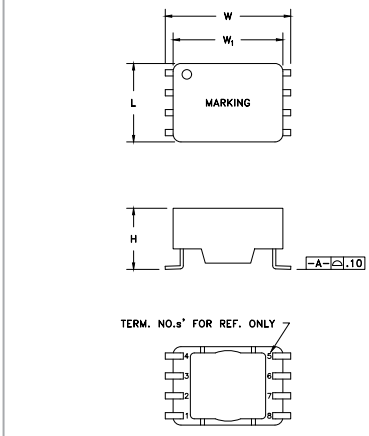
- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

2

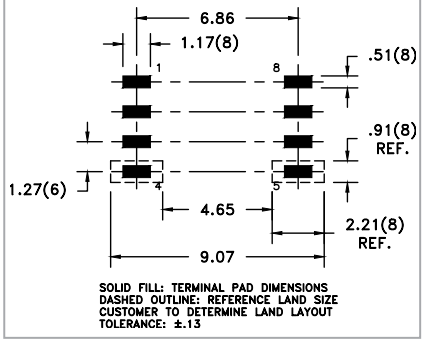
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0626	Functional	2.16	9.71	20.96	4.5	2.1	5.26 max.	8.55 max.	4.06 max.	7.11 ref.

Dimensions:



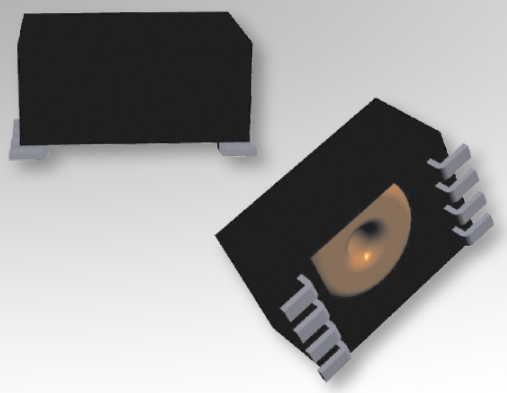
Footprint (mm):



Toroid Headers

TOR-8P-HT4.4

8-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a low profile for functional insulation cases. It also has a deep pocket which allows for encapsulation.

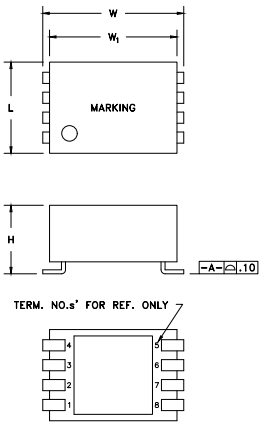
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

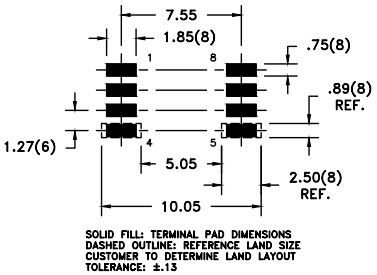
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0912	Functional	3.2	10.52	33.65	5	3	6.1 max.	9.7 max.	5 max.	8.12 ref.

Dimensions:



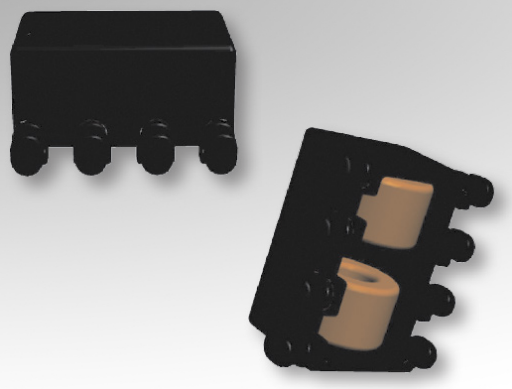
Footprint (mm):



Toroid Headers

TOR-8P-HT5.3

8-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a compact footprint for functional insulation cases. It also has many terminals for multiple-channel applications and has a deep pocket which allows for encapsulation.

Applications:

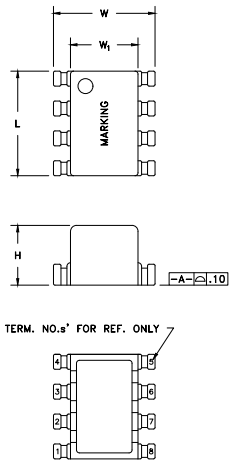
- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

2

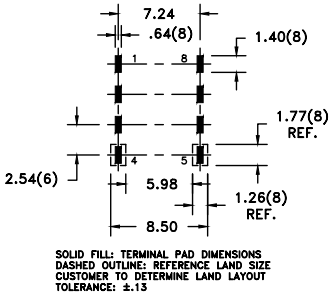
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0482	Functional	2.16	9.71	20.96	4.7	4.57	9.02 max.	8.77 max.	5.33 max.	5.74 ref.

Dimensions:



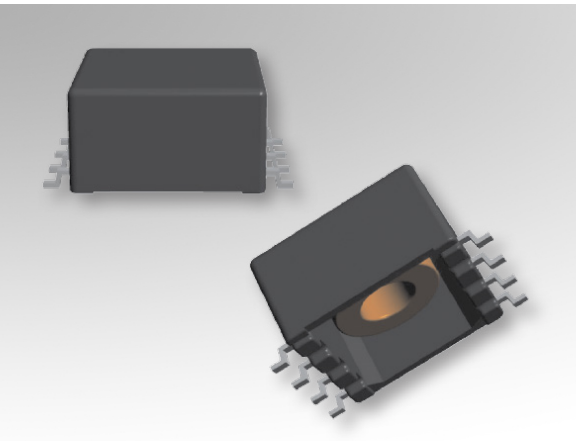
Footprint (mm):



Toroid Headers

TOR-8P-HT5.4

8-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a compact footprint for functional insulation cases. It also has a deep pocket which allows for encapsulation.

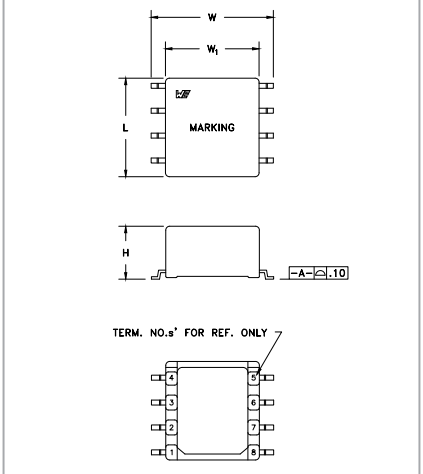
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1252	Functional	4.5	14.14	63.62	7.2	4.95	10.26 max.	12.98 max.	5.38 max.	9.54 ref.

Dimensions:



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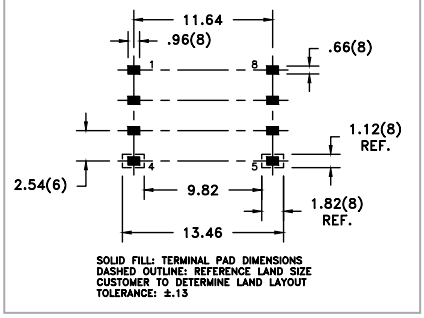
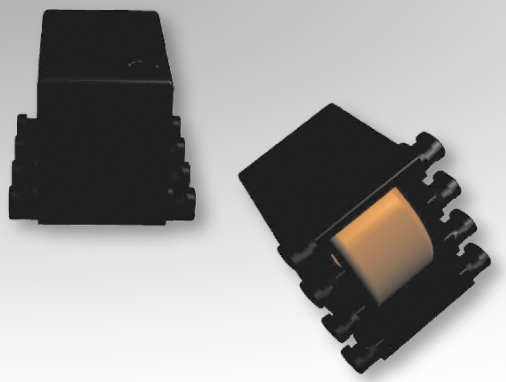


Toroid Headers

TOR-8P-HT7.6

8-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with plastic terminals. It is designed with a compact footprint for functional insulation cases. It also has a deep pocket which allows for encapsulation.

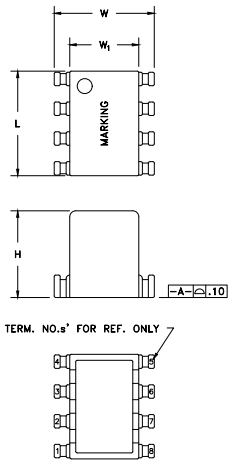
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0931	Functional	4.49	13.9	62.4	6.8	6.86	9.02 max.	8.64 max.	8 max.	5.87 ref.

Dimensions:



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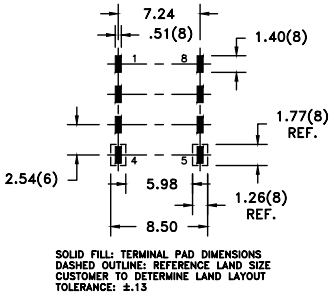
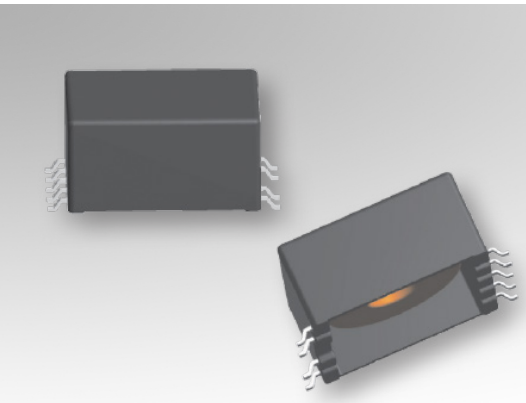


Toroid Headers

TOR-9P-HT7.3

9-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a compact footprint for functional insulation cases. It also has many terminals for multiple outputs and has a deep pocket which allows for encapsulation.

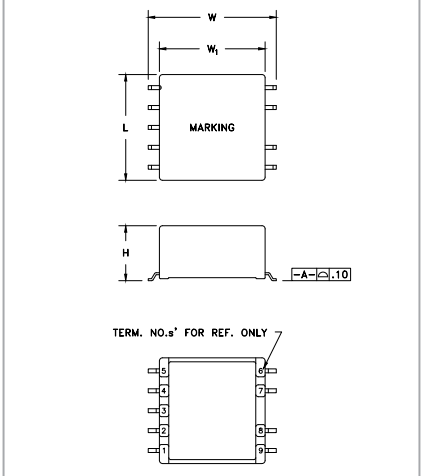
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1236	Functional	7.65	22.43	171.55	11.1	6.3	13.8 max.	17.02 max.	7.3 max.	13.5 ref.

Dimensions:



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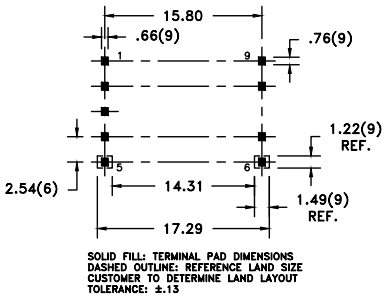
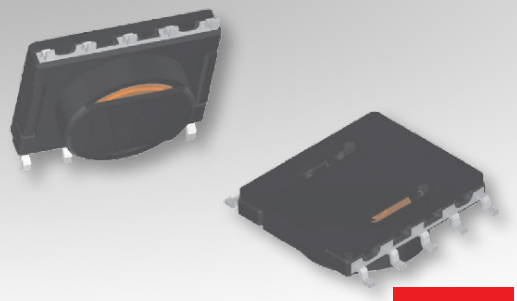


Toroid Headers

TOR-10P-HT2

10-Terminal, SMT



NEW!

Characteristics:

This patented SMT toroidal header was developed with metal terminals. It is designed with a low profile for functional insulation cases. It also mounts through the PCB for reduced height and has many terminals for multiple outputs.

Applications:

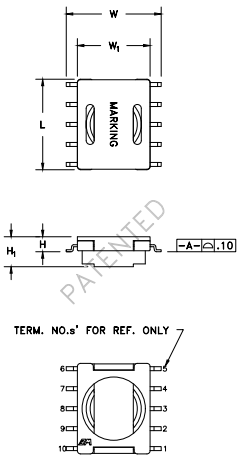
- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

2

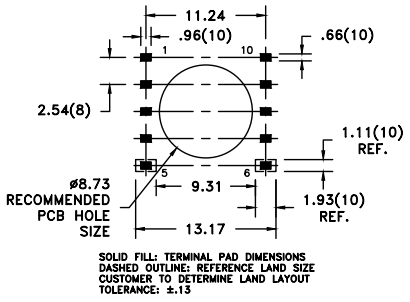
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	H_1 (mm)	W_1 (mm)
250-1239	Functional	2.12	13.96	29.61	7	2.95	11.63 max.	12.6 max.	1.98 max.	3.99 max.	9.25 ref.

Dimensions:



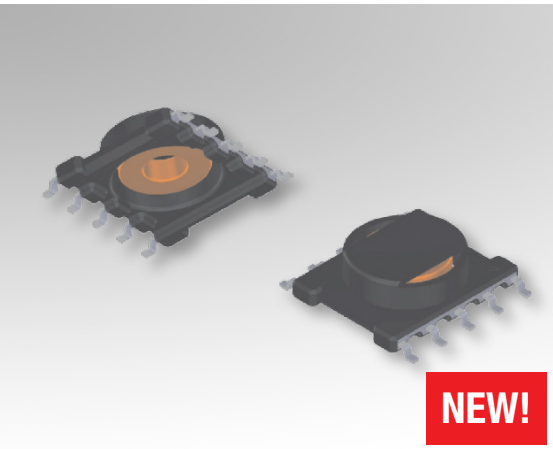
Footprint (mm):



Toroid Headers

TOR-10P-HT3.6

10-Terminal, SMT



NEW!

Characteristics:

This patented SMT toroidal header was developed with metal terminals. It is designed with a low profile for functional insulation cases. It also has many terminals for multiple outputs.

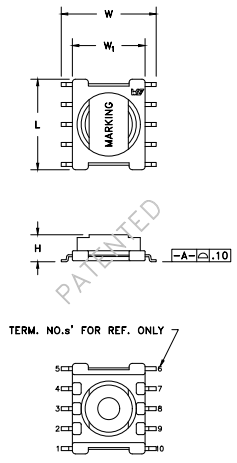
Applications:

- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

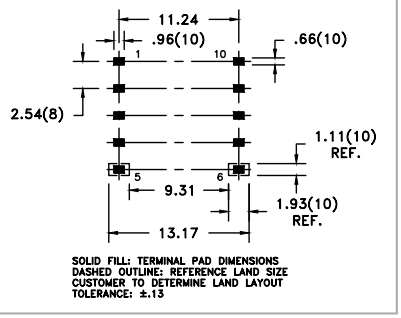
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-1240	Functional	2.12	13.96	29.61	7	2.95	11.63 max.	12.6 max.	3.68 max.	9.25 ref.

Dimensions:



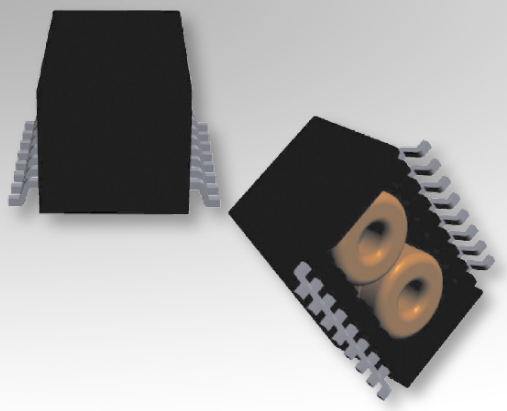
Footprint (mm):



Toroid Headers

TOR-16P-HT6.5

16-Terminal, SMT



Characteristics:

This SMT toroidal header was developed with metal terminals. It is designed with a compact footprint for functional insulation cases. It also has many terminals for multiple-channel applications and has a deep pocket which allows for encapsulation.

Applications:

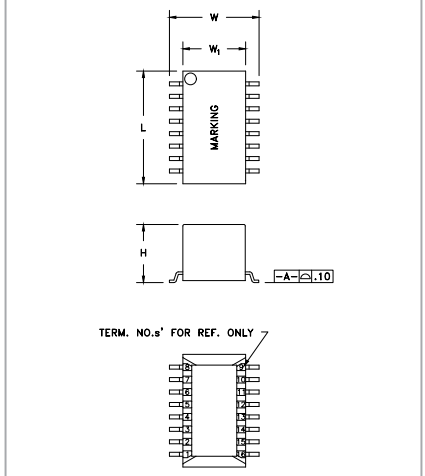
- CMC
- Gate drive
- Inductor
- Signal isolation
- Telecom

2

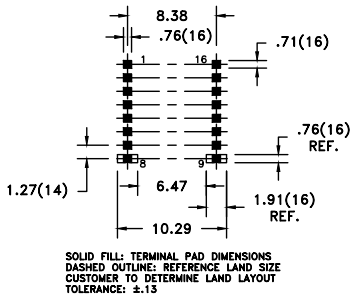
Technical Data:

Order Code	Type of Insulation	A_e (mm^2)	L_e (mm)	V_e (mm^3)	Ø OD max. (mm)	Cavity Depth (mm)	L (mm)	W (mm)	H (mm)	W_1 (mm)
250-0592	Functional	2.16	9.96	21.47	4.6	5	11.63 max.	9.15 ±0.25	6.5 max.	6.4 ref.

Dimensions:



Footprint (mm):



Bobbin Packages
Search by Topology

Topology

Package Size	Bobbin	Mount	Safety	Flyback	Push-Pull	Forward	Resonant LLC	Half-Bridge	Buck	Boost	Buck-Boost	SEPIC/ Ćuk	Page Number
EE13/6/6	070-6507	TH-H	⸗⸗	x	x								16
EE13/6/6	070-2860	TH-V		x	x								17
EE13/7/4 (EF12.6)	070-4849	TH-H		x	x								18
EE13/7/4 (EF12.6)	070-6910	TH-H	⸗⸗	x	x								19
EE13/7/4 (EF12.6)	070-7133	SMT-H	⸗⸗	x	x								20
EE13/7/4 (EF12.6)	070-4820	SMT-H		x	x								21
EE13/7/6	070-6825	TH-H	⸗⸗	x	x								22
EE16/7/5	070-7101	TH-H	⸗⸗	x	x								23
EE16/7/5	070-6076	TH-V	⸗⸗	x	x								24
EE16/8/5 (EF16)	070-5420	TH-H		x	x								25
EE16/8/5 (EF16)	070-5280	TH-H	⸗⸗	x	x								26
EE16/8/5 (EF16)	070-6562	SMT-H	⸗⸗	x	x								27
EE20/10/6 (EF20)	070-6544	TH-H		x	x								28
EE20/10/6 (EF20)	070-7123	TH-V		x	x								29
EE20/10/6 (EF20)	070-6372	TH-V	⸗⸗	x	x								30
EE20/10/6 (EF20)	070-7080	TH-H	⸗⸗	x	x								31
EE25/13/7 (EF25)	070-6473	TH-H	⸗⸗	x	x	x	x	x					32
EE25/13/7 (EF25)	070-7019	TH-V	⸗⸗	x	x	x	x	x					33
EE25/13/7 (EF25)	070-6725	TH-H	⸗⸗	x	x	x	x	x					34
EE25/13/11	070-5080	TH-V		x	x	x	x	x	x	x	x	x	35
EFD15	070-2745	TH-H		x	x				x	x	x	x	36
EFD15	070-5939	SMT-H		x	x				x	x	x	x	37
EFD15	070-4265	SMT-H		x	x				x	x	x	x	38
EFD20	070-2609	TH-H		x	x	x		x	x	x	x	x	39
EFD20	070-5982	TH-H	⸗⸗	x	x	x		x					40
EFD20	070-4290	SMT-H		x	x	x		x	x	x	x	x	41
EFD20	070-5899	SMT-H		x	x	x		x	x	x	x	x	42
EFD20	070-5900	SMT-H	⸗⸗	x	x	x		x					43
EFD25	070-2710	TH-H		x	x	x		x	x	x	x	x	44
EFD25	070-7169	TH-H	⸗⸗	x	x	x		x					45
EFD25	070-4476	SMT-H		x	x	x		x	x	x	x	x	46
EFD30	070-5491	TH-H		x	x	x		x	x	x	x	x	47
EP5	070-4426	SMT-H		x	x				x	x	x	x	48
EP5	070-6279	SMT-H	⸗	x	x				x	x	x	x	49
EP7	070-5801	SMT-H		x	x				x	x	x	x	50
EP7	070-2150	TH-H		x	x				x	x	x	x	51
EP7	070-7148	SMT-H	⸗	x	x				x	x	x	x	52
EP10	070-6052	SMT-H		x	x				x	x	x	x	53
EP10	070-4413	SMT-H	⸗	x	x				x	x	x	x	54
EP10	070-2365	TH-H		x	x				x	x	x	x	55
EP13	070-7150	SMT-H		x	x				x	x	x	x	56
EP13	070-4378	SMT-H	⸗	x	x				x	x	x	x	57
EP13	070-4300	TH-H		x	x				x	x	x	x	58
EP13	070-7180	TH-H	⸗	x	x				x	x	x	x	59
EP13	070-7037	SMT-H		x	x				x	x	x	x	60
EPQ13	070-6389	SMT-H		x	x				x	x	x	x	61
EPX7	070-7147	SMT-H	⸗	x	x				x	x	x	x	62
EPX9	070-7151	SMT-H		x	x				x	x	x	x	63
EPC13	070-5483	TH-H		x	x				x	x	x	x	64
EPC13	070-4887	SMT-H		x	x				x	x	x	x	65
EPC17	070-5620	TH-H		x	x	x		x	x	x	x	x	66
EPC17	070-4890	SMT-H		x	x	x		x	x	x	x	x	67
EPC40	070-6494	TH-H	⸗⸗		x	x	x	x					68
EPC40	070-6495	TH-H	⸗⸗		x	x	x	x					68
EPW15	070-5996	TH-H	⸗⸗	x	x	x	x	x					69
EPW15	070-6782	SMT-H		x	x	x	x	x	x	x	x	x	70
EPW15	070-6386	SMT-H	⸗⸗	x	x	x	x	x					71
ER9.5	070-6051	SMT-V		x	x				x				72
ER9.5S	070-6310	SMT-V	⸗	x	x								73
ER11.5	070-6058	SMT-V		x	x				x				74
ER14.5	070-4477	SMT-V		x	x				x				75
ER28/14	070-5576	TH-V	⸗⸗	x	x	x	x	x	x	x	x	x	76
ER28/14	070-4869	TH-H	⸗⸗	x	x	x	x	x	x	x	x	x	77
ER28/17	070-5565	TH-V	⸗⸗	x	x	x	x	x	x	x	x	x	78
ER28/17	070-5652	TH-H	⸗⸗	x	x	x	x	x	x	x	x	x	79
ERL35	070-5783	TH-H	⸗⸗	x	x	x	x	x	x	x	x	x	80
ETD34	070-5455	TH-H	⸗⸗	x	x	x	x	x	x	x	x	x	81
ETD39	070-5724	TH-H	⸗⸗	x	x	x	x	x	x	x	x	x	82
PQ2016	070-5674	TH-V		x	x	x	x	x	x	x	x	x	83
PQ2016 NEW	070-6905	TH-V	⸗⸗	x	x	x	x	x					84
PQ2620	070-7149	TH-V		x	x	x	x	x	x	x	x	x	85
PQ2620 NEW	070-6947	TH-V	⸗⸗	x	x	x	x	x					86
PQ2625	070-7011	TH-V		x	x	x	x	x	x	x	x	x	87
PQ2625 NEW	070-6952	TH-V	⸗⸗	x	x	x	x	x					88
PQ3220	070-5050	TH-V		x	x	x	x	x	x	x	x	x	89
PQ3220 NEW	070-6957	TH-V	⸗⸗	x	x	x	x	x					90
PQ3230	070-4796	TH-V		x	x	x	x	x	x	x	x	x	91
PQ3230 NEW	070-6962	TH-V	⸗⸗	x	x	x	x	x					92
RM4	070-5754	TH-V		x	x				x	x	x	x	93
RM5	070-2250	TH-V		x	x				x	x	x	x	94
RM6	070-5757	TH-V		x	x	x		x	x	x	x	x	95
RM6	070-6915	TH-V	⸗⸗	x	x	x		x					96
RM6	070-5657	SMT-V		x	x	x		x	x	x	x	x	97
RM8	070-6835	TH-V	⸗⸗	x	x	x		x					98
RM8	070-2255	TH-V		x	x	x		x	x	x	x	x	99
RM10	070-5680	TH-V		x	x	x		x	x	x	x	x	100
RM10	070-6920	TH-V	⸗⸗	x	x	x		x					101

⸗⸗ = Reinforced insulation ⸗ = Basic/supplementary insulation *No Bolts* = Functional insulation

Bobbin Packages
Search by Length

Length

Length (mm)	Package Size	Bobbin	Mount	Terminals	Width (mm)	Height (mm)	DC-DC 100kHz Power (W)	Safety	Page Number
6.60	EP5	070-4426	SMT-H	6	8.26	5.59	1		48
7.00	EP5	070-6279	SMT-H	6	9.10	7.80	1	✓	49
9.78	EP7	070-7148	SMT-H	8	9.50	10.54	3	✓	52
10.00	ER9.5	070-6051	SMT-V	8	12.21	5.97	2		72
10.00	ER9.5S	070-6310	SMT-V	8	14.00	5.00	2	✓	73
10.16	EP7	070-5801	SMT-H	6	13.36	9.14	3		50
10.16	EP7	070-2150	TH-H	6	8.26	9.78	3		51
10.16	EPX7	070-7147	SMT-H	8	9.14	12.32	4	✓	62
10.16	EPX9	070-7151	SMT-H	8	10.16	12.70	6		63
11.44	RM4	070-5754	TH-V	6	11.44	11.18	6		93
12.95	ER11.5	070-6058	SMT-V	12	12.85	6.35	2		74
13.34	EP10	070-6052	SMT-H	8	15.24	11.43	8		53
13.34	EP10	070-4413	SMT-H	8	15.24	11.56	8	✓	54
13.34	EP10	070-2365	TH-H	8	11.68	12.57	8		55
13.46	EP13	070-7150	SMT-H	10	17.75	12.70	14		56
13.46	EP13	070-4378	SMT-H	10	17.75	12.70	14	✓	57
13.72	EE13/7/4 (EF12.6)	070-6910	TH-H	9	20.45	10.16	10	✓✓	19
13.72	EE13/7/4 (EF12.6)	070-4820	SMT-H	10	20.20	10.50	10		21
13.80	EE13/7/4 (EF12.6)	070-7133	SMT-H	9	23.90	11.00	10	✓✓	20
13.97	EP13	070-4300	TH-H	10	13.97	12.70	14		58
13.97	EP13	070-7180	TH-H	10	13.97	12.70	14	✓	59
13.97	EP13	070-7037	SMT-H	12	17.17	12.70	14		60
13.97	EPQ13	070-6389	SMT-H	10	18.25	14.50	17		61
13.97	RM5	070-2250	TH-V	6	13.97	11.18	10		94
14.20	EE13/6/6	070-6507	TH-H	9	20.45	14.60	16	✓✓	16
14.60	EPC13	070-5483	TH-H	10	14.73	8.50	8		64
14.60	EPC13	070-4887	SMT-H	10	20.92	8.25	8		65
14.70	EE13/7/4 (EF12.6)	070-4849	TH-H	8	16.76	12.70	10		18
14.73	EE13/6/6	070-2860	TH-V	10	14.73	15.24	17		17
15.00	EE13/7/6	070-6825	TH-H	8	15.75	18.50	14	✓✓	22
15.50	EPW15	070-6782	SMT-H	9	21.69	13.50	26		70
15.70	EPW15	070-5996	TH-H	15	22.10	23.30	25	✓✓	69
15.75	EFD15	070-5939	SMT-H	10	22.35	8.89	14		37
15.80	EPW15	070-6386	SMT-H	9	26.50	13.50	25	✓✓	71
16.00	ER14.5	070-4477	SMT-V	12	16.80	7.62	5		75
16.76	EFD15	070-2745	TH-H	8	16.76	8.89	14		36
17.50	EE16/7/5	070-7101	TH-H	10	20.00	14.00	19	✓✓	23
17.65	RM6	070-5757	TH-V	6	16.64	13.20	19		95
17.78	EE16/8/5 (EF16)	070-6562	SMT-H	12	26.90	13.80	25	✓✓	27
17.78	EFD15	070-4265	SMT-H	12	22.35	8.89	12		38
17.96	EE16/8/5 (EF16)	070-5420	TH-H	8	20.30	14.30	24		25
18.50	EE16/7/5	070-6076	TH-V	10	16.50	18.80	23	✓✓	24
19.00	EPC17	070-5620	TH-H	10	18.50	12.50	22		66
19.20	EPC17	070-4890	SMT-H	9	23.75	10.16	22		67
20.07	RM6	070-6915	TH-V	12	23.00	15.00	19	✓✓	96
20.07	RM6	070-5657	SMT-V	8	21.84	13.46	19		97
20.32	EE16/8/5 (EF16)	070-5280	TH-H	9	24.38	16.00	22	✓✓	26
21.08	EFD20	070-2609	TH-H	8	21.08	10.80	35		39
21.50	EFD20	070-5982	TH-H	10	29.00	12.00	37	✓✓	40
21.50	EFD20	070-5900	SMT-H	12	33.80	13.00	38	✓✓	43
22.00	RM8	070-2255	TH-V	12	22.00	17.27	49		99
22.20	EE20/10/6 (EF20)	070-7080	TH-H	14	25.00	16.00	43	✓✓	31
22.25	EE20/10/6 (EF20)	070-7123	TH-V	10	14.40	23.24	47		29
22.70	EE20/10/6 (EF20)	070-6372	TH-V	10	14.60	25.30	50	✓✓	30
23.00	EE20/10/6 (EF20)	070-6544	TH-H	10	22.00	17.53	50		28
23.11	EFD20	070-4290	SMT-H	10	26.10	10.92	35		41
23.11	EFD20	070-5899	SMT-H	12	29.65	11.43	36		42
23.90	PQ2016 NEW	070-6905	TH-V	14	27.58	25.20	42	✓✓	84
24.00	PQ2016	070-5674	TH-V	14	24.00	18.67	42		83
24.64	RM8	070-6835	TH-V	10	24.64	17.32	49	✓✓	98
26.00	EE25/13/11	070-5080	TH-V	8	23.50	29.50	127		35
26.04	EFD25	070-2710	TH-H	10	26.67	13.59	70		44
26.16	RM10	070-5680	TH-V	12	26.16	19.05	91		100
26.30	EFD25	070-7169	TH-H	12	33.00	14.00	68	✓✓	45
27.03	EFD25	070-4476	SMT-H	12	32.45	13.97	73		46
27.05	EE25/13/7 (EF25)	070-6725	TH-H	14	32.25	22.86	98	✓✓	34
27.94	EE25/13/7 (EF25)	070-6473	TH-H	10	29.21	21.59	97	✓✓	32
27.95	EE25/13/7 (EF25)	070-7019	TH-V	10	20.32	28.58	101	✓✓	33
29.20	PQ2620	070-7149	TH-V	12	30.35	25.90	81		85
29.20	PQ2620 NEW	070-6947	TH-V	12	33.00	30.20	81	✓✓	86
29.20	PQ2625	070-7011	TH-V	12	30.35	29.30	120		87
29.20	PQ2625 NEW	070-6952	TH-V	12	32.50	35.20	113	✓✓	88
29.84	ER28/14	070-5576	TH-V	10	24.00	33.00	141	✓✓	76
29.85	ER28/17	070-5565	TH-V	10	24.00	36.00	187	✓✓	78
31.00	ER28/14	070-4869	TH-H	12	31.00	25.00	136	✓✓	77
31.50	RM10	070-6920	TH-V	10	31.50	20.50	91	✓✓	101
32.00	ER28/17	070-5652	TH-H	12	39.00	26.00	184	✓✓	79
33.00	EFD30	070-5491	TH-H	12	32.00	14.48	102		47
35.56	PQ3220	070-5050	TH-V	12	37.34	24.13	151		89
35.56	PQ3220 NEW	070-6957	TH-V	12	40.10	34.00	151	✓✓	90
35.56	PQ3230	070-4796	TH-V	12	37.34	34.29	311		91
35.56	PQ3230 NEW	070-6962	TH-V	12	38.10	41.28	311	✓✓	92
36.50	ERL35	070-5783	TH-H	14	44.00	28.50	343	✓✓	80
39.60	ETD34	070-5455	TH-H	14	43.18	30.48	261	✓✓	81
41.91	EPC40	070-6494	TH-H	16	53.98	26.90	-	✓✓	68
41.91	EPC40	070-6495	TH-H	16	53.98	26.90	-	✓✓	68
49.00	ETD39	070-5724	TH-H	16	41.90	31.75	437	✓✓	82

✓✓ = Reinforced insulation ✓ = Basic/supplementary insulation *No Bolts* = Functional insulation

Bobbin Packages
Search by Width

Width

Width (mm)	Package Size	Bobbin	Mount	Terminals	Length (mm)	Height (mm)	DC-DC 100kHz Power (W)	Safety	Page Number
8.26	EP5	070-4426	SMT-H	6	6.60	5.59	1		48
8.26	EP7	070-2150	TH-H	6	10.16	9.78	3		51
9.10	EP5	070-6279	SMT-H	6	7.00	7.80	1	✓	49
9.14	EPX7	070-7147	SMT-H	8	10.16	12.32	4	✓	62
9.50	EP7	070-7148	SMT-H	8	9.78	10.54	3	✓	52
10.16	EPX9	070-7151	SMT-H	8	10.16	12.70	6		63
11.44	RM4	070-5754	TH-V	6	11.44	11.18	6		93
11.68	EP10	070-2365	TH-H	8	13.34	12.57	8		55
12.21	ER9.5	070-6051	SMT-V	8	10.00	5.97	2		72
12.85	ER11.5	070-6058	SMT-V	12	12.95	6.35	2		74
13.36	EP7	070-5801	SMT-H	6	10.16	9.14	3		50
13.97	EP13	070-4300	TH-H	10	13.97	12.70	14		58
13.97	EP13	070-7180	TH-H	10	13.97	12.70	14	✓	59
13.97	RM5	070-2250	TH-V	6	13.97	11.18	10		94
14.00	ER9.5S	070-6310	SMT-V	8	10.00	5.00	2	✓	73
14.40	EE20/10/6 (EF20)	070-7123	TH-V	10	22.25	23.24	47		29
14.60	EE20/10/6 (EF20)	070-6372	TH-V	10	22.70	25.30	50	✓✓	30
14.73	EE13/6/6	070-2860	TH-V	10	14.73	15.24	17		17
14.73	EPC13	070-5483	TH-H	10	14.60	8.50	8		64
15.24	EP10	070-6052	SMT-H	8	13.34	11.43	8		53
15.24	EP10	070-4413	SMT-H	8	13.34	11.56	8	✓	54
15.75	EE13/7/6	070-6825	TH-H	8	15.00	18.50	14	✓✓	22
16.50	EE16/7/5	070-6076	TH-V	10	18.50	18.80	23	✓✓	24
16.64	RM6	070-5757	TH-V	6	17.65	13.20	19		95
16.76	EE13/7/4 (EF12.6)	070-4849	TH-H	8	14.70	12.70	10		18
16.76	EFD15	070-2745	TH-H	8	16.76	8.89	14		36
16.80	ER14.5	070-4477	SMT-V	12	16.00	7.62	5		75
17.17	EP13	070-7037	SMT-H	12	13.97	12.70	14		60
17.75	EP13	070-7150	SMT-H	10	13.46	12.70	14		56
17.75	EP13	070-4378	SMT-H	10	13.46	12.70	14	✓	57
18.25	EPQ13	070-6389	SMT-H	10	13.97	14.50	17		61
18.50	EPC17	070-5620	TH-H	10	19.00	12.50	22		66
20.00	EE16/7/5	070-7101	TH-H	10	17.50	14.00	19	✓✓	23
20.20	EE13/7/4 (EF12.6)	070-4820	SMT-H	10	13.72	10.50	10		21
20.30	EE16/8/5 (EF16)	070-5420	TH-H	8	17.96	14.30	24		25
20.32	EE25/13/7 (EF25)	070-7019	TH-V	10	27.95	28.58	101	✓✓	33
20.45	EE13/6/6	070-6507	TH-H	9	14.20	14.60	16	✓✓	16
20.45	EE13/7/4 (EF12.6)	070-6910	TH-H	9	13.72	10.16	10	✓✓	19
20.92	EPC13	070-4887	SMT-H	10	14.60	8.25	8		65
21.08	EFD20	070-2609	TH-H	8	21.08	10.80	35		39
21.69	EPW15	070-6782	SMT-H	9	15.50	13.50	26		70
21.84	RM6	070-5657	SMT-V	8	20.07	13.46	19		97
22.00	EE20/10/6 (EF20)	070-6544	TH-H	10	23.00	17.53	50		28
22.00	RM8	070-2255	TH-V	12	22.00	17.27	49		99
22.10	EPW15	070-5996	TH-H	15	15.70	23.30	25	✓✓	69
22.35	EFD15	070-5939	SMT-H	10	15.75	8.89	14		37
22.35	EFD15	070-4265	SMT-H	12	17.78	8.89	12		38
23.00	RM6	070-6915	TH-V	12	20.07	15.00	19	✓✓	96
23.50	EE25/13/11	070-5080	TH-V	8	26.00	29.50	127		35
23.75	EPC17	070-4890	SMT-H	9	19.20	10.16	22		67
23.90	EE13/7/4 (EF12.6)	070-7133	SMT-H	9	13.80	11.00	10	✓✓	20
24.00	ER28/14	070-5576	TH-V	10	29.84	33.00	141	✓✓	76
24.00	ER28/17	070-5565	TH-V	10	29.85	36.00	187	✓✓	78
24.00	PQ2016	070-5674	TH-V	14	24.00	18.67	42		83
24.38	EE16/8/5 (EF16)	070-5280	TH-H	9	20.32	16.00	22	✓✓	26
24.64	RM8	070-6835	TH-V	10	24.64	17.32	49	✓✓	98
25.00	EE20/10/6 (EF20)	070-7080	TH-H	14	22.20	16.00	43	✓✓	31
26.10	EFD20	070-4290	SMT-H	10	23.11	10.92	35		41
26.16	RM10	070-5680	TH-V	12	26.16	19.05	91		100
26.50	EPW15	070-6386	SMT-H	9	15.80	13.50	25	✓✓	71
26.67	EFD25	070-2710	TH-H	10	26.04	13.59	70		44
26.90	EE16/8/5 (EF16)	070-6562	SMT-H	12	17.78	13.80	25	✓✓	27
27.58	PQ2016 NEW	070-6905	TH-V	14	23.90	25.20	42	✓✓	84
29.00	EFD20	070-5982	TH-H	10	21.50	12.00	37	✓✓	40
29.21	EE25/13/7 (EF25)	070-6473	TH-H	10	27.94	21.59	97	✓✓	32
29.65	EFD20	070-5899	SMT-H	12	23.11	11.43	36		42
30.35	PQ2620	070-7149	TH-V	12	29.20	25.90	81		85
30.35	PQ2625	070-7011	TH-V	12	29.20	29.30	120		87
31.00	ER28/14	070-4869	TH-H	12	31.00	25.00	136	✓✓	77
31.50	RM10	070-6920	TH-V	10	31.50	20.50	91	✓✓	101
32.00	EFD30	070-5491	TH-H	12	33.00	14.48	102		47
32.25	EE25/13/7 (EF25)	070-6725	TH-H	14	27.05	22.86	98	✓✓	34
32.45	EFD25	070-4476	SMT-H	12	27.03	13.97	73		46
32.50	PQ2625 NEW	070-6952	TH-V	12	29.20	35.20	113	✓✓	88
33.00	EFD25	070-7169	TH-H	12	26.30	14.00	68	✓✓	45
33.00	PQ2620 NEW	070-6947	TH-V	12	29.20	30.20	81	✓✓	86
33.80	EFD20	070-5900	SMT-H	12	21.50	13.00	38	✓✓	43
37.34	PQ3220	070-5050	TH-V	12	35.56	24.13	151		89
37.34	PQ3230	070-4796	TH-V	12	35.56	34.29	311		91
38.10	PQ3230 NEW	070-6962	TH-V	12	35.56	41.28	311	✓✓	92
39.00	ER28/17	070-5652	TH-H	12	32.00	26.00	184	✓✓	79
40.10	PQ3220 NEW	070-6957	TH-V	12	35.56	34.00	151	✓✓	90
41.90	ETD39	070-5724	TH-H	16	49.00	31.75	437	✓✓	82
43.18	ETD34	070-5455	TH-H	14	39.60	30.48	261	✓✓	81
44.00	ERL35	070-5783	TH-H	14	36.50	28.50	343	✓✓	80
53.98	EPC40	070-6494	TH-H	16	41.91	26.90	-	✓✓	68
53.98	EPC40	070-6495	TH-H	16	41.91	26.90	-	✓✓	68

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Bobbin Packages
Search by Height

Height

Height (mm)	Package Size	Bobbin	Mount	Terminals	Length (mm)	Width (mm)	DC-DC 100kHz Power (W)	Safety	Page Number
5.00	ER9.5S	070-6310	SMT-V	8	10.00	14.00	2	✓	73
5.59	EP5	070-4426	SMT-H	6	6.60	8.26	1		48
5.97	ER9.5	070-6051	SMT-V	8	10.00	12.21	2		72
6.35	ER11.5	070-6058	SMT-V	12	12.95	12.85	2		74
7.62	ER14.5	070-4477	SMT-V	12	16.00	16.80	5		75
7.80	EP5	070-6279	SMT-H	6	7.00	9.10	1	✓	49
8.25	EPC13	070-4887	SMT-H	10	14.60	20.92	8		65
8.50	EPC13	070-5483	TH-H	10	14.60	14.73	8		64
8.89	EFD15	070-2745	TH-H	8	16.76	16.76	14		36
8.89	EFD15	070-5939	SMT-H	10	15.75	22.35	14		37
8.89	EFD15	070-4265	SMT-H	12	17.78	22.35	12		38
9.14	EP7	070-5801	SMT-H	6	10.16	13.36	3		50
9.78	EP7	070-2150	TH-H	6	10.16	8.26	3		51
10.16	EE13/7/4 (EF12.6)	070-6910	TH-H	9	13.72	20.45	10	✓✓	19
10.16	EPC17	070-4890	SMT-H	9	19.20	23.75	22		67
10.50	EE13/7/4 (EF12.6)	070-4820	SMT-H	10	13.72	20.20	10		21
10.54	EP7	070-7148	SMT-H	8	9.78	9.50	3	✓	52
10.80	EFD20	070-2609	TH-H	8	21.08	21.08	35		39
10.92	EFD20	070-4290	SMT-H	10	23.11	26.10	35		41
11.00	EE13/7/4 (EF12.6)	070-7133	SMT-H	9	13.80	23.90	10	✓✓	20
11.18	RM4	070-5754	TH-V	6	11.44	11.44	6		93
11.18	RM5	070-2250	TH-V	6	13.97	13.97	10		94
11.43	EFD20	070-5899	SMT-H	12	23.11	29.65	36		42
11.43	EP10	070-6052	SMT-H	8	13.34	15.24	8		53
11.56	EP10	070-4413	SMT-H	8	13.34	15.24	8	✓	54
12.00	EFD20	070-5982	TH-H	10	21.50	29.00	37	✓✓	40
12.32	EPX7	070-7147	SMT-H	8	10.16	9.14	4	✓	62
12.50	EPC17	070-5620	TH-H	10	19.00	18.50	22		66
12.57	EP10	070-2365	TH-H	8	13.34	11.68	8		55
12.70	EE13/7/4 (EF12.6)	070-4849	TH-H	8	14.70	16.76	10		18
12.70	EP13	070-7150	SMT-H	10	13.46	17.75	14		56
12.70	EP13	070-4378	SMT-H	10	13.46	17.75	14	✓	57
12.70	EP13	070-4300	TH-H	10	13.97	13.97	14		58
12.70	EP13	070-7180	TH-H	10	13.97	13.97	14	✓	59
12.70	EP13	070-7037	SMT-H	12	13.97	17.17	14		60
12.70	EPX9	070-7151	SMT-H	8	10.16	10.16	6		63
13.00	EFD20	070-5900	SMT-H	12	21.50	33.80	38	✓✓	43
13.20	RM6	070-5757	TH-V	6	17.65	16.64	19		95
13.46	RM6	070-5657	SMT-V	8	20.07	21.84	19		97
13.50	EPW15	070-6782	SMT-H	9	15.50	21.69	26		70
13.50	EPW15	070-6386	SMT-H	9	15.80	26.50	25	✓✓	71
13.59	EFD25	070-2710	TH-H	10	26.04	26.67	70		44
13.80	EE16/8/5 (EF16)	070-6562	SMT-H	12	17.78	26.90	25	✓✓	27
13.97	EFD25	070-4476	SMT-H	12	27.03	32.45	73		46
14.00	EE16/7/5	070-7101	TH-H	10	17.50	20.00	19	✓✓	23
14.00	EFD25	070-7169	TH-H	12	26.30	33.00	68	✓✓	45
14.30	EE16/8/5 (EF16)	070-5420	TH-H	8	17.96	20.30	24		25
14.48	EFD30	070-5491	TH-H	12	33.00	32.00	102		47
14.50	EPQ13	070-6389	SMT-H	10	13.97	18.25	17		61
14.60	EE13/6/6	070-6507	TH-H	9	14.20	20.45	16	✓✓	16
15.00	RM6	070-6915	TH-V	12	20.07	23.00	19	✓✓	96
15.24	EE13/6/6	070-2860	TH-V	10	14.73	14.73	17		17
16.00	EE16/8/5 (EF16)	070-5280	TH-H	9	20.32	24.38	22	✓✓	26
16.00	EE20/10/6 (EF20)	070-7080	TH-H	14	22.20	25.00	43	✓✓	31
17.27	RM8	070-2255	TH-V	12	22.00	22.00	49		99
17.32	RM8	070-6835	TH-V	10	24.64	24.64	49	✓✓	98
17.53	EE20/10/6 (EF20)	070-6544	TH-H	10	23.00	22.00	50		28
18.50	EE13/7/6	070-6825	TH-H	8	15.00	15.75	14	✓✓	22
18.67	PQ2016	070-5674	TH-V	14	24.00	24.00	42		83
18.80	EE16/7/5	070-6076	TH-V	10	18.50	16.50	23	✓✓	24
19.05	RM10	070-5680	TH-V	12	26.16	26.16	91		100
20.50	RM10	070-6920	TH-V	10	31.50	31.50	91	✓✓	101
21.59	EE25/13/7 (EF25)	070-6473	TH-H	10	27.94	29.21	97	✓✓	32
22.86	EE25/13/7 (EF25)	070-6725	TH-H	14	27.05	32.25	98	✓✓	34
23.24	EE20/10/6 (EF20)	070-7123	TH-V	10	22.25	14.40	47		29
23.30	EPW15	070-5996	TH-H	15	15.70	22.10	25	✓✓	69
24.13	PQ3220	070-5050	TH-V	12	35.56	37.34	151		89
25.00	ER28/14	070-4869	TH-H	12	31.00	31.00	136	✓✓	77
25.20	PQ2016 NEW	070-6905	TH-V	14	23.90	27.58	42	✓✓	84
25.30	EE20/10/6 (EF20)	070-6372	TH-V	10	22.70	14.60	50	✓✓	30
25.90	PQ2620	070-7149	TH-V	12	29.20	30.35	81		85
26.00	ER28/17	070-5652	TH-H	12	32.00	39.00	184	✓✓	79
26.90	EPC40	070-6494	TH-H	16	41.91	53.98	-	✓✓	68
26.90	EPC40	070-6495	TH-H	16	41.91	53.98	-	✓✓	68
28.50	ERL35	070-5783	TH-H	14	36.50	44.00	343	✓✓	80
28.58	EE25/13/7 (EF25)	070-7019	TH-V	10	27.95	20.32	101	✓✓	33
29.30	PQ2625	070-7011	TH-V	12	29.20	30.35	120		87
29.50	EE25/13/11	070-5080	TH-V	8	26.00	23.50	127		35
30.20	PQ2620 NEW	070-6947	TH-V	12	29.20	33.00	81	✓✓	86
30.48	ETD34	070-5455	TH-H	14	39.60	43.18	261	✓✓	81
31.75	ETD39	070-5724	TH-H	16	49.00	41.90	437	✓✓	82
33.00	ER28/14	070-5576	TH-V	10	29.84	24.00	141	✓✓	76
34.00	PQ3220 NEW	070-6957	TH-V	12	35.56	40.10	151	✓✓	90
34.29	PQ3230	070-4796	TH-V	12	35.56	37.34	311		91
35.20	PQ2625 NEW	070-6952	TH-V	12	29.20	32.50	113	✓✓	88
36.00	ER28/17	070-5565	TH-V	10	29.85	24.00	187	✓✓	78
41.28	PQ3230 NEW	070-6962	TH-V	12	35.56	38.10	311	✓✓	92

✓✓ = Reinforced insulation ✓ = Basic/supplementary insulation *No Bolts* = Functional insulation

Bobbin Packages
Search by Safety

Safety

Safety	Package Size	Bobbin	Mount	Terminals	Length (mm)	Width (mm)	Height (mm)	DC-DC 100kHz Power (W)	Page Number
	EE13/6/6	070-2860	TH-V	10	14.73	14.73	15.24	17	17
	EE13/7/4 (EF12.6)	070-4849	TH-H	8	14.70	16.76	12.70	10	18
	EE13/7/4 (EF12.6)	070-4820	SMT-H	10	13.72	20.20	10.50	10	21
	EE16/8/5 (EF16)	070-5420	TH-H	8	17.96	20.30	14.30	24	25
	EE20/10/6 (EF20)	070-6544	TH-H	10	23.00	22.00	17.53	50	28
	EE20/10/6 (EF20)	070-7123	TH-V	10	22.25	14.40	23.24	47	29
	EE25/13/11	070-5080	TH-V	8	26.00	23.50	29.50	127	35
	EFD15	070-2745	TH-H	8	16.76	16.76	8.89	14	36
	EFD15	070-5939	SMT-H	10	15.75	22.35	8.89	14	37
	EFD15	070-4265	SMT-H	12	17.78	22.35	8.89	12	38
	EFD20	070-2609	TH-H	8	21.08	21.08	10.80	35	39
	EFD20	070-4290	SMT-H	10	23.11	26.10	10.92	35	41
	EFD20	070-5899	SMT-H	12	23.11	29.65	11.43	36	42
	EFD25	070-2710	TH-H	10	26.04	26.67	13.59	70	44
	EFD25	070-4476	SMT-H	12	27.03	32.45	13.97	73	46
	EFD30	070-5491	TH-H	12	33.00	32.00	14.48	102	47
	EP5	070-4426	SMT-H	6	6.60	8.26	5.59	1	48
	EP7	070-5801	SMT-H	6	10.16	13.36	9.14	3	50
	EP7	070-2150	TH-H	6	10.16	8.26	9.78	3	51
	EP10	070-6052	SMT-H	8	13.34	15.24	11.43	8	53
	EP10	070-2365	TH-H	8	13.34	11.68	12.57	8	55
	EP13	070-7150	SMT-H	10	13.46	17.75	12.70	14	56
	EP13	070-4300	TH-H	10	13.97	13.97	12.70	14	58
	EP13	070-7037	SMT-H	12	13.97	17.17	12.70	14	60
	EPQ13	070-6389	SMT-H	10	13.97	18.25	14.50	17	61
	EPX9	070-7151	SMT-H	8	10.16	10.16	12.70	6	63
	EPC13	070-5483	TH-H	10	14.60	14.73	8.50	8	64
	EPC13	070-4887	SMT-H	10	14.60	20.92	8.25	8	65
	EPC17	070-5620	TH-H	10	19.00	18.50	12.50	22	66
	EPC17	070-4890	SMT-H	9	19.20	23.75	10.16	22	67
	EPW15	070-6782	SMT-H	9	15.50	21.69	13.50	26	70
	ER9.5	070-6051	SMT-V	8	10.00	12.21	5.97	2	72
	ER11.5	070-6058	SMT-V	12	12.95	12.85	6.35	2	74
	ER14.5	070-4477	SMT-V	12	16.00	16.80	7.62	5	75
	PQ2016	070-5674	TH-V	14	24.00	24.00	18.67	42	83
	PQ2620	070-7149	TH-V	12	29.20	30.35	25.90	81	85
	PQ2625	070-7011	TH-V	12	29.20	30.35	29.30	120	87
	PQ3220	070-5050	TH-V	12	35.56	37.34	24.13	151	89
	PQ3230	070-4796	TH-V	12	35.56	37.34	34.29	311	91
	RM4	070-5754	TH-V	6	11.44	11.44	11.18	6	93
	RM5	070-2250	TH-V	6	13.97	13.97	11.18	10	94
	RM6	070-5757	TH-V	6	17.65	16.64	13.20	19	95
	RM6	070-5657	SMT-V	8	20.07	21.84	13.46	19	97
	RM8	070-2255	TH-V	12	22.00	22.00	17.27	49	99
	RM10	070-5680	TH-V	12	26.16	26.16	19.05	91	100
✓	EP5	070-6279	SMT-H	6	7.00	9.10	7.80	1	49
✓	EP7	070-7148	SMT-H	8	9.78	9.50	10.54	3	52
✓	EP10	070-4413	SMT-H	8	13.34	15.24	11.56	8	54
✓	EP13	070-4378	SMT-H	10	13.46	17.75	12.70	14	57
✓	EP13	070-7180	TH-H	10	13.97	13.97	12.70	14	59
✓	EPX7	070-7147	SMT-H	8	10.16	9.14	12.32	4	62
✓	ER9.5S	070-6310	SMT-V	8	10.00	14.00	5.00	2	73
✓✓	EE13/6/6	070-6507	TH-H	9	14.20	20.45	14.60	16	16
✓✓	EE13/7/4 (EF12.6)	070-6910	TH-H	9	13.72	20.45	10.16	10	19
✓✓	EE13/7/4 (EF12.6)	070-7133	SMT-H	9	13.80	23.90	11.00	10	20
✓✓	EE13/7/6	070-6825	TH-H	8	15.00	15.75	18.50	14	22
✓✓	EE16/7/5	070-7101	TH-H	10	17.50	20.00	14.00	19	23
✓✓	EE16/7/5	070-6076	TH-V	10	18.50	16.50	18.80	23	24
✓✓	EE16/8/5 (EF16)	070-5280	TH-H	9	20.32	24.38	16.00	22	26
✓✓	EE16/8/5 (EF16)	070-6562	SMT-H	12	17.78	26.90	13.80	25	27
✓✓	EE20/10/6 (EF20)	070-6372	TH-V	10	22.70	14.60	25.30	50	30
✓✓	EE20/10/6 (EF20)	070-7080	TH-H	14	22.20	25.00	16.00	43	31
✓✓	EE25/13/7 (EF25)	070-6473	TH-H	10	27.94	29.21	21.59	97	32
✓✓	EE25/13/7 (EF25)	070-7019	TH-V	10	27.95	20.32	28.58	101	33
✓✓	EE25/13/7 (EF25)	070-6725	TH-H	14	27.05	32.25	22.86	98	34
✓✓	EFD20	070-5982	TH-H	10	21.50	29.00	12.00	37	40
✓✓	EFD20	070-5900	SMT-H	12	21.50	33.80	13.00	38	43
✓✓	EFD25	070-7169	TH-H	12	26.30	33.00	14.00	68	45
✓✓	EPC40	070-6494	TH-H	16	41.91	53.98	26.90	-	68
✓✓	EPC40	070-6495	TH-H	16	41.91	53.98	26.90	-	68
✓✓	EPW15	070-5996	TH-H	15	15.70	22.10	23.30	25	69
✓✓	EPW15	070-6386	SMT-H	9	15.80	26.50	13.50	25	71
✓✓	ER28/14	070-5576	TH-V	10	29.84	24.00	33.00	141	76
✓✓	ER28/14	070-4869	TH-H	12	31.00	31.00	25.00	136	77
✓✓	ER28/17	070-5565	TH-V	10	29.85	24.00	36.00	187	78
✓✓	ER28/17	070-5652	TH-H	12	32.00	39.00	26.00	184	79
✓✓	ERL35	070-5783	TH-H	14	36.50	44.00	28.50	343	80
✓✓	ETD34	070-5455	TH-H	14	39.60	43.18	30.48	261	81
✓✓	ETD39	070-5724	TH-H	16	49.00	41.90	31.75	437	82
✓✓	PQ2016 NEW	070-6905	TH-V	14	23.90	27.58	25.20	42	84
✓✓	PQ2620 NEW	070-6947	TH-V	12	29.20	33.00	30.20	81	86
✓✓	PQ2625 NEW	070-6952	TH-V	12	29.20	32.50	35.20	113	88
✓✓	PQ3220 NEW	070-6957	TH-V	12	35.56	40.10	34.00	151	90
✓✓	PQ3230 NEW	070-6962	TH-V	12	35.56	38.10	41.28	311	92
✓✓	RM6	070-6915	TH-V	12	20.07	23.00	15.00	19	96
✓✓	RM8	070-6835	TH-V	10	24.64	24.64	17.32	49	98
✓✓	RM10	070-6920	TH-V	10	31.50	31.50	20.50	91	101

✓✓ = Reinforced insulation ✓ = Basic/supplementary insulation *No Bolts* = Functional insulation

Bobbin Packages
Search by Power

Power

DC-DC Flyback Power Level (W) at 100kHz	Offline Power Level (W) at 100kHz	Package Size	Bobbin	Mount	Terminals	Safety	Length (mm)	Width (mm)	Height (mm)	Page Number
1		EP5	070-4426	SMT-H	6		6.60	8.26	5.59	48
1		EP5	070-6279	SMT-H	6	✓	7.00	9.10	7.80	49
2		ER9.5	070-6051	SMT-V	8		10.00	12.21	5.97	72
2		ER9.5S	070-6310	SMT-V	8	✓	10.00	14.00	5.00	73
2		ER11.5	070-6058	SMT-V	12		12.95	12.85	6.35	74
3		EP7	070-5801	SMT-H	6		10.16	13.36	9.14	50
3		EP7	070-2150	TH-H	6		10.16	8.26	9.78	51
3		EP7	070-7148	SMT-H	8	✓	9.78	9.50	10.54	52
4		EPX7	070-7147	SMT-H	8	✓	10.16	9.14	12.32	62
5		ER14.5	070-4477	SMT-V	12		16.00	16.80	7.62	75
6		EPX9	070-7151	SMT-H	8		10.16	10.16	12.70	63
6		RM4	070-5754	TH-V	6		11.44	11.44	11.18	93
8		EP10	070-6052	SMT-H	8		13.34	15.24	11.43	53
8		EP10	070-4413	SMT-H	8	✓	13.34	15.24	11.56	54
8		EP10	070-2365	TH-H	8		13.34	11.68	12.57	55
8		EPC13	070-5483	TH-H	10		14.60	14.73	8.50	64
8		EPC13	070-4887	SMT-H	10		14.60	20.92	8.25	65
10		EE13/7/4 (EF12.6)	070-4849	TH-H	8		14.70	16.76	12.70	18
10	5	EE13/7/4 (EF12.6)	070-6910	TH-H	9	✓✓	13.72	20.45	10.16	19
10	5	EE13/7/4 (EF12.6)	070-7133	SMT-H	9	✓✓	13.80	23.90	11.00	20
10		EE13/7/4 (EF12.6)	070-4820	SMT-H	10		13.72	20.20	10.50	21
10		RM5	070-2250	TH-V	6		13.97	13.97	11.18	94
12		EFD15	070-4265	SMT-H	12		17.78	22.35	8.89	38
14	6	EE13/7/6	070-6825	TH-H	8	✓✓	15.00	15.75	18.50	22
14		EFD15	070-2745	TH-H	8		16.76	16.76	8.89	36
14		EFD15	070-5939	SMT-H	10		15.75	22.35	8.89	37
14		EP13	070-7150	SMT-H	10		13.46	17.75	12.70	56
14		EP13	070-4378	SMT-H	10	✓	13.46	17.75	12.70	57
14		EP13	070-4300	TH-H	10		13.97	13.97	12.70	58
14		EP13	070-7180	TH-H	10	✓	13.97	13.97	12.70	59
14		EP13	070-7037	SMT-H	12		13.97	17.17	12.70	60
16	7	EE13/6/6	070-6507	TH-H	9	✓✓	14.20	20.45	14.60	16
17		EE13/6/6	070-2860	TH-V	10		14.73	14.73	15.24	17
17		EPQ13	070-6389	SMT-H	10		13.97	18.25	14.50	61
19	10	EE16/7/5	070-7101	TH-H	10	✓✓	17.50	20.00	14.00	23
19		RM6	070-5757	TH-V	6		17.65	16.64	13.20	95
19	7	RM6	070-6915	TH-V	12	✓✓	20.07	23.00	15.00	96
19		RM6	070-5657	SMT-V	8		20.07	21.84	13.46	97
22	13	EE16/8/5 (EF16)	070-5280	TH-H	9	✓✓	20.32	24.38	16.00	26
22		EPC17	070-5620	TH-H	10		19.00	18.50	12.50	66
22		EPC17	070-4890	SMT-H	9		19.20	23.75	10.16	67
23	12	EE16/7/5	070-6076	TH-V	10	✓✓	18.50	16.50	18.80	24
24		EE16/8/5 (EF16)	070-5420	TH-H	8		17.96	20.30	14.30	25
25	15	EE16/8/5 (EF16)	070-6562	SMT-H	12	✓✓	17.78	26.90	13.80	27
25	12	EPW15	070-5996	TH-H	15	✓✓	15.70	22.10	23.30	69
25	12	EPW15	070-6386	SMT-H	9	✓✓	15.80	26.50	13.50	71
26		EPW15	070-6782	SMT-H	9		15.50	21.69	13.50	70
35		EFD20	070-2609	TH-H	8		21.08	21.08	10.80	39
35		EFD20	070-4290	SMT-H	10		23.11	26.10	10.92	41
36		EFD20	070-5899	SMT-H	12		23.11	29.65	11.43	42
37	26	EFD20	070-5982	TH-H	10	✓✓	21.50	29.00	12.00	40
38	26	EFD20	070-5900	SMT-H	12	✓✓	21.50	33.80	13.00	43
42		PQ2016	070-5674	TH-V	14		24.00	24.00	18.67	83
42	21	PQ2016 NEW	070-6905	TH-V	14	✓✓	23.90	27.58	25.20	84
43	27	EE20/10/6 (EF20)	070-7080	TH-H	14	✓✓	22.20	25.00	16.00	31
47		EE20/10/6 (EF20)	070-7123	TH-V	10		22.25	14.40	23.24	29
49		RM8	070-6835	TH-V	10	✓✓	24.64	24.64	17.32	98
49		RM8	070-2255	TH-V	12		22.00	22.00	17.27	99
50		EE20/10/6 (EF20)	070-6544	TH-H	10		23.00	22.00	17.53	28
50	34	EE20/10/6 (EF20)	070-6372	TH-V	10	✓✓	22.70	14.60	25.30	30
68	52	EFD25	070-7169	TH-H	12	✓✓	26.30	33.00	14.00	45
70		EFD25	070-2710	TH-H	10		26.04	26.67	13.59	44
73		EFD25	070-4476	SMT-H	12		27.03	32.45	13.97	46
81		PQ2620	070-7149	TH-V	12		29.20	30.35	25.90	85
81	45	PQ2620 NEW	070-6947	TH-V	12	✓✓	29.20	33.00	30.20	86
91		RM10	070-5680	TH-V	12		26.16	26.16	19.05	100
91	56	RM10	070-6920	TH-V	10	✓✓	31.50	31.50	20.50	101
97	47	EE25/13/7 (EF25)	070-6473	TH-H	10	✓✓	27.94	29.21	21.59	32
98	73	EE25/13/7 (EF25)	070-6725	TH-H	14	✓✓	27.05	32.25	22.86	34
101	51	EE25/13/7 (EF25)	070-7019	TH-V	10	✓✓	27.95	20.32	28.58	33
102		EFD30	070-5491	TH-H	12		33.00	32.00	14.48	47
113	80	PQ2625 NEW	070-6952	TH-V	12	✓✓	29.20	32.50	35.20	88
120		PQ2625	070-7011	TH-V	12		29.20	30.35	29.30	87
127		EE25/13/11	070-5080	TH-V	8		26.00	23.50	29.50	35
136	69	ER28/14	070-4869	TH-H	12	✓✓	31.00	31.00	25.00	77
141	73	ER28/14	070-5576	TH-V	10	✓✓	29.84	24.00	33.00	76
151		PQ3220	070-5050	TH-V	12		35.56	37.34	24.13	89
151	84	PQ3220 NEW	070-6957	TH-V	12	✓✓	35.56	40.10	34.00	90
184	116	ER28/17	070-5652	TH-H	12	✓✓	32.00	39.00	26.00	79
187	122	ER28/17	070-5565	TH-V	10	✓✓	29.85	24.00	36.00	78
261	164	ETD34	070-5455	TH-H	14	✓✓	39.60	43.18	30.48	81
311		PQ3230	070-4796	TH-V	12		35.56	37.34	34.29	91
311	245	PQ3230 NEW	070-6962	TH-V	12	✓✓	35.56	38.10	41.28	92
343	244	ERL35	070-5783	TH-H	14	✓✓	36.50	44.00	28.50	80
437	304	ETD39	070-5724	TH-H	16	✓✓	49.00	41.90	31.75	82

✓✓ = Reinforced insulation ✓ = Basic/supplementary insulation *No Bolts* = Functional insulation

Toroid Headers
Search by Length/Width

Length

Length (mm)	Package Size	Header	Mount	Terminals	Terminal Type	Safety	Width (mm)	Height (mm)	Page Number
4.39	TOR-4P-HT2-SFTY	250-0511	SMT	4	Plastic	✓	9.14	1.98	102
4.39	TOR-4P-HT2.5-SFTY	250-0581	SMT	4	Plastic	✓	9.14	2.54	104
5.26	TOR-8P-HT4	250-0626	SMT	8	Metal		8.55	4.06	121
5.33	TOR-4P-HT2.2	250-0841	SMT	4	Metal		5.84	2.39	106
5.53	TOR-4P-HT4.7	250-1317	SMT	4	Metal		9.60	4.83	111
5.87	TOR-4P-HT2	250-1299	SMT	4	Plastic		8.26	2.00	105
6.00	TOR-4P-HT3	250-1318	SMT	4	Plastic		8.26	3.00	108
6.05	TOR-4P-HT2.2-SFTY	250-0989	SMT	4	Metal	✓	9.40	2.20	103
6.10	TOR-8P-HT4.4	250-0912	SMT	8	Metal		9.70	5.00	122
6.15	TOR-6P-HT6.4-SFTY	250-1002	SMT	6	Metal	✓✓	16.30	6.35	118
6.30	TOR-4P-HT4.1	250-0621	SMT	4	Plastic		8.89	4.10	110
6.55	TOR-4P-HT2.5	250-1013	SMT	4	Plastic		8.86	2.54	107
6.60	TOR-6P-HT2.5	250-0528	SMT	6	Plastic		8.86	2.54	113
6.73	TOR-6P-HT3.6	250-0593	SMT	6	Plastic		9.02	3.56	114
6.73	TOR-6P-HT4	250-1109	SMT	6	Metal		10.46	4.19	115
8.30	TOR-6P-HT4	250-1201	SMT	6	Metal		12.60	4.10	116
8.30	TOR-6P-HT4-SFTY	250-1268	SMT	6	Metal	✓	14.75	4.20	117
8.33	TOR-4P-HT3.3	250-1009	SMT	4	Plastic		8.33	3.30	109
9.02	TOR-4P-HT6.4	250-0522	SMT	4	Metal		10.16	6.60	112
9.02	TOR-8P-HT5.3	250-0482	SMT	8	Plastic		8.77	5.33	123
9.02	TOR-8P-HT7.6	250-0931	SMT	8	Plastic		8.64	8.00	125
9.14	TOR-6P-HT7.6-SFTY	250-1123	SMT	6	Metal	✓✓	12.95	7.62	119
10.26	TOR-8P-HT5.4	250-1252	SMT	8	Metal		12.98	5.38	124
11.63	TOR-10P-HT2 NEW	250-1239	SMT	10	Metal		12.60	1.98	127
11.63	TOR-10P-HT3.6 NEW	250-1240	SMT	10	Metal		12.60	3.68	128
11.63	TOR-16P-HT6.5	250-0592	SMT	16	Metal		9.15	6.50	129
12.32	TOR-6P-HT11.8-SFTY	250-1243	SMT	6	Metal	✓✓	16.50	11.89	120
13.80	TOR-9P-HT7.3	250-1236	SMT	9	Metal		17.02	7.30	126

Width

Width (mm)	Package Size	Header	Mount	Terminals	Terminal Type	Safety	Length (mm)	Height (mm)	Page Number
5.84	TOR-4P-HT2.2	250-0841	SMT	4	Metal		5.33	2.39	106
8.26	TOR-4P-HT2	250-1299	SMT	4	Plastic		5.87	2.00	105
8.26	TOR-4P-HT3	250-1318	SMT	4	Plastic		6.00	3.00	108
8.33	TOR-4P-HT3.3	250-1009	SMT	4	Plastic		8.33	3.30	109
8.55	TOR-8P-HT4	250-0626	SMT	8	Metal		5.26	4.06	121
8.64	TOR-8P-HT7.6	250-0931	SMT	8	Plastic		9.02	8.00	125
8.77	TOR-8P-HT5.3	250-0482	SMT	8	Plastic		9.02	5.33	123
8.86	TOR-4P-HT2.5	250-1013	SMT	4	Plastic		6.55	2.54	107
8.86	TOR-6P-HT2.5	250-0528	SMT	6	Plastic		6.60	2.54	113
8.89	TOR-4P-HT4.1	250-0621	SMT	4	Plastic		6.30	4.10	110
9.02	TOR-6P-HT3.6	250-0593	SMT	6	Plastic		6.73	3.56	114
9.14	TOR-4P-HT2-SFTY	250-0511	SMT	4	Plastic	✓	4.39	1.98	102
9.14	TOR-4P-HT2.5-SFTY	250-0581	SMT	4	Plastic	✓	4.39	2.54	104
9.15	TOR-16P-HT6.5	250-0592	SMT	16	Metal		11.63	6.50	129
9.40	TOR-4P-HT2.2-SFTY	250-0989	SMT	4	Metal	✓	6.05	2.20	103
9.60	TOR-4P-HT4.7	250-1317	SMT	4	Metal		5.53	4.83	111
9.70	TOR-8P-HT4.4	250-0912	SMT	8	Metal		6.10	5.00	122
10.16	TOR-4P-HT6.4	250-0522	SMT	4	Metal		9.02	6.60	112
10.46	TOR-6P-HT4	250-1109	SMT	6	Metal		6.73	4.19	115
12.60	TOR-6P-HT4	250-1201	SMT	6	Metal		8.30	4.10	116
12.60	TOR-10P-HT2 NEW	250-1239	SMT	10	Metal		11.63	1.98	127
12.60	TOR-10P-HT3.6 NEW	250-1240	SMT	10	Metal		11.63	3.68	128
12.95	TOR-6P-HT7.6-SFTY	250-1123	SMT	6	Metal	✓✓	9.14	7.62	119
12.98	TOR-8P-HT5.4	250-1252	SMT	8	Metal		10.26	5.38	124
14.75	TOR-6P-HT4-SFTY	250-1268	SMT	6	Metal	✓	8.30	4.20	117
16.30	TOR-6P-HT6.4-SFTY	250-1002	SMT	6	Metal	✓✓	6.15	6.35	118
16.50	TOR-6P-HT11.8-SFTY	250-1243	SMT	6	Metal	✓✓	12.32	11.89	120
17.02	TOR-9P-HT7.3	250-1236	SMT	9	Metal		13.80	7.30	126

✓✓ = Reinforced insulation ✓ = Basic/supplementary insulation *No Bolts* = Functional insulation

Toroid Headers
Search by Height/Safety

Height

Height (mm)	Package Size	Header	Mount	Terminals	Terminal Type	Safety	Length (mm)	Width (mm)	Page Number
1.98	TOR-4P-HT2-SFTY	250-0511	SMT	4	Plastic	✓	4.39	9.14	102
1.98	TOR-10P-HT2 NEW	250-1239	SMT	10	Metal		11.63	12.60	127
2.00	TOR-4P-HT2	250-1299	SMT	4	Plastic		5.87	8.26	105
2.20	TOR-4P-HT2.2-SFTY	250-0989	SMT	4	Metal	✓	6.05	9.40	103
2.39	TOR-4P-HT2.2	250-0841	SMT	4	Metal		5.33	5.84	106
2.54	TOR-4P-HT2.5-SFTY	250-0581	SMT	4	Plastic	✓	4.39	9.14	104
2.54	TOR-4P-HT2.5	250-1013	SMT	4	Plastic		6.55	8.86	107
2.54	TOR-6P-HT2.5	250-0528	SMT	6	Plastic		6.60	8.86	113
3.00	TOR-4P-HT3	250-1318	SMT	4	Plastic		6.00	8.26	108
3.30	TOR-4P-HT3.3	250-1009	SMT	4	Plastic		8.33	8.33	109
3.56	TOR-6P-HT3.6	250-0593	SMT	6	Plastic		6.73	9.02	114
3.68	TOR-10P-HT3.6 NEW	250-1240	SMT	10	Metal		11.63	12.60	128
4.06	TOR-8P-HT4	250-0626	SMT	8	Metal		5.26	8.55	121
4.10	TOR-4P-HT4.1	250-0621	SMT	4	Plastic		6.30	8.89	110
4.10	TOR-6P-HT4	250-1201	SMT	6	Metal		8.30	12.60	116
4.19	TOR-6P-HT4	250-1109	SMT	6	Metal		6.73	10.46	115
4.20	TOR-6P-HT4-SFTY	250-1268	SMT	6	Metal	✓	8.30	14.75	117
4.83	TOR-4P-HT4.7	250-1317	SMT	4	Metal		5.53	9.60	111
5.00	TOR-8P-HT4.4	250-0912	SMT	8	Metal		6.10	9.70	122
5.33	TOR-8P-HT5.3	250-0482	SMT	8	Plastic		9.02	8.77	123
5.38	TOR-8P-HT5.4	250-1252	SMT	8	Metal		10.26	12.98	124
6.35	TOR-6P-HT6.4-SFTY	250-1002	SMT	6	Metal	✓✓	6.15	16.30	118
6.50	TOR-16P-HT6.5	250-0592	SMT	16	Metal		11.63	9.15	129
6.60	TOR-4P-HT6.4	250-0522	SMT	4	Metal		9.02	10.16	112
7.30	TOR-9P-HT7.3	250-1236	SMT	9	Metal		13.80	17.02	126
7.62	TOR-6P-HT7.6-SFTY	250-1123	SMT	6	Metal	✓✓	9.14	12.95	119
8.00	TOR-8P-HT7.6	250-0931	SMT	8	Plastic		9.02	8.64	125
11.89	TOR-6P-HT11.8-SFTY	250-1243	SMT	6	Metal	✓✓	12.32	16.50	120

Safety

Safety	Package Size	Header	Mount	Terminals	Terminal Type	Length (mm)	Width (mm)	Height (mm)	Page Number
	TOR-4P-HT2	250-1299	SMT	4	Plastic	5.87	8.26	2.00	105
	TOR-4P-HT2.2	250-0841	SMT	4	Metal	5.33	5.84	2.39	106
	TOR-4P-HT2.5	250-1013	SMT	4	Plastic	6.55	8.86	2.54	107
	TOR-4P-HT3	250-1318	SMT	4	Plastic	6.00	8.26	3.00	108
	TOR-4P-HT3.3	250-1009	SMT	4	Plastic	8.33	8.33	3.30	109
	TOR-4P-HT4.1	250-0621	SMT	4	Plastic	6.30	8.89	4.10	110
	TOR-4P-HT4.7	250-1317	SMT	4	Metal	5.53	9.60	4.83	111
	TOR-4P-HT6.4	250-0522	SMT	4	Metal	9.02	10.16	6.60	112
	TOR-6P-HT2.5	250-0528	SMT	6	Plastic	6.60	8.86	2.54	113
	TOR-6P-HT3.6	250-0593	SMT	6	Plastic	6.73	9.02	3.56	114
	TOR-6P-HT4	250-1109	SMT	6	Metal	6.73	10.46	4.19	115
	TOR-6P-HT4	250-1201	SMT	6	Metal	8.30	12.60	4.10	116
	TOR-8P-HT4	250-0626	SMT	8	Metal	5.26	8.55	4.06	121
	TOR-8P-HT4.4	250-0912	SMT	8	Metal	6.10	9.70	5.00	122
	TOR-8P-HT5.3	250-0482	SMT	8	Plastic	9.02	8.77	5.33	123
	TOR-8P-HT5.4	250-1252	SMT	8	Metal	10.26	12.98	5.38	124
	TOR-8P-HT7.6	250-0931	SMT	8	Plastic	9.02	8.64	8.00	125
	TOR-9P-HT7.3	250-1236	SMT	9	Metal	13.80	17.02	7.30	126
	TOR-10P-HT2 NEW	250-1239	SMT	10	Metal	11.63	12.60	1.98	127
	TOR-10P-HT3.6 NEW	250-1240	SMT	10	Metal	11.63	12.60	3.68	128
	TOR-16P-HT6.5	250-0592	SMT	16	Metal	11.63	9.15	6.50	129
✓	TOR-4P-HT2-SFTY	250-0511	SMT	4	Plastic	4.39	9.14	1.98	102
✓	TOR-4P-HT2.2-SFTY	250-0989	SMT	4	Metal	6.05	9.40	2.20	103
✓	TOR-4P-HT2.5-SFTY	250-0581	SMT	4	Plastic	4.39	9.14	2.54	104
✓	TOR-6P-HT4-SFTY	250-1268	SMT	6	Metal	8.30	14.75	4.20	117
✓✓	TOR-6P-HT6.4-SFTY	250-1002	SMT	6	Metal	6.15	16.30	6.35	118
✓✓	TOR-6P-HT7.6-SFTY	250-1123	SMT	6	Metal	9.14	12.95	7.62	119
✓✓	TOR-6P-HT11.8-SFTY	250-1243	SMT	6	Metal	12.32	16.50	11.89	120

✓✓ = Reinforced insulation ✓ = Basic/supplementary insulation *No Bolts* = Functional insulation

Notes

Notes

WÜRTH ELEKTRONIK

Globally available, locally present.

The Würth Elektronik Group

Sales: 848 million €
Employees: 8.300
* preliminary 2018

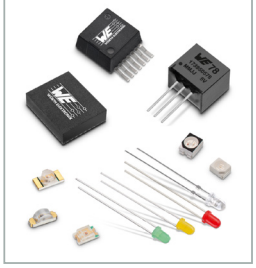
Würth Elektronik eiSos Group

- Printed Circuit Boards
- Intelligent Power and Control Systems

Electronic Components

- Würth Elektronik eiSos GmbH & Co. KG
- Wurth Electronics Midcom Inc.
- IQD Frequency Products

Power Modules & Optoelectronics



- Würth Elektronik eiSos GmbH & Co. KG

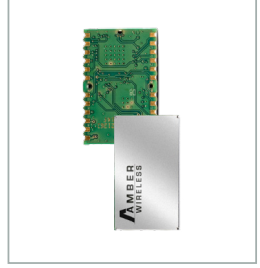
Electromechanical Components

- Würth Elektronik eiCan
- Würth Elektronik Stelvio Kontek S.p.A.

Automotive & eMobility

- Würth Elektronik eiSos GmbH & Co. KG
- Würth Elektronik iBE GmbH & Co. KG
- Erwin Büchele GmbH & Co. KG

Wireless Connectivity & Sensors



- Würth Elektronik eiSos GmbH & Co. KG
- AMBER Wireless GmbH

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