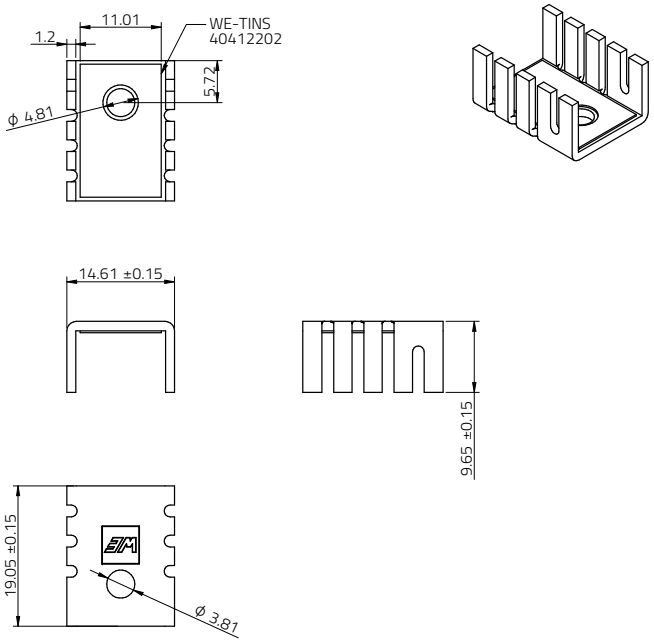
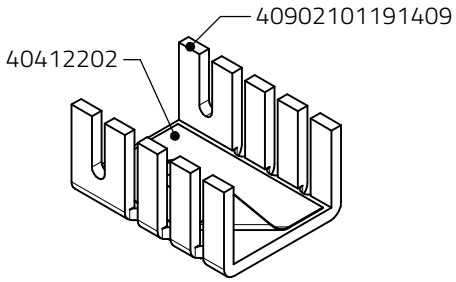
Dimensions: [mm]



Application Drawing:



Properties:

Properties		Value	Unit
Thermal Resistance	R_{TH}	22.33	K/W
Application		TO220	
Material		Aluminium	
Surface		Black anodized	

Certification:

RoHS Approval	Compliant [2011/65/EU&2015/863]
REACh Approval	Conform or declared [(EC)1907/2006]

General Information:

Storage Conditions (in original packaging)	5 °C up to 40 °C; < 75 % rH
Moisture Sensitivity Level (MSL)	1
Product WE-TINS 40412202 material is preapplied on the base.	
The thermal resistance value is a reference value and may differ depending on the application, its design and the power to be dissipated. The testing conditions for obtaining the value mentioned herein can be found in our Design Guideline on heatsinks on the website.	

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WÜRTH ELEKTRONIK
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CHECKED	REVISION	DATE (YYYY-MM-DD)	GENERAL TOLERANCE	PROJECTION METHOD
MCM	001.000	2026-02-02	DIN ISO 2768-1m	

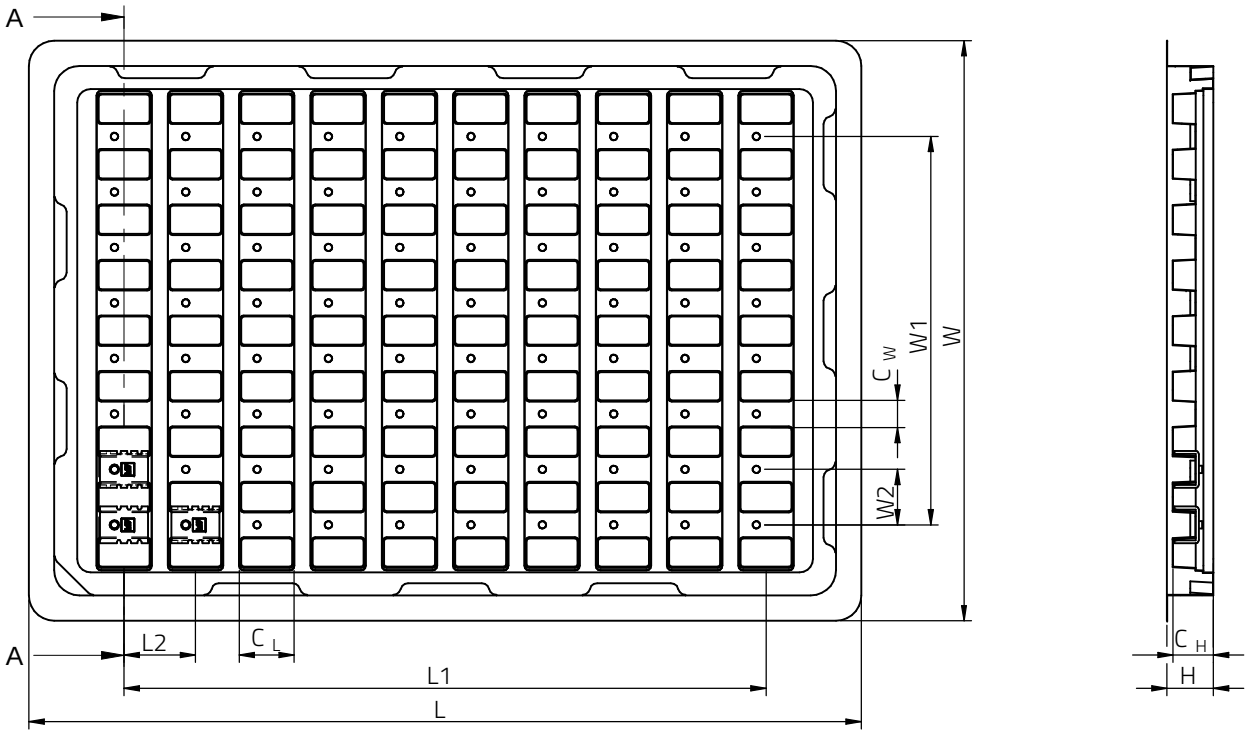
DESCRIPTION
WE-HTOI Heatsinks for transistors with thermal insulator

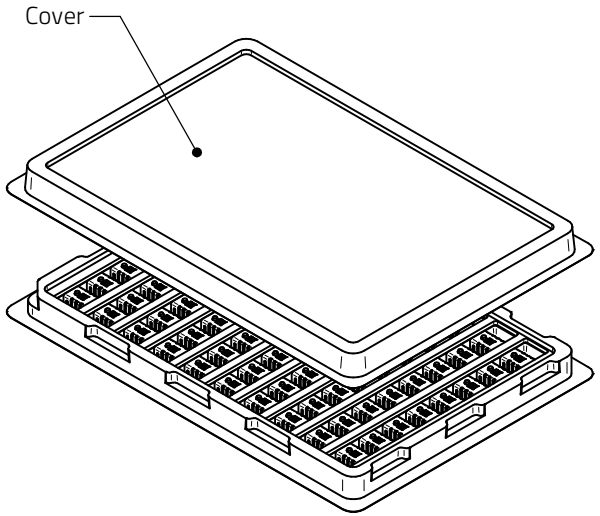
ORDER CODE
40902101191409

BUSINESS UNIT	STATUS	PAGE
eiCan	Valid	1/5

This electronic component has been designed and developed for usage in general electronic equipment only. This product is not authorized for use in equipment where a higher safety standard and reliability standard is especially required or where a failure of the product is reasonably expected to cause severe personal injury or death, unless the parties have executed an agreement specifically governing such use. Moreover Würth Elektronik eiSos GmbH & Co KG products are neither designed nor intended for use in areas such as military, aerospace, aviation, nuclear control, submarine, transportation, transportation signal, disaster prevention, medical, public information network etc.. Würth Elektronik eiSos GmbH & Co KG must be informed about the intent of such usage before the design-in stage. In addition, sufficient reliability evaluation checks for safety must be performed on every electronic component which is used in electrical circuits that require high safety and reliability functions or performance.

Packaging Specification - Tray with Cover:





	L (mm)	L1 (mm)	L2 (mm)	C_L (mm)	W (mm)	W1 (mm)	W2 (mm)	C_W (mm)	H (mm)	C_H (mm)	Qty. (pcs.)	Material
Tolerance	typ.	typ.	typ.	typ.	typ.	typ.	typ.	typ.	typ.	typ.		
Value	330.00	254.52	28.28	21.76	230.00	154.00	22.00	10.80	18.50	16.00	80	PET

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DESCRIPTION
WE-HTOI Heatsinks for transistors with thermal insulator

ORDER CODE
40902101191409

BUSINESS UNIT	STATUS	PAGE
eiCan	Valid	2/5

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Further information

Component Libraries:

3D	40902101191409_3D.pdf
ANSYS	ANSYS_40902101191409 (26a)
IGS	40902101191409.igs
STP	40902101191409.stp

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DESCRIPTION
WE-HTOI Heatsinks for transistors with thermal insulator

ORDER CODE
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BUSINESS UNIT	STATUS	PAGE
eiCan	Valid	3/5

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Cautions and Warnings:

The following conditions apply to all goods within the product series of WE-HICI & WE-HTOI of Würth Elektronik eiSos GmbH & Co. KG:

General:

- This mechanical component is designed and manufactured for use in general electronic equipment.
- Würth Elektronik must be asked for written approval (following the PPAP procedure) before incorporating the components into any equipment in fields such as military, aerospace, aviation, nuclear control, submarine, transportation (automotive control, train control, ship control), transportation signal, disaster prevention, medical, public information network, etc. where higher safety and reliability are especially required and/or if there is the possibility of direct damage or human injury.
- Mechanical components that will be used in safety-critical or high-reliability applications should be pre-evaluated by the customer.
- The component is designed and manufactured to be used within the datasheet specified values. If the usage and operation conditions specified in the datasheet are not met, the component may be damaged or dissolved.
- Do not drop or impact the components, the component may be damaged.
- Würth Elektronik products are qualified according to international standards, which are listed in each product reliability report. Würth Elektronik does not warrant any customer qualified product characteristics beyond Würth Elektroniks' specifications, for its validity and sustainability over time.
- The responsibility for the function of the application of the customer specific products and use in a particular customer design is always the full and autonomous responsibility of the customer. All technical specification for standard products also apply to customer specific products.

Product Specific:

Cleaning and Washing:

- Washing agents used during production to clean the customer application might damage or change the characteristics of the component, marking or plating. Washing agents may have a negative effect on the long-term functionality of the product.

Storage Conditions:

- A storage of Würth Elektronik products for longer than 12 months is not recommended. Therefore, all products shall be used within the period of 12 months based on the day of shipment.
- Do not expose the components to direct sunlight.
- The storage conditions in the original packaging are defined according to DIN EN 61760-2.
- The storage conditions stated in the original packaging apply to the storage time and not to the transportation time of the components.

Packaging:

- The packaging specifications apply only to purchase orders comprising whole packaging units. If the ordered quantity exceeds or is lower than the specified packaging unit, packaging in accordance with the packaging specifications cannot be ensured.
- Orders outside the standard pack quantity may be shipped in non-standard packaging, which can lead to visual defects or bending of the parts.

Handling:

- Avoid bending or twisting fins, special attention to long fins, since the longer the fins the easier it is to bend them.
- Handle by the base, when possible, this reduces stress on fins.
- Keep mounting surface clean and do not touch the contact surface or thermal interface material with bare hands.
- Avoid scratching the anodized surface exposing aluminum.

Thermal Interface Material Handling:

- Do not remove protective layer until immediately before installation.
- Ensure proper alignment before tightening to prevent thermal interface material damage.
- Avoid excessive pressure or sliding motion during mounting, which may smear or tear the thermal interface material.
- It is recommended to compress the material with equal pressure on the whole surface.
- The temperature rise of the component must be taken into consideration. The operating temperature is comprised of ambient temperature and temperature rise of the component. The operating temperature of the component shall not exceed the maximum temperature specified.
- The thermal conductivity depends on the final application. Test the adaptability of the product to your application before use.
- Gaps and/or air bubbles between transfer tape and the contact surface must be avoided. Otherwise, the performance of the product may be affected.
- Due to variations on the surface, it is beneficial to use a smaller transfer tape area than the contact surface.

Visual appearance

- Minor visual variations such as anodizing marks or shading differences are inherent to the anodizing process. These variations are acceptable and have no impact on product performance or reliability.

These cautions and warnings comply with the state of scientific and technical knowledge and are believed to be accurate and reliable. However, no responsibility is assumed for inaccuracies or incompleteness.

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DESCRIPTION
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BUSINESS UNIT	STATUS	PAGE
eiCan	Valid	4/5

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Important Notes

The following conditions apply to all goods within the product range of Würth Elektronik eiSos Group

1. General Customer Responsibility

Some goods within the product range of Würth Elektronik eiSos Group contain statements regarding general suitability for certain application areas. These statements about suitability are based on our knowledge and experience of typical requirements concerning the areas, serve as general guidance and cannot be estimated as binding statements about the suitability for a customer application. The responsibility for the applicability and use in a particular customer design is always solely within the authority of the customer. Due to this fact it is up to the customer to evaluate, where appropriate to investigate and decide whether the device with the specific product characteristics described in the product specification is valid and suitable for the respective customer application or not.

2. Customer Responsibility related to Specific, in particular Safety-Relevant Applications

It has to be clearly pointed out that the possibility of a malfunction of electronic components or failure before the end of the usual lifetime cannot be completely eliminated in the current state of the art, even if the products are operated within the range of the specifications.
In certain customer applications requiring a very high level of safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health it must be ensured by most advanced technological aid of suitable design of the customer application that no injury or damage is caused to third parties in the event of malfunction or failure of an electronic component. Therefore, customer is cautioned to verify that data sheets are current before placing orders. The current data sheets can be downloaded at www.we-online.com.

3. Best Care and Attention

Any product-specific notes, cautions and warnings must be strictly observed. Any disregard will result in the loss of warranty.

4. Customer Support for Product Specifications

Some products within the product range may contain substances which are subject to restrictions in certain jurisdictions in order to serve specific technical requirements. Necessary information is available on request. In this case the field sales engineer or the internal sales person in charge should be contacted who will be happy to support in this matter.

5. Product R&D

Due to constant product improvement product specifications may change from time to time. As a standard reporting procedure of the Product Change Notification (PCN) according to the JEDEC-Standard inform about minor and major changes. In case of further queries regarding the PCN, the field sales engineer or the internal sales person in charge should be contacted. The basic responsibility of the customer as per Section 1 and 2 remains unaffected.

6. Product Life Cycle

Due to technical progress and economical evaluation we also reserve the right to discontinue production and delivery of products. As a standard reporting procedure of the Product Termination Notification (PTN) according to the JEDEC-Standard we will inform at an early stage about inevitable product discontinuance. According to this we cannot guarantee that all products within our product range will always be available. Therefore it needs to be verified with the field sales engineer or the internal sales person in charge about the current product availability expectancy before or when the product for application design-in disposal is considered. The approach named above does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.

7. Property Rights

All the rights for contractual products produced by Würth Elektronik eiSos Group on the basis of ideas, development contracts as well as models or templates that are subject to copyright, patent or commercial protection supplied to the customer will remain with Würth Elektronik eiSos Group. Würth Elektronik eiSos Group does not warrant or represent that any license, either expressed or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right relating to any combination, application, or process in which Würth Elektronik eiSos Group components or services are used.

8. General Terms and Conditions

Unless otherwise agreed in individual contracts, all orders are subject to the current version of the “General Terms and Conditions of Würth Elektronik eiSos Group”, last version available at www.we-online.com.

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