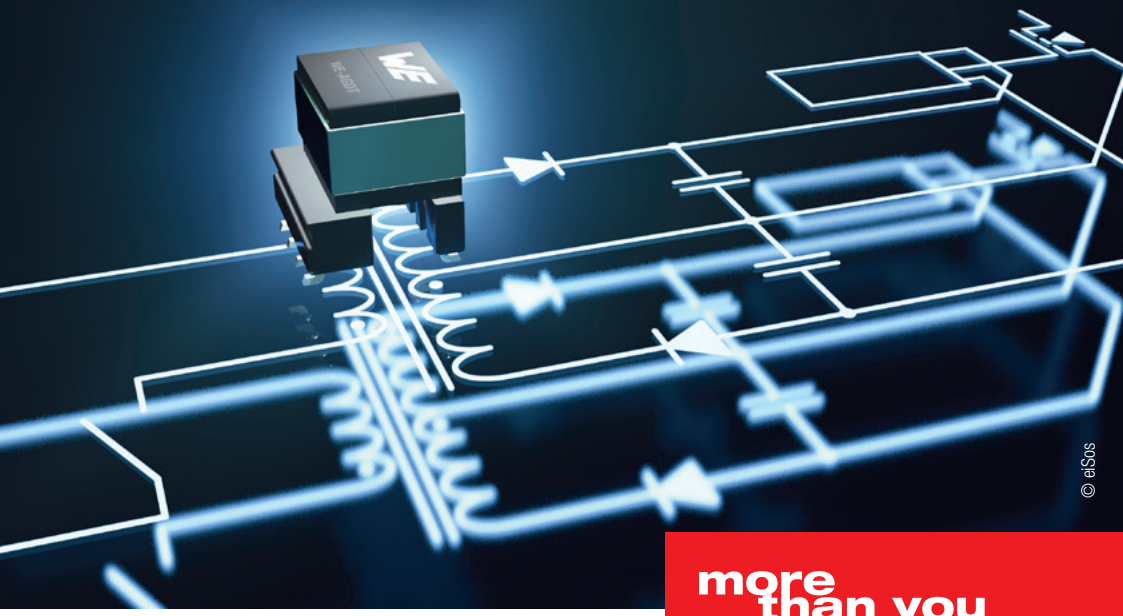
Drive hard.
Drive safe.

WE-AGDT Gate Drive Transformer

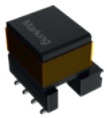


© eSos

more than you expect

WE-AGDT

The WE-AGDT series from Würth Elektronik allows implementing discrete SiC gate driver designs easier than ever before. These standard parts are compact SMT transformers optimized for silicon carbide applications. With extremely low interwinding capacitance, the WE-AGDT helps to achieve higher Common Mode Transient Immunity (CMTI). The series is compliant with safety standards according to IEC62368-1/IEC61558-2-16 in addition to AEC-Q200 qualification. Reference designs are available for each WE-AGDT transformer. The complete solution is compact and capable of fully automated assembly. Products available from stock. Samples free of charge.



WE-AGDT

Reference Designs

- Optimized for SiC gate driver supply
- Interwinding capacitance down to 6.8 pF
- CMTI over 100 kV/µs
- IEC62368-1/IEC61558-2-16
- Up to 6 W power
- Unipolar & bipolar output
- Compact & lightweight

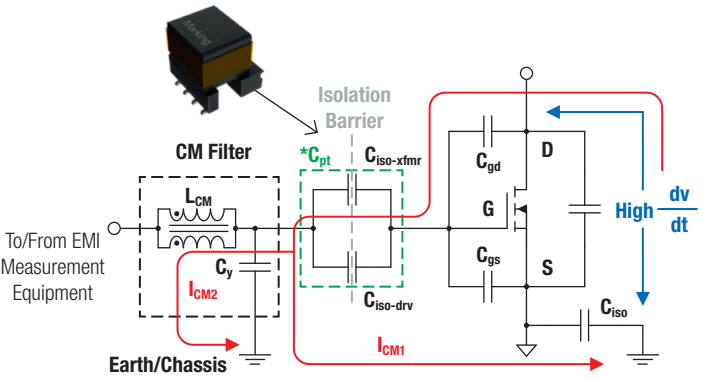
#ReadyForTheFuture

For further information, please visit:
www.we-online.com/agdt

Auxiliary Gate Drive Transformer

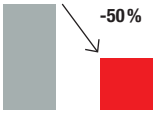
Impact of Interwinding Capacitance in typical Applications

Illustration of EMI-Currents



$*C_{pt} = C_{iso\text{-}xfmr} + C_{iso\text{-}drv}$

$$i_d(t) = C_{pt} \frac{dv_{ps}}{dt}$$



14 pF Regular Transformer

6.8 pF WE-AGDT

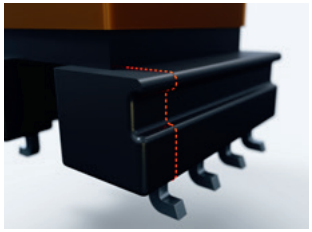
Minimize displacement current / common mode current for

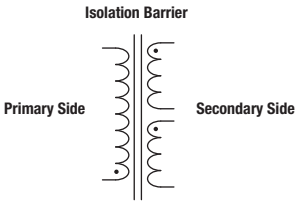
- Improved control robustness
- Better EMC performance

Compared to regular transformers

- 50 % less interwinding capacitance
- Higher Common Mode Transient Immunity (CMTI) over 100 kV/µs

Safety Standards and Qualifications





AEC Q200

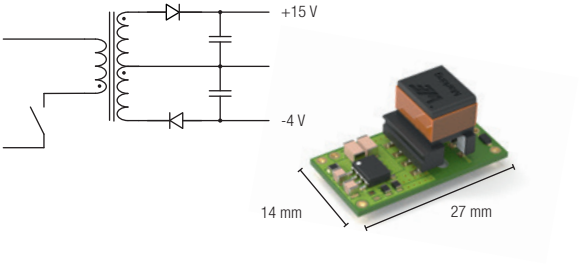
Compliant to

- IEC62368-1
- IEC61558-2-16

- Isolation voltage up to 4 kV
- Fully insulated wire

Reference Design

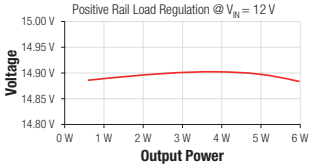
Isolated Auxiliary Power Supply with PSR Flyback topology

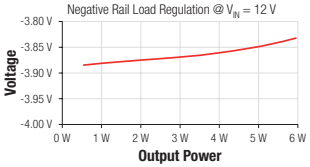


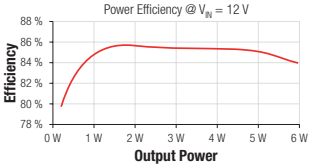
Discover our Reference Design RD001:
www.we-online.com/RD001

Highly compact solution with regulated bipolar output rails up to 6 W power for high-performance SiC and IGBT gate driver applications.

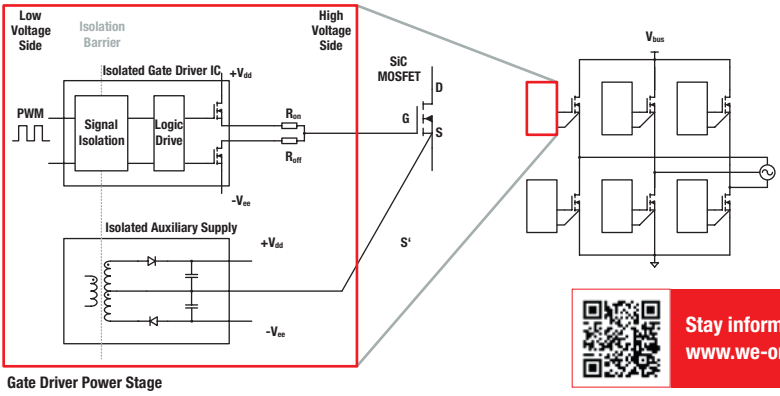
Discover our new App Note about SiC Gate Drivers:
www.we-online.com/ANP082







SiC Gate Driver System - Example Application: 3-phase SiC Motor Driver



Gate Driver Power Stage

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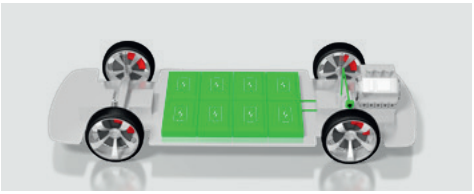
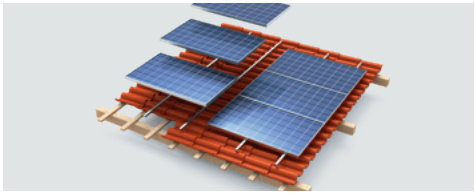
Auxiliary Gate Drive Transformer

Applications & IC Reference Designs

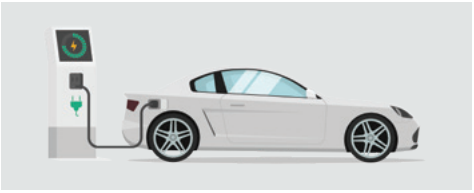
Applications



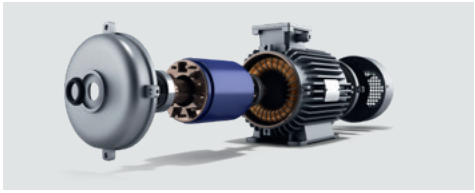
E-mobility Powertrain



Solar Inverters



EV On-board & Off-board Chargers



Industrial Motor Drives

Datacenter Power

Switch-mode Power Supplies and Power Factor Correction Stages

Reference Designs for each WE-AGDT Transformer

P/N	V_{IN} range (V)	V_{OUT1} (V)	V_{OUT2} (V)	Cw_w (pF)	Frequency max* (kHz)	IC Reference design	Power (W)
750317893	9–18	15–20	n/a	6.8	350	LM5180	3
750317894	9–18	15	-4	7.0	350	LM5180	3
750318207	18–36	15–20	n/a	8.2	350	LM5180	5
750318208	18–36	15	-4	7.0	350	LM5180	5
750318114	9–18	15–20	n/a	6.8	350	LT8302	6
750318131	9–18	15	-4	7.5	350	LT8302	6

* Frequency varies with the output load and input voltage

DIE NECKARPRINZEN 999650.09201000