Reference board for 1200 V CoolSiC™ MOSFET in TO-263-7

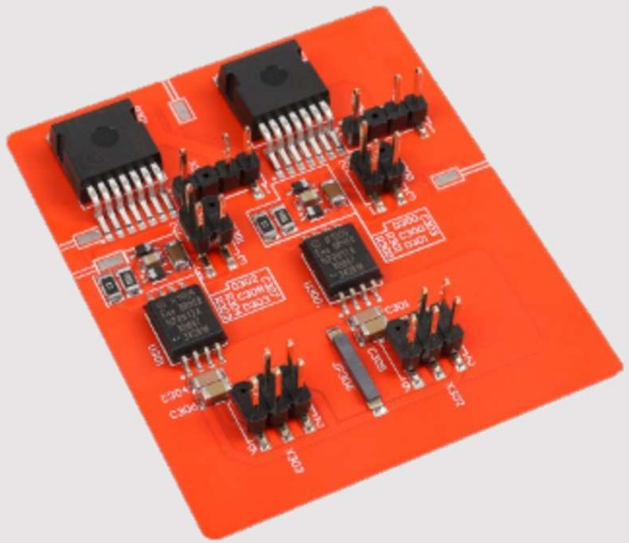
REF-SIC-D2PAK-BP

November 2023

restricted

Reference board for 1200 V CoolSiC™ MOSFET for motor drives and controls

REF-SIC-D2PAK-BP - Top side



Main Features

- IMBG120R030M1H 1200 V CoolSiC™ Silicon Carbide (SiC) Trench MOSFET
- 1EDI20H12AH 1200V high-side gate driver IC
  - Bipolar power supply
  - Core-less transformer based galvanic isolation
  - Negative turn-off
- Utilizing Insulated Metal Substrate (IMS)
- All components Surface Mounted Devices (SMD)

Applications



Ordering information

Sales Code: **REF-SIC-D2PAK-BP**

OPN: **REFSICD2PAKBPTOBO1**

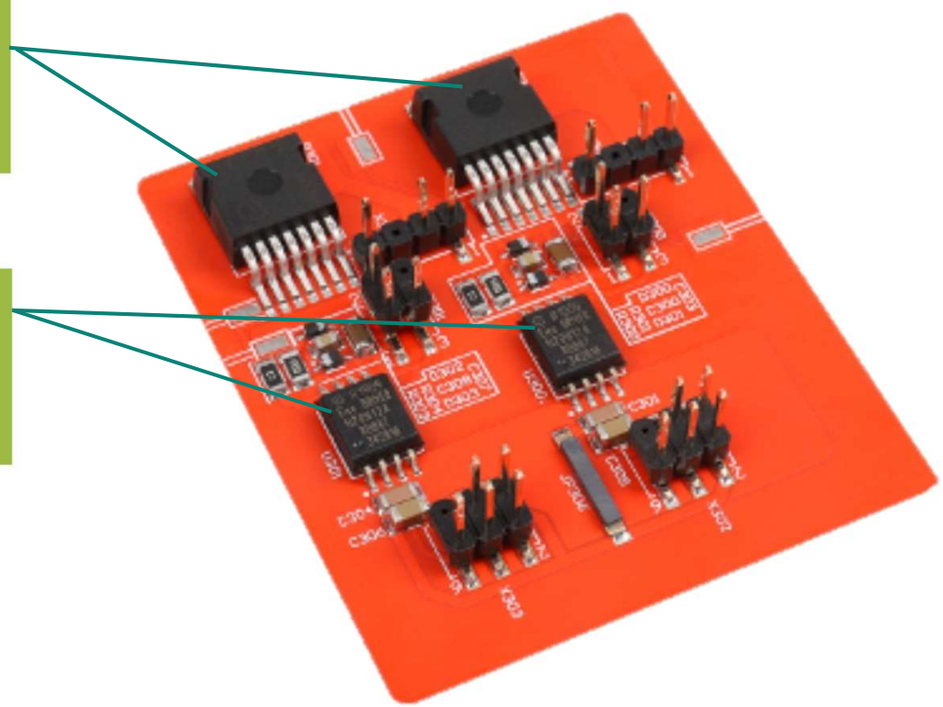
Customer Benefits

- Very low switching losses
- Benchmark gate threshold voltage, VGS(th) = 4.5 V
- Robust body diode for hard commutation
- Sense pin for optimized switching performance
- Negative turn-off voltage to avoid parasitic turn on

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Reference board for 1200 V CoolSiC™ MOSFET for motor drives and controls

Infineon products	Features
IMBG120R030M1H CoolSiC™ MOSFET	1200 V 30 mΩ SiC MOSFET in TO-263-7 SMD package
1EDI20H12AH EiceDRIVER™ Gate Driver	1200 V high side Gate Griver IC with galvanic isolation, short circuit clamping and separate sink/source outputs



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Infineon's 1200 V CoolSiC™ MOSFET - optimized to combine performance with reliability

Key features

- 3 µs short-circuit withstand time
- Benchmark gate threshold voltage, VGS(th) = 4.5 V
- Robust against parasitic turn-on, 0 V turn-off gate voltage can be applied
- Package creepage and clearance distances, > 6.1 mm
- Sense pin for optimized switching performance

IMBG120R030M1H

The **CoolSiC™ 1200** V SiC Trench MOSFET in TO-263-7 package combines the low power losses of CoolSiC™ technology with .XT interconnection technology in a new 1200V optimized SMD package. Hence, enabling top efficiency and passive cooling potential in applications such as drives, chargers and industrial power supplies.

- Higher efficiency, frequency and power density
- Reduction of cooling effort, system complexity and costs
- SMD enables direct interaction into PCB, with natural convection cooling without extra heatsink



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1200 V EiceDRIVER™ with galvanic isolation, short circuit clamping and separate sink/source outputs

Key features

- 1200V coreless transformer isolated gate driver ICs
- 2 A rail-to-rail outputs
- 300 mil wide-body package for 8 mm creepage distance
- Separate source/sink outputs

1EDI20H12AH

EiceDRIVER™ 1200 V high-side gate driver IC with typical 4.0 A source and 3.5 A sink currents for IGBT Modules. It is housed in a wide-body DSO-8 package with coreless transformer isolation technology.

The galvanic isolation, together with the short circuit clamping and separate sink/source outputs makes it suitable for AC and brushless DC motor drives, industrial heating and welding, smart induction heating applications, solutions for photovoltaic energy systems and uninterruptible power supplies (UPS).



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Key featured products of the reference board design REF-SIC-D2PAK-BP

Sales Code	Product Type	Link to product page
IMBG120R030M1H	1200 V **CoolSiC™** MOSFET	**IMBG120R030M1H**
1EDI20H12AH	**EiceDRIVER™** gate driver IC	**1EDI20H12AH**

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