



WOLFSPEED® AUTOMOTIVE QUALIFIED 1200 V, 450 A ALL-SILICON CARBIDE CONDUCTION-OPTIMIZED, HALF-BRIDGE MODULE EAB450M12XM3

ENABLING HIGH EFFICIENCY AND HIGH POWER DENSITY IN THE MOST DEMANDING AUTOMOTIVE APPLICATIONS

Delivering the industry's highest power density in its class for unsurpassed efficiency, brought to you by the leaders in Silicon Carbide.

Wolfspeed®'s automotive qualified XM3 power module maximizes the benefits of Silicon Carbide, while keeping the module and system design robust, simple and cost effective. With half the weight and volume of a standard 62 mm module, the XM3 power module maximizes power density while minimizing loop inductance and enabling simpler power bussing. The optimized package enables 175°C continuous junction operation, with a high reliability silicon nitride (Si3N4) power substrate to ensure mechanical robustness under extreme conditions. The XM3 is a perfect fit for demanding automotive applications such as traction drives, DC fast chargers, and automotive testing equipment.



Part Number	Blocking Voltage	Nominal Current (A)	$R_{DS(ON)}$ at 25°C	Description
EAB450M12XM3	1200 V	450 A	2.6	Automotive grade, Half-Bridge, C3M™ Conduction-Optimized MOSFETs



FEATURES

High Power Density Footprint
Implements Conduction Optimized C3M™ Silicon Carbide MOSFET Technology
Silicon Nitride Insulator and Copper Baseplate



BENEFITS

Simple, Low Inductance Design
Increased Junction Temperature Operation
Voltage Sensing For Gate Driver
Overcurrent Protection



APPLICATIONS

Motor & Traction Drives
Vehicle Fast Chargers
Automotive Test Equipment
More Electric Aircraft / eVTOL

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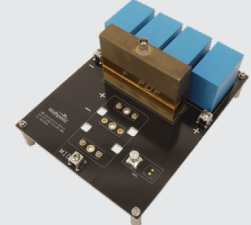
FEATURED DESIGN TOOLS



300 kW High Performance
3-Phase Inverter Reference
Design with a power
density of 32 kW/L
[CRD300DA12E-XM3]



600 kW High Performance
Dual 3-Phase Inverter
Reference Design with a
power density of 72 kW/L
[CRD600DA12E-XM3]



Dynamic Characterization
Evaluation Evaluation Tool
for 1200 V XM3 modules for
accurate measurements of
switching losses.
[KIT-CRD-CIL12N-XM3]

Why Wolfspeed Silicon Carbide?

Wolfspeed invented the Silicon Carbide MOSFET

30+ years of Silicon Carbide power with 7+ trillion installed field hours

Wolfspeed is investing for the Future

#1 market share in Silicon Carbide technology, 30x capacity by 2024

17+ Years of Diode and MOSFET Production

Thousands of customers with millions of MOSFETs, Diodes and Modules

Focused Development and Customer Support

ALL resources dedicated to developing Silicon Carbide capacity, devices, packages, and to providing superior applications support

We Provide Silicon Carbide Solutions

- » Silicon Carbide power devices
- » Silicon Carbide expertise—this is all we do
- » Application reference designs
- » Expert systems engineering support
- » Online simulation platform

TO LEARN MORE, VISIT US AT [WOLFSPEED.COM/POWER](https://www.wolfspeed.com/power)

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