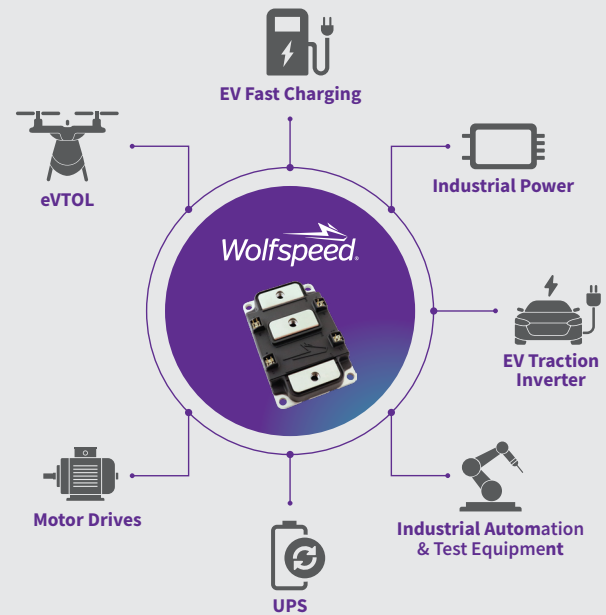




WOLFSPEED® XM3 SILICON CARBIDE HALF-BRIDGE POWER MODULES

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

Wolfspeed's 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 (Si_3N_4) power substrate to ensure mechanical robustness under extreme conditions. The XM3 is a perfect fit for demanding automotive applications such as traction and motor drives, EV fast chargers, power supplies, and industrial automation and testing equipment.



PRODUCT PORTFOLIO

Product SKU	Blocking Voltage (V)	Nominal Current (A)	$R_{DS(ON)}$ at 25°C (mΩ)	Description
CAB400M12XM3	1200	400	4.0	Half-Bridge, C3M™ Switching-Optimized MOSFETs
CAB425M12XM3	1200	425	3.2	Half-Bridge, C3M™ Switching -Optimized MOSFETs
CAB450M12XM3	1200	450	2.6	Half-Bridge, C3M™ Conduction-Optimized MOSFETs
EAB450M12XM3	1200	450	2.6	Automotive Grade, Half-Bridge, C3M™ Conduction-Optimized MOSFETs
CAB320M17XM3	1700	320	4.0	Half-Bridge, C3M™ 1700 V MOSFETs



FEATURES

Industry Standard 62 mm Footprint
Implements Conduction Optimized C3M™
Silicon Carbide MOSFET Technology
Silicon Nitride Ceramic Substrate and
Copper Baseplate



BENEFITS

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



APPLICATIONS

Motor & Traction Drives
EV Fast Charging
Industrial Automation & Testing
More Electric Aircraft / eVTOL
UPS
Energy Generation/Smart Grids/
Smart Energy

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FEATURED DESIGN TOOLS

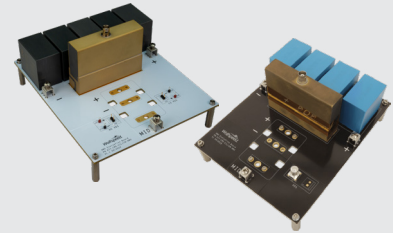
Wolfspeed offers time saving design support tools for its Silicon Carbide products to help you get up and running quickly. These evaluation tools help you learn best practices and give you a starting point for working with Wolfspeed's Silicon Carbide. All design files available are complimentary, so that you can quickly understand and implement our designs into your end-system and modify as-needed to fit your specific design requirements.



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 Kit for XM3 Half-Bridge
Power Modules for accurate
measurements of switching losses
[KIT-CRD-CIL17N-XM,
KIT-CRD-CIL12N-XM3]

Why Wolfspeed Silicon Carbide?

Wolfspeed invented the Silicon Carbide MOSFET

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

Wolfspeed is investing for the Future

#1 market share in Silicon Carbide technology, with the world's first, largest, and only 200 mm Silicon Carbide fabrication facility

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
 - » Visit forum.wolfspeed.com
- » SpeedFit™ online simulation platform

TO LEARN MORE, VISIT US AT **WOLFSPEED.COM**