25 kW FM3 THREE-PHASE INVERTER CRD25DA12N-FMC

ENABLING HIGH POWER DENSITY FOR UNSURPASSED EFFICIENCY

The 25 kW three-phase inverter demonstrates unparalleled system level power density and efficiency obtained by using Wolfspeed WolfPACK™ FM3 power module plaftorm. The Wolfspeed WolfPACK FM3 power module platform is optimized for Silicon Carbide MOSFETs in a high-density, low-inductance footprint, which reduces system level losses and simplifies the overall system design. The design is ideal for scaling up to higher power levels in industrial motor drives, power supplies, and renewable energy applications, or as the bi-directional active front end (AFE) stage for off-board electric vehicle (EV) fast charging.

SYSTEM SPECS

Maximum Operating Specifications

- Output power of 25 kW
- Switching frequency of 100 kHz
- Input voltage of 1000 VDC

Flexibile Operating Conditions

- DC to AC inverter
- General purpose controller
- Customizable firmware
- Integrated resolver feedback measurement
- Isolated CAN communication
- Spare GPIO and ADC header pins

Single Power Module Solution

- 21 mΩ six-pack module
- All Silicon Carbide MOSFETs
- Integrated temperature sensor
- Baseplateless package with isolated alumina substrate

FEATURES

Hardware Capable of Closed-Loop Control

Single WolfPACK Power Module Solution with Isolated Substrate

Complete Building Block for Multiple Power Electronic Topologies

BENEFITS

Improves System Efficiency and Power Density

Enables High Switching Frequency Operation with Low Switching Losses

Lower System-Level Cooling Requirements

APPLICATIONS

Solar & Energy Storage Systems

Smart Grid / Grid-Tied Distributed Generation

Off-Board Charging

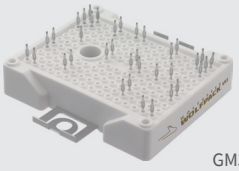
Industrial Motor Drives

UPS

WOLFSPEED WOLFPACK™ SILICON CARBIDE POWER MODULES

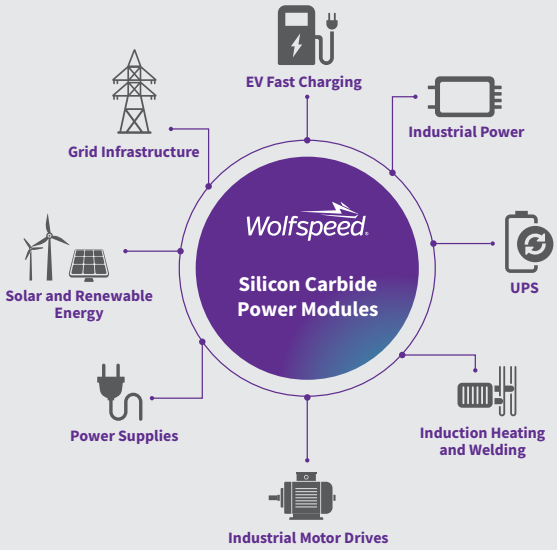
DELIVERING THE INDUSTRY'S HIGHEST POWER DENSITY IN ITS CLASS FOR UNSURPASSED EFFICIENCY

Wolfspeed's latest power modules enable multiple configurations across power levels for electric vehicle fast charging, industrial power, UPS, induction heating and welding, industrial motor drive, power supply, solar and renewable energy and grid infrastructure applications.



GM3

FM3



PRODUCT PORTFOLIO

Platform	$R_{DS(ON)}$ (mΩ) at 25°C	Product SKU	Description	Blocking Voltage (V)	Nominal Current (A)
G Platform std. 56.7mm	6	CAB006M12GM3	Half-Bridge, Al2O3 Substrate	1200	200
	8	CAB008M12GM3	Half-Bridge, Al2O3 Substrate	1200	146
F Platform std. 33.8mm	11	CAB011M12FM3	Half-Bridge, Al2O3 Substrate	1200	105
	16	CAB016M12FM3	Half-Bridge, Al2O3 Substrate	1200	78
	21	CCB021M12FM3	Six-Pack, Al2O3 Substrate	1200	51
	32	CCB032M12FM3	Six-Pack, Al2O3 Substrate	1200	40
	21	CBB021M12FM3	Full Bridge, Al2O3 Substrate	1200	50
	32	CBB032M12FM3	Full Bridge, Al2O3 Substrate	1200	39

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 200mm 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

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