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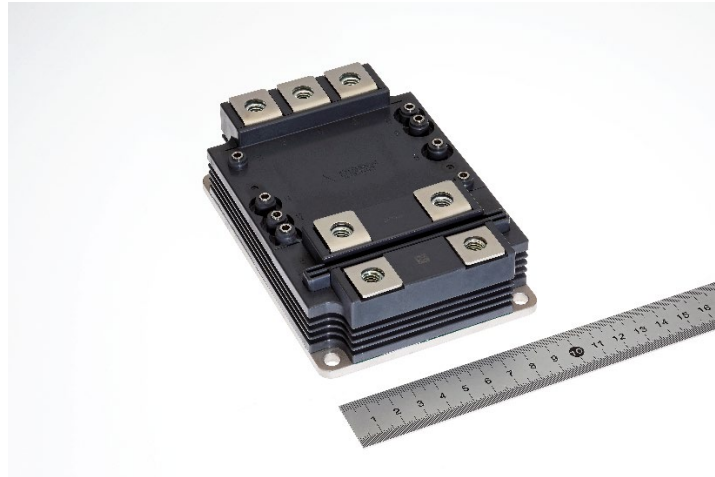
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Mitsubishi Electric to Ship Samples of SBD-embedded SiC-MOSFET Module

For extra powerful and efficient inverter systems used in railways, electric power systems and more



3.3kV SBD-embedded SiC-MOSFET module

TOKYO, May 8, 2023 – [Mitsubishi Electric Corporation](https://www.mitsubishielectric.com) (TOKYO: 6503) announced today that it will begin shipping samples of a new Schottky barrier diode (SBD)-embedded silicon carbide (SiC) metal-oxide-semiconductor field-effect transistor (MOSFET) module, featuring dual-type 3.3kV withstand voltage and 6.0kVrms dielectric strength, on May 31. The new module is expected to support superior power, efficiency and reliability in inverter systems for large industrial equipment such as railways and electric power systems. It will be exhibited at major trade shows, including Power Conversion Intelligent Motion (PCIM) Europe 2023 in Nuremberg, Germany from May 9 to 11.

Mitsubishi Electric has already released four full-SiC modules and two 3.3kV high-voltage dual-type LV100 modules. To further contribute to high power output, efficiency and reliability in inverters for large industrial equipment, the company will soon begin providing samples of its new module, which reduces switching loss as an SiC-MOSFET with a built-in SBD and an optimized package structure.

Product Features

- 1) ***SBD-embedded SiC-MOSFET reduces power loss and contributes to inverter output, efficiency and reliability***
 - SBD-embedded SiC-MOSFET and optimized package structure reduce switching loss by 91% compared to company's existing Si power module* and by 66% compared to existing SiC power module,** thereby reducing inverter power loss and contributing to higher output and efficiency.
 - SBD-embedded SiC-MOSFET and optimized current capacity improve inverter reliability.
- 2) ***Optimized terminal layout suited to various inverter configurations and capacities***
 - Optimized terminal layout enables parallel connection and supports various inverter configurations and capacities depending on the number of parallel connections.
 - Package structure with DC and AC main terminals in opposite poles helps to simplify circuit design.

Main Specifications

Type	FMF800DC-66BEW
Voltage rating	3.3kV
Current rating	800A
Isolation voltage	6.0kVrms
Connection	2in1
Dimensions (W×D×H)	100×140×40mm
Sample shipments	May 31 2023

This product falls under item number 2 (41)3 of Appended Table 1 of the Export Trade Control Order.

Power semiconductors are increasingly being utilized to efficiently convert electric power in order to lower the carbon footprint of global society, particularly in heavy industry, where these devices are used in power-conversion equipment such as inverters in railway traction systems and for DC power transmission. Expectations are particularly high for SiC power semiconductors because of their ability to significantly reduce power loss. In addition, power semiconductor modules are used in power conversion devices for large industrial equipment. The demand is expanding for high-power, high-efficiency power semiconductors that help to improve power-conversion efficiency.

Website

<https://www.MitsubishiElectric.com/semiconductors/>

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About Mitsubishi Electric Corporation

With more than 100 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Mitsubishi Electric enriches society with technology in the spirit of its “Changes for the Better.” The company recorded a revenue of 5,003.6 billion yen (U.S.\$ 37.3 billion*) in the fiscal year ended March 31, 2023. For more information, please visit www.MitsubishiElectric.com

*U.S. dollar amounts are translated from yen at the rate of ¥134=U.S.\$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2023

* 3.3kV/600A Si Power Module (CM600DA-66X)

** 3.3kV/750A Full-SiC Power Module (FMF750DC-66A)