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Mitsubishi Electric Develops HVIGBT Module X-Series New Dual

Next-gen high-power semiconductor module adopts standardized package for more flexibility

TOKYO, April 6, 2016 – [Mitsubishi Electric Corporation](http://www.mitsubishielectric.com) (TOKYO: 6503) announced today that it has developed a next-generation power module called X-Series New Dual HVIGBT module for traction and electric power applications in heavy industries. The new module features higher power density and efficiency for inverters, as well as a standardized package that allows for a flexible design of inverter systems.

Samples of the 3.3kV (LV100) version of the New Dual module will be available for shipping from March 2017. That will be followed by 1.7kV, 3.3kV (HV100), 4.5kV and 6.5kV versions in that order from 2018 onwards. The company also plans to add a lower-than 1.7kV version to the lineup in the future.

The modules will be exhibited at major trade shows including MOTORTECH JAPAN 2016 during TECHNO-FRONTIER 2016 in Japan from April 20 to 22, Power Conversion Intelligent Motion (PCIM) Europe 2016 in Nuremberg, Germany, from May 10 to 12, and PCIM Asia 2016 in Shanghai, China, from June 28 to 30.



LV100 package
6kV isolation



HV100 package
10kV isolation

High-power modules are key devices for controlling power conversion in electronic systems in a wide range of power classes from several kilowatts up to several megawatts. Until now, modules with a maximum voltage rating of up to 6.5kV and a maximum current rating of several thousand amperes have been commercially available.

The New Dual HVIGBT module will satisfy demand for efficient, high power density semiconductor devices with a range of current and voltage ratings, while contributing to higher power output and efficiency in inverters by adopting the latest seventh-generation IGBTs and RFC diodes. Meanwhile, the standardized package dimensions will allow manufacturers of industrial electronics to simplify design and secure multiple sources for inverters.

Product Features

1) *Contributing to high energy efficiency and high power density*

- The seventh-generation IGBTs adopting CSTBT™ and RFC diodes realize low power loss in inverter systems.
- Improved package technology and low parasitic inductance enable maximum performance.
- Three AC main terminals on the LV100 package spread and equalize current density, contributing to increased inverter capability.

2) *Common frame size supports more diverse inverter configurations and capacity*

- LV100 and HV100 modules have a common package design.
- Simple, standard connections allow for optimal system design and a range of current ratings.
- Lineup ranges from 1.7 to 6.5kV.
- Improved flexibility and scalability for system configuration.

3) *Contributing to higher design efficiency by the use of a standardized new package*

- Compatible with terminal and attachment locations of Infineon Technologies AG (Germany) products.

Product Lineup (plan)

Model	Package type	Isolation voltage	Collector-emitter voltage	Maximum current rating	Connection	Dimensions	Sample availability	
HVIGBT module	LV100	6kV	1.7kV	900A	2in1	W:100mm	2018 or later	
			3.3kV	450A		x	March 2017	
X-Series New Dual	HV100	10kV	3.3kV	450A		D:140mm	x	2018 or later
			4.5kV	330A				
			6.5kV	225A				

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About Mitsubishi Electric Corporation

With over 90 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. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,323.0 billion yen (US\$ 36.0 billion*) in the fiscal year ended March 31, 2015. For more information visit:

<http://www.MitsubishiElectric.com>

*At an exchange rate of 120 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2015