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## **Mitsubishi Electric to Launch LV100-type T-series IGBT Module for Industrial Use**

*Will reduce power consumption and size of renewable-energy power-supply systems, and more*

**TOKYO, August 25, 2020** – [Mitsubishi Electric Corporation](http://www.mitsubishielectric.com) (TOKYO: 6503) announced today the launch of its LV100-type T-series insulated-gate bipolar transistor (IGBT) module for industrial uses. The LV100 package, which achieves high versatility and high current density, has been used widely in railway and electric power applications and now has been adapted for industrial uses. It is expected to help reduce the size and power loss of power converters, specifically inverters used for renewable energy applications such as photovoltaic and wind-power generation, and also high-capacity motor drives. Sales will start this September.



LV100-type T-series IGBT module for industrial use

### **Product Features**

**1) Common-outline LV100 package adapted and optimized for industrial uses**

- The LV100 package, used widely in railway and electric power applications, has been adapted and optimized to help standardize packages for industrial applications.

**2) Industry-leading current density for small and more power-efficient inverters**

- The LV100 is equipped with the latest (7<sup>th</sup>-generation) IGBT, which uses the CSTBT<sup>TM1</sup> structure, and RFC (Relax Field of Cathode) diode<sup>2</sup> for low power loss. Industry-leading<sup>3</sup> current density of 17.14A/cm<sup>2</sup> is realized in this high-power IGBT module by optimizing the package structure. The package will help to miniaturize power converters, such as inverters for renewable energy power sources, and high-capacity motor drives (1700V/1200A and 1200V/1200A).

<sup>1</sup> Mitsubishi Electric's original IGBT structure using the carrier storage effect

<sup>2</sup> Mitsubishi Electric's original diode that optimizes electron mobility on the cathode side

<sup>3</sup> As of August 25, 2020 according to Mitsubishi Electric research

### 3) *Optimized internal structure for more reliable inverter systems*

- Integrating the insulated and copper-base parts in the structure, and optimizing the internal electrode structure, increases thermal cycle life<sup>4</sup> and achieves the industry's highest-class<sup>3</sup> low-package inductance, which will contribute to equipment reliability.
- The terminal layout is optimized for easy paralleling and flexible inverter configurations and capacities.
- Three AC main terminals help to spread and equalize current density for increased inverter capacity.

<sup>4</sup> Lifespan due to stress-strain caused by relatively gradual temperature change generated by system start and stop

#### **Sales Schedule**

Product	Model	Rating	Release date
LV100-type T-series IGBT module for industrial use	CM800DW-24T	1200V / 800A	September 2020
	CM1200DW-24T	1200V / 1200A	
	CM800DW-34T	1700V / 800A	
	CM800DW-34TA <sup>5</sup>	1700V / 800A	
	CM1200DW-34T	1700V / 1200A	

<sup>5</sup> CM800DW-34TA uses a large free-wheeling diode

In recent years, the demand for inverters incorporating large-capacity IGBT modules has increased in line with the growing use of renewable energy. Also, demands have risen for smaller inverter sizes and improved power conversion efficiency. Mitsubishi Electric's new module will help to lower the power consumption of power converters, such as inverters for renewable-energy applications, and high-capacity motor drives.

#### **Main Specifications**

Product	Model	Rated voltage	Rated current	Isolation voltage	Connection	Size
LV100-type T-series IGBT module for industrial use	CM800DW-24T	1200V	800A	4kV <sub>rms</sub>	2 in 1	100×140×40mm
	CM1200DW-24T		1200A			
	CM800DW-34T	1700V	800A			
	CM800DW-34TA <sup>5</sup>					
	CM1200DW-34T		1200A			

#### **Environmental Awareness**

These products are compliant with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) directives 2011/65/EU and 2015/863/EU.

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#### **About Mitsubishi Electric Corporation**

With nearly 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 corporate statement, "Changes for the Better," and environmental statement, "Eco Changes." The company recorded a revenue of 4,462.5 billion yen (U.S.\$ 40.9 billion\*) in the fiscal year ended March 31, 2020. For more information, please visit [www.MitsubishiElectric.com](http://www.MitsubishiElectric.com)

\*U.S. dollar amounts are translated from yen at the rate of ¥109=U.S.\$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2020