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Mitsubishi Electric to Launch New X-Series HVIGBTs and HVDIODEs

7 new models will meet demands for smaller, more robust inverters systems in large equipment

TOKYO, April 26, 2021 – <u>Mitsubishi Electric Corporation</u> (TOKYO: 6503) announced today it has developed seven new X-Series products—two HVIGBTs and five HVDIODEs—boosting the X-Series lineup to 24 power semiconductor modules suitable for increasingly large-capacity, small-sized inverters used in traction motors, DC-power transmitters, large industrial machinery and other high-voltage, large-current equipment. The models will be released sequentially beginning July 1. The modules will be exhibited at "PCIM Europe digital days 2021," the digital version of this power conversion intelligent motion trade show, from May 3 to 7.



* HVDIODE (not shown) has no auxiliary terminals

Product Features

1) Expanded lineup accommodates wide-ranging inverter capacities

- 24-model X-Series lineup (two new HVIGBTs and five new HVDIODEs) now ranges from 1.7kV to 6.5kV to accommodate wide range of inverter capacities in large industrial equipment.
- 2) Increase in rated current to support larger-capacity, smaller-sized inverters
 - Seventh-generation CSTBTTM chip and RFC diode chips help to reduce power loss and thermal resistance, resulting in a higher rated current to support larger-capacity inverters.
 - Compared to existing CM900HC-90H, new CM900HC-90X, etc. are 33% smaller but achieve the same voltage and current ratings.

3) Compatible models simplify parts replacement and inverter development

- CM2400HCB-34X, etc. offer same compatibility specifications as well as dimensions as existing CM2400HC-34H HVIGBT to support faster development of new inverters.

Sales Schedule

| Туре | Model | Rating | Shipment | |
|----------------------------|---------------|-------------|-------------|--|
| HVIGBT module X-Series | CM2400HCB-34X | 1.7kV/2400A | | |
| | СМ900НС-90Х | 4.5kV/900A | | |
| HVDIODE module X-Series | RM1200DC-34X | 1.7kV/1200A | | |
| | RM1200DC-66X | 3.3kV/1200A | From July 1 | |
| | RM1500DC-90X | 4.5kV/1500A | | |
| | RM900DG-90X | | | |
| | RM1500DG-90X | 4.5kV/1500A | | |

Main Specifications (new modules in bold)

| Product | Model | Collector- emitter voltage | Rating current | Isolation voltage | Dimensions (WxDxH) |
|----------------------------|---------------------|----------------------------------|----------------|---------------------------|--------------------------|
| X-Series HVIGBT module | CM2400HC-34X | 1.7 kV | 2400A | 6kV _{rms} | 140 x 130 x 38 mm |
| | CM2400HCB-34X | | <u>2400A</u> | <u>6kV_{rms}</u> | <u>140 x 190 x 38 mm</u> |
| | CM1200HC-66X | 3.3 kV | 1200A | 6kV _{rms} | 140 x 130 x 38 mm |
| | CM1200HCB-66X | | 1200A | 6kV _{rms} | 140 x 190 x 38 mm |
| | CM1800HC-66X | | 1800A | 6kV _{rms} | 140 x 190 x 38 mm |
| | CM1800HG-66X | | 1800A | $10 k V_{rms}$ | 140 x 190 x 48 mm |
| | <u>СМ900НС-90Х</u> | 4.5 kV | <u>900A</u> | <u>6kV_{rms}</u> | <u>140 x 130 x 38 mm</u> |
| | CM1350HC-90X | | 1350A | 6kV _{rms} | 140 x 190 x 38 mm |
| | CM1500HC-90XA | | 1500A | 6kV _{rms} | 140 x 190 x 38 mm |
| | CM900HG-90X | | 900A | 10kV _{rms} | 140 x 130 x 48 mm |
| | CM1000HG-90X | | 1000A | $10 k V_{rms}$ | 140 x 130 x 48 mm |
| | CM1350HG-90X | | 1350A | 10kV _{rms} | 140 x 190 x 48 mm |
| | CM1500HG-90X | | 1500A | $10 k V_{rms}$ | 140 x 190 x 48 mm |
| | CM900HG-130X | 6.5 kV | 900A | $10 k V_{rms}$ | 140 x 190 x 48 mm |
| | CM1000HG-130XA | | 1000A | 10kV _{rms} | 140 x 190 x 48 mm |
| Product | Model | Collector- emitter voltage | Rating current | Isolation voltage | Dimensions (WxDxH) |
| X-Series HVDIODE module | <u>RM1200DC-34X</u> | 1.7 kV | <u>1200A</u> | <u>6kVrms</u> | <u>140 x 130 x 38 mm</u> |
| | RM600DC-66X | 3.3 kV | 600A | $6 k V_{rms}$ | 140 x 130 x 38 mm |
| | <u>RM1200DC-66X</u> | | <u>1200A</u> | <u>6kV_{rms}</u> | <u>140 x 130 x 38 mm</u> |
| | RM1200DG-66X | | 1200A | $10 kV_{rms}$ | 140 x 130 x 48 mm |
| | RM450DG-90X | 4.5 kV | 450A | 10kV _{rms} | 140 x 130 x 48 mm |
| | <u>RM900DG-90X</u> | | <u>900A</u> | <u>10kV_{rms}</u> | <u>140 x 130 x 48 mm</u> |
| | <u>RM1500DC-90X</u> | | <u>1500A</u> | <u>6kVrms</u> | <u>140 x 130 x 38 mm</u> |
| | <u>RM1500DG-90X</u> | | <u>1500A</u> | <u>10kV_{rms}</u> | <u>140 x 130 x 48 mm</u> |
| | RM1000DG-130XA | 6.5 kV | 1000A | 10kV _{rms} | 140 x 130 x 48 mm |

<X-Series Package Lineup>



140mm x 130mm Isolation voltage 6kVrms (HVIGBT/HVDIODE*)

Comparisons with Existing Model (Features)



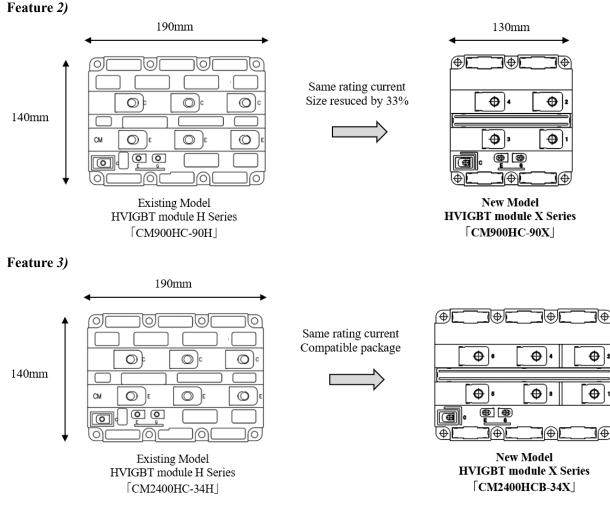
140mm x 130mm Isolation voltage 10kVrms (HVIGBT/HVDIODE*)



140mm x 190mm Isolation voltage 6kVrms (HVIGBT)



140mm x 190mm Isolation voltage 10kVrms (HVIGBT)



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About Mitsubishi Electric Corporation

With 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 4,462.5 billion yen (U.S.\$ 40.9 billion*) in the fiscal year ended March 31, 2020. For more information, please visit <u>www.MitsubishiElectric.com</u>

*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