

Mitsubishi Electric to Launch Power Semiconductor Modules for 3-level Inverter 12/25/2014

Enhanced low-power consumption and miniaturization for large-capacity industrial equipment

Mitsubishi Electric Corporation (TOKYO: 6503) announced today a new family of power semiconductor modules optimized for 3-level inverters that will enhance low-power consumption and size reduction for large-capacity industrial equipment in the 125kW–500kW class and above. Sales will begin in June 2015.



CM400ST-24S1



CM1400HA-24S / RM1400HA-24S
CM1000HA-34S / CM500C2Y-24S

Product Features

1) About 30% reduction in power consumption owing to 3-level control

- Enable for use in 3-level inverters to lower the power consumption and reduce the size of large-capacity industrial equipment. - About 30% reduction* in power consumption compared with mainstream 2-level inverters.

* Comparison of 3-level inverter with our new products and 2-level inverter with our current products

2) Low inductance due to new packages

-Optimize IGBT specifications using carrier-stored trench-gate bipolar transistor (CSTBTTM) structure for 3-level inverters. -Reduce circuit inductance in single and parallel operations due to new packages** devised at the terminal layout and form. ** 1in1/2in1 type: 130mm x 67mm; 4in1 type: 115mm x 82mm

3) Lineup offers both downsizing and diverse circuit configurations for inverters

- For mid-capacity inverters of above 125kW, downsizing is achieved with a narrow-design 4in1 model, which also offers low loss. - For larger inverters of above 500kW, the 1in1 and 2in1 models offer a wide variety of circuit layouts.

Sale Schedule

Product	Model	Specification	Shipment
Power semiconductor modules for 3-level inverter	CM400ST-24S1	400A / 1200V 4in1, IGBT module	June, 2015
	CM1400HA-24S	1400A / 1200V 1in1, IGBT module	
	RM1400HA-24S	1400A / 1200V 1in1, Diode module	
	CM1000HA-34S	1000A / 1700V 1in1, IGBT module	July, 2015
	CM500C2Y-24S	500A / 1200V 2in1 Emitter common, IGBT module	August, 2015

In recent years, there has been a growing demand for 3-level inverters that combine reduced power loss and increased power capacity for power conditioners used in wind and solar power as well as industrial equipment such as an uninterruptible power supplies (UPS). Attention has focused on power semiconductor modules, key devices in inverters, that offer low power consumption, reduced size and low inductance to help maximize 3-level inverter performance. Mitsubishi Electric will launch its new family of power semiconductor modules optimized for 3-level inverters to meet these demands by adopting new packages that help to reduce inductance, thereby contributing to reduced power consumption and downsizing in large-capacity industrial equipment.

Main Specifications

Target application	Model	Module type	Specification	Connection	Dimensions WxD (mm)
125–500kW Inverters	CM400ST-24S1	IGBT	400A/1200V	4in1	115×82
	CM1400HA-24S	IGBT	1400A/1200V	1in1	130×67
	RM1400HA-24S	Diode	1400A/1200V	1in1	130×67
500kW– Inverters	CM1000HA-34S	IGBT	1000A/1700V	1in1	130×67
	CM500C2Y-24S	IGBT	500A/1200V	2in1	130×67

Environmental Awareness

These products are compliant with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS).