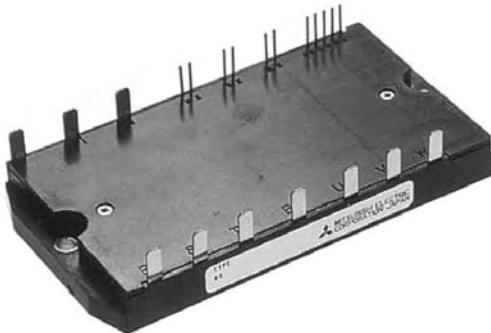


**CM50MD-12H**

- $I_c$  ..... 50A
- $V_{CES}$  ..... 600V
- Insulated Type
- CIB Module
- 3φ Inverter+3φ Converter+Brake
- UL Recognized

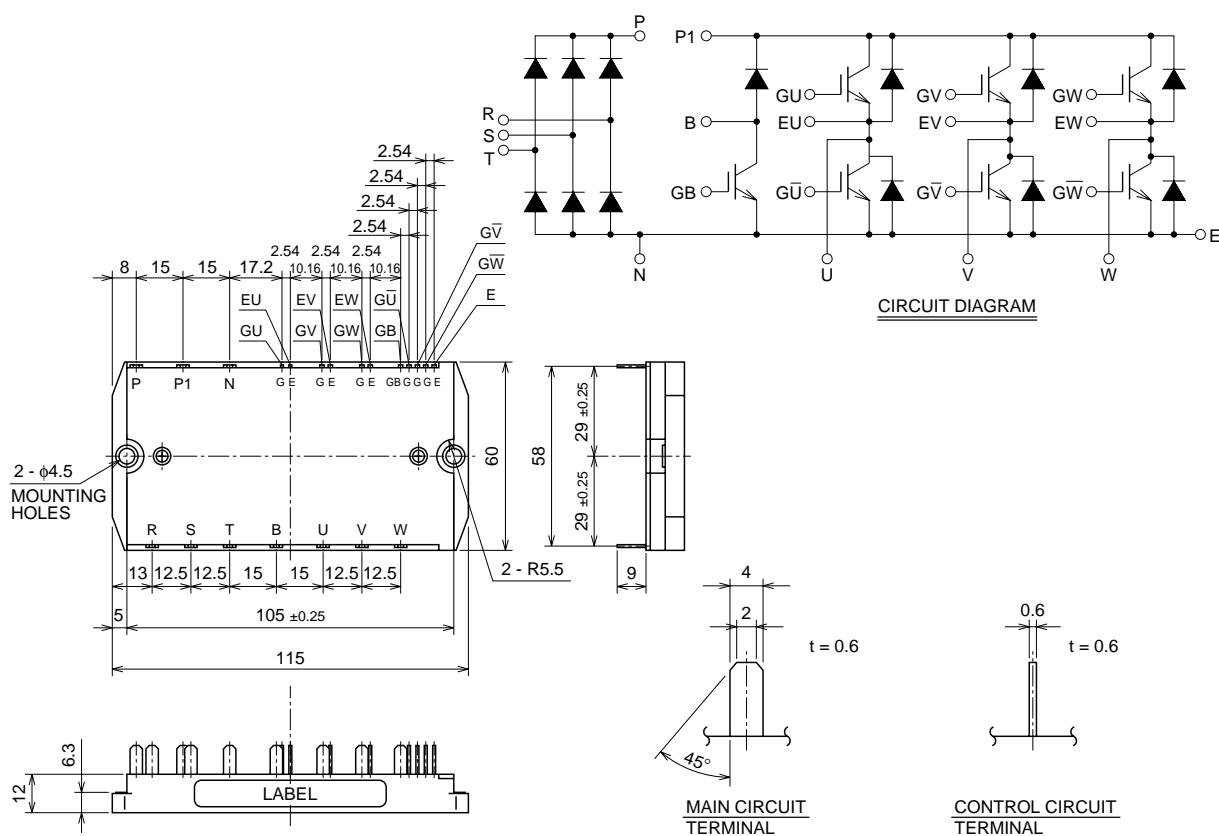
Yellow Card No. E80276 (N)  
File No. E80271

**APPLICATION**

AC & DC motor controls, General purpose inverters, Servo controls, NC, Robotics

**OUTLINE DRAWING & CIRCUIT DIAGRAM**

Dimensions in mm



**CM50MD-12H**

**MEDIUM POWER SWITCHING USE  
INSULATED TYPE**

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**MAXIMUM RATINGS ( $T_j = 25^\circ\text{C}$ )  
INVERTER PART**

Symbol	Parameter	Condition	Rating	Unit
V <sub>CES</sub>	Collector-emitter voltage	G – E Short	600	V
V <sub>GES</sub>	Gate-emitter voltage	C – E Short	$\pm 20$	V
I <sub>C</sub>	Collector Current	T <sub>C</sub> = 25°C	50	A
I <sub>CM</sub>		PULSE (Note. 2)	100	A
I <sub>E</sub> (Note. 1)	Emitter Current	T <sub>C</sub> = 25°C	50	A
I <sub>EM</sub> (Note. 1)		PULSE (Note. 2)	100	A
P <sub>C</sub> (Note. 3)	Maximum collector dissipation	T <sub>f</sub> = 25°C	104	W

**BRAKE PART**

Symbol	Parameter	Condition	Rating	Unit
V <sub>CES</sub>	Collector-emitter voltage	G – E Short	600	V
V <sub>GES</sub>	Gate-emitter voltage	C – E Short	$\pm 20$	V
I <sub>C</sub>	Collector Current	T <sub>C</sub> = 25°C	50	A
I <sub>CM</sub>		PULSE (Note. 2)	100	A
P <sub>C</sub> (Note. 3)	Maximum Collector dissipation	T <sub>f</sub> = 25°C	104	W
V <sub>RRM</sub>	Repetitive peak reverse voltage	Clamp diode part	600	V
I <sub>FM</sub> (Note. 3)	Forward current	Clamp diode part	50	A

**CONVERTER PART**

Symbol	Parameter	Condition	Rating	Unit
V <sub>RRM</sub>	Repetitive peak reverse voltage		800	V
E <sub>a</sub>	Recommended AC input voltage		220	V
I <sub>O</sub>	DC output current	3φ rectifying circuit	50	A
I <sub>FSM</sub>	Surge (non-repetitive) forward current	1 cycle at 60Hz, peak value Non-repetitive	500	A
I <sup>2</sup> t	I <sup>2</sup> t for fusing	Value for one cycle of surge current	1.0×10 <sup>3</sup>	A <sup>2</sup> s

**COMMON RATING**

Symbol	Parameter	Condition	Rating	Unit
T <sub>j</sub>	Junction temperature		-40 ~ +150	°C
T <sub>stg</sub>	Storage temperature		-40 ~ +125	°C
V <sub>iso</sub>	Isolation voltage	AC 1 min.	2500	V
—	Mounting torque	Mounting M4 screw	0.98 ~ 1.47	N·m
—	Weight	Typical value	100	g