

PM30CSJ060

Figure 1: Mechanical drawing of the VMEC-10000 package. The top view shows dimensions A, C, D, N, Q, R, S, V, W, and pin numbers 1 through 23. The side view shows dimensions H, J, L, M, E, B, K, P, T, U. The bottom view shows dimensions A, C, D, N, Q, R, S, V, W, and pin numbers 1 through 23. The package is a 20-pin DIP package with a central notch. The pin numbers are 1 through 23, with 19, 20, 21, and 22 being the central pins. The package is labeled 'VMEC-10000'.



Mitsubishi Intelligent Power Modules are isolated base modules designed for power switching applications operating at frequencies to 20kHz. Built-in control circuits provide optimum gate drive and protection for the IGBT and free-wheel diode power devices.

- ☐ Complete Output Power Circuit
- ☐ Gate Drive Circuit
- ☐ Protection Logic
 - Short Circuit
 - Over Current
 - Over Temperature
 - Under Voltage

- ☐ Inverters
- ☐ UPS
- ☐ Motion/Servo Control
- ☐ Power Supplies

Example: Select the complete part number from the table below -i.e. PM30CSJ060 is a 600V, 30 Ampere Intelligent Power Module.

Type	Current Rating Amperes	V _{CES} Volts (x 10)
PM	30	60

Outline Drawing and Circuit Diagram

Dimensions	Inches	Millimeters
A	3.72±0.04	94.5±1.0
B	3.33±0.02	84.5±0.5
C	2.99	76.0
D	2.300±0.02	58.42±0.5
E	2.20±0.02	56.0±0.5
F	1.73±0.04	44.0±1.0
G	1.32±0.03	33.6±0.8
H	1.01	25.7
J	0.75	19.0
K	0.71±0.04	18.0±1.0

Dimensions	Inches	Millimeters
L	0.561	14.25
M	0.55±0.01	14.0±0.25
N	0.513	13.04
P	0.31±0.02	8.0±0.5
Q	0.300	7.62
R	0.20 Rad.	Rad. 5.0
S	0.18 Dia.	Dia. 4.5
T	0.14	3.5
U	0.13±0.02	3.2±0.5
V	0.100±0.01	2.54±0.25

PM30CSJ060

FLAT-BASE TYPE
INSULATED PACKAGE

Absolute Maximum Ratings, $T_j = 25^{\circ}\text{C}$ unless otherwise specified

	Symbol	Ratings	Units
Power Device Junction Temperature	T_j	-20 to 150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-40 to 125	$^{\circ}\text{C}$
Case Operating Temperature	T_C	-20 to 100	$^{\circ}\text{C}$
Mounting Torque, M4 Mounting Screws	—	0.98 ~ 1.47	N · m
Module Weight (Typical)	—	60	Grams
Supply Voltage Protected by OC and SC ($V_D = 13.5 - 16.5\text{V}$, Inverter Part)	$V_{\text{CC(prot.)}}$	400	Volts
Isolation Voltage (Main Terminal to Baseplate, AC 1 min.)	V_{iso}	2500	Vrms

Control Sector

Supply Voltage (Applied between $V_{\text{UP1}}-V_{\text{UPC}}$, $V_{\text{VP1}}-V_{\text{VPC}}$, $V_{\text{WP1}}-V_{\text{WPC}}$, $V_{\text{N1}}-V_{\text{NC}}$)	V_D	20	Volts
Input Voltage (Applied between U_P-V_{UPC} , V_P-V_{VPC} , W_P-V_{WPC} , $U_N \cdot V_N \cdot W_N-V_{\text{NC}}$)	V_{CIN}	20	Volts
Fault Output Supply Voltage (Applied between $U_{\text{FO}}-V_{\text{UPC}}$, $V_{\text{FO}}-V_{\text{VPC}}$, $W_{\text{FO}}-V_{\text{WPC}}$, F_O-V_{NC})	V_{FO}	20	Volts
Fault Output Current (Sink Current of U_{FO} , V_{FO} , W_{FO} and F_O Terminal)	I_{FO}	20	mA

IGBT Inverter Sector

Collector-Emitter Voltage ($V_D = 15\text{V}$, $V_{\text{CIN}} = 15\text{V}$)	V_{CES}	600	Volts
Collector Current, ($T_C = 25^{\circ}\text{C}$)	I_C	30	Amperes
Peak Collector Current, ($T_C = 25^{\circ}\text{C}$)	I_{CP}	60	Amperes
Supply Voltage (Applied between P - N)	V_{CC}	450	Volts
Supply Voltage, Surge (Applied between P - N)	$V_{\text{CC(surge)}}$	500	Volts
Collector Dissipation	P_C	83	Watts