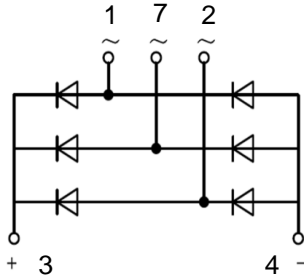


PRODUCT FEATURES

- Low Forward Voltage, High Surge Current Capability
- Package With Screw Terminals
- Isolation Voltage 3000 V~
- Blocking Voltage Up to 1600 V

APPLICATIONS

- Field Supply For DC Motors
- Supplies For DC Power Equipmenters
- Input Rectifiers For PWM Inverter
- Battery DC Power Supplies



Module Type

Module Type	V_{RRM} Repetitive Peak Reverse Voltage	V_{RSM} Non-Repetitive Peak Reverse Voltage	Unit
MMD50L160X	1600	1700	V

ABSOLUTE MAXIMUM RATINGS ($T_C=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter/Test Conditions		Values	Unit	
I_D	Output Current(D.C.)	Three phase, full wave, $T_C=105^\circ\text{C}$	50	A	
I_{FSM}	Non-Repetitive Surge Forward Current	1/2 cycle, 50HZ, peak value, $T_J=45^\circ\text{C}$	500		
		1/2 cycle, 60HZ, peak value, $T_J=45^\circ\text{C}$	550		
I^2t	For Fusing	1/2 cycle, 50HZ, peak value, $T_J=45^\circ\text{C}$	1250	A^2S	
		1/2 cycle, 60HZ, peak value, $T_J=45^\circ\text{C}$	1255		
P_D	Power Dissipation		625	W	
T_{jmax}	Max. Junction Temperature		150	$^\circ\text{C}$	
T_{STG}	Storage Temperature Range		-40 to +150	$^\circ\text{C}$	
V_{ISO}	Isolation Breakdown Voltage	AC, 50/60Hz(R.M.S), $t=1\text{minute}$, $I_{ISOL} \leq 1\text{mA}$	3000	V	
Torque	Module to Sink	Recommended (M5)	2.5~5	Nm	
R_{thJC}	Junction to Case Thermal Resistance		per diode(DC current)	1.2	K/W
			per module	0.2	
Weight			78	g	

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MMD50L160X

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter/Test Conditions	Min.	Typ.	Max.	Unit
I_{RM}	Maximum Reverse Leakage Current	$V_R = V_{RRM}$		0.5	mA
		$V_R = V_{RRM}, T_J = 150^\circ\text{C}$		3	
V_F	Forward Voltage Drop			1.4	V
V_{TO}	For power loss calculations only, $T_J = 150^\circ\text{C}$			0.95	V
r_T				7.2	m Ω

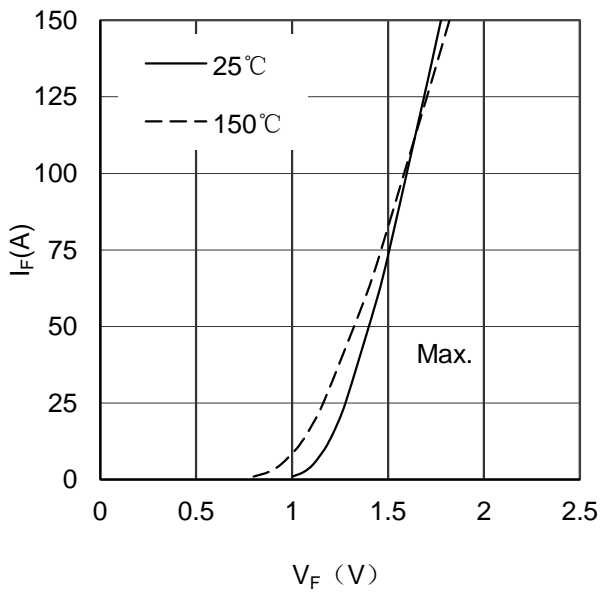


Figure 1. Forward Voltage Drop vs Forward Current

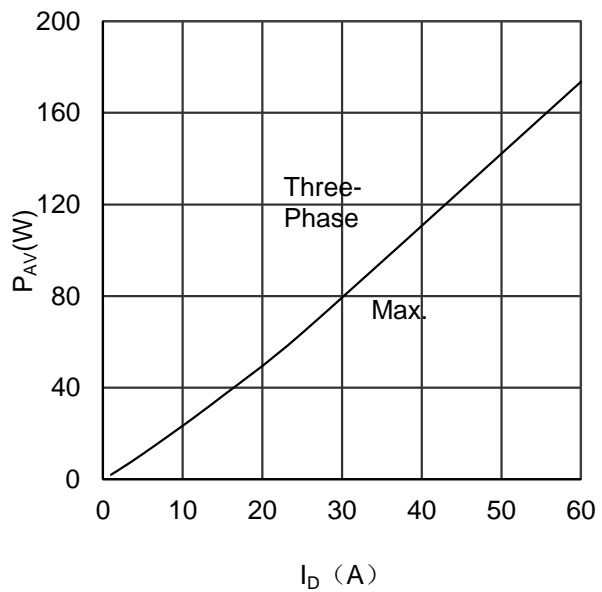


Figure 2. Power dissipation vs Output Current

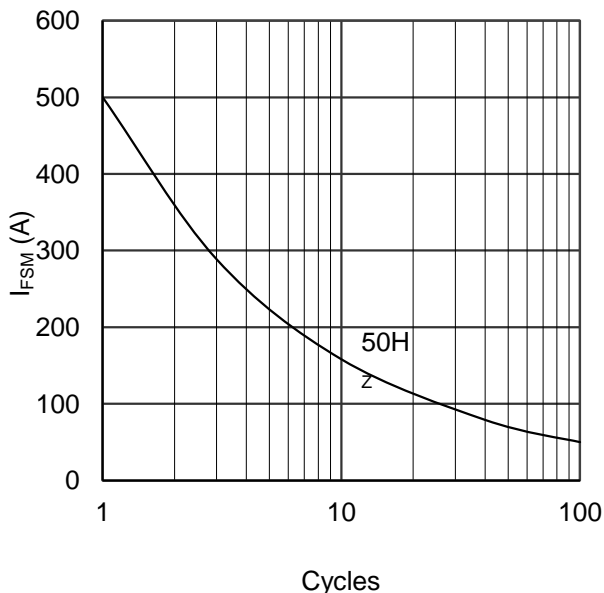


Figure 3. Max Non-Repetitive Forward Surge Current

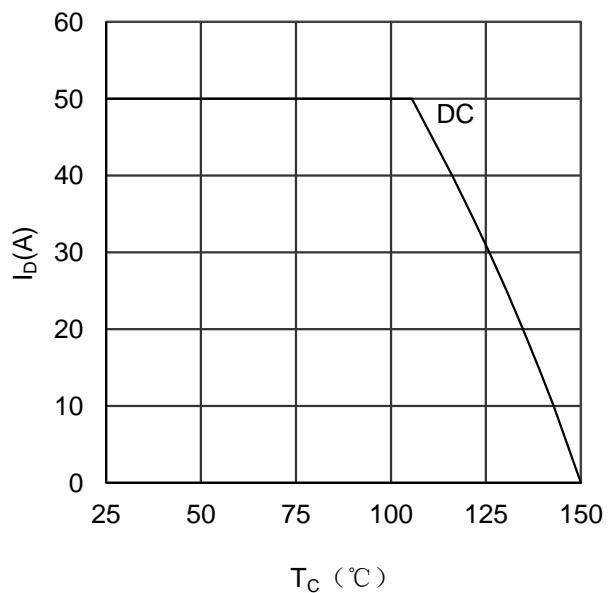
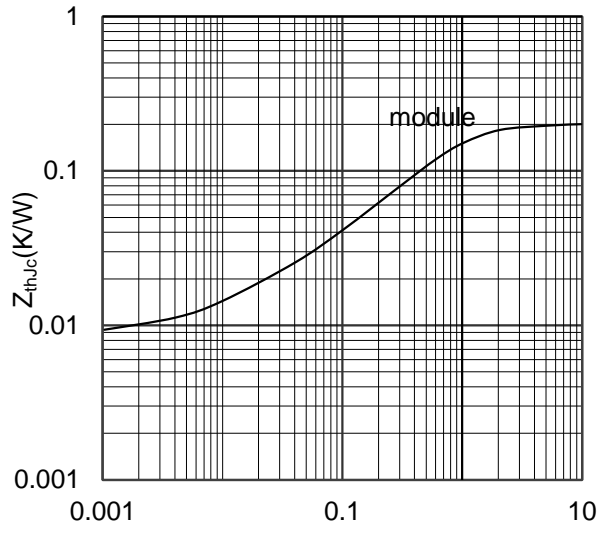
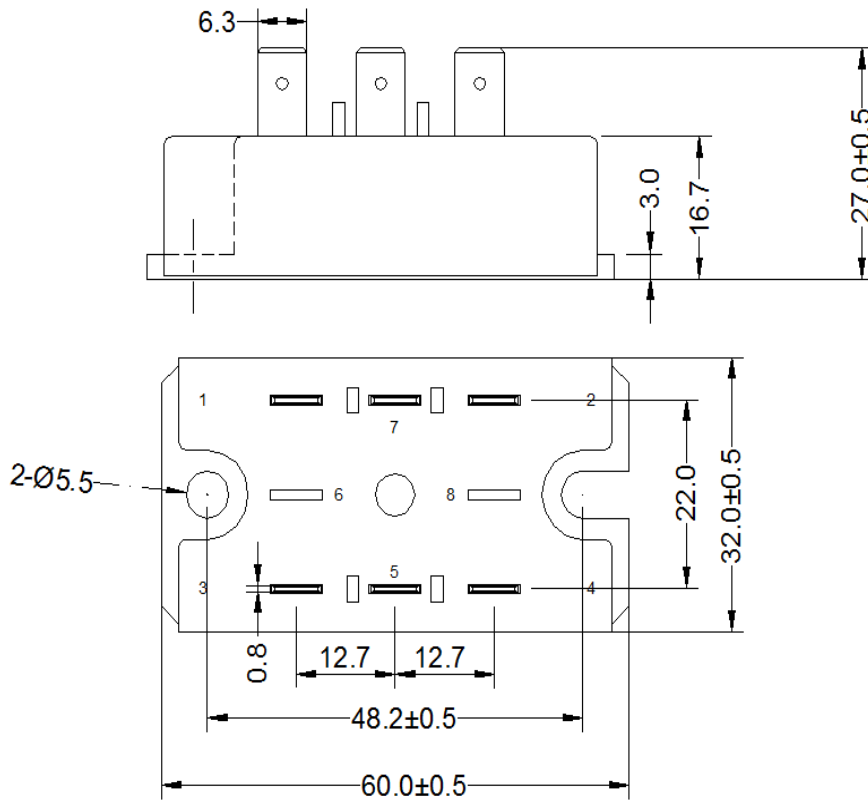


Figure 4. Output current vs Case temperature



Rectangular Pulse Duration(S)
Figure 5. Transient Thermal Impedance



Dimensions in (mm)
Figure 6. Package Outline