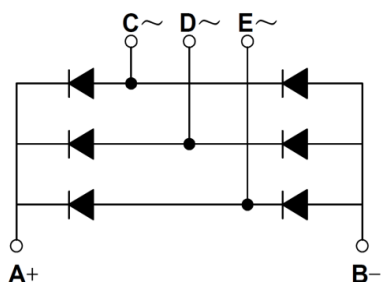


PRODUCT FEATURES

- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current
- Low Inductance Package



APPLICATIONS

- Field Supply For DC Motors
- Line Rectifiers For Transistorized AC Motor Controllers
- Non-controllable Rectifiers For AC/DC Converter



Module Type

Module Type	V_{RRM} (Repetitive Peak Reverse Voltage)	V_{RSM} (Non-Repetitive Peak Reverse Voltage)	Unit
MMD250FB120X	1200	1300	V
MMD250FB140X	1400	1500	
MMD250FB160X	1600	1700	
MMD250FB180X	1800	1900	

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, half wave, $T_c = 90^\circ\text{C}$	250	A
I_{FSM}	Non-Repetitive Surge Forward Current	1/2 cycle, 50HZ, peak value, $T_c = 45^\circ\text{C}$	2500	
		1/2 cycle, 60HZ, peak value, $T_c = 45^\circ\text{C}$	2700	
I^2t	For Fusing	1/2 cycle, 50HZ, peak value, $T_c = 45^\circ\text{C}$	31.2	KA^2S
		1/2 cycle, 60HZ, peak value, $T_c = 45^\circ\text{C}$	30.2	
P_D	Power Dissipation		1560	W
T_J	Junction Temperature		-40 to +150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range		-40 to +125	$^\circ\text{C}$
V_{ISO}	Isolation Breakdown Voltage	AC, 50Hz(R.M.S), $t=1\text{minute}$	3000	V
Torque	Module to Sink	Recommended (M6)	3~5	Nm
Torque	Module Electrodes	Recommended (M6)	3~5	Nm
R_{thJC}	Junction to Case Thermal Resistance	per diode	0.45	K /W
		per module	0.08	
Weight			210	g

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
		$V_R = V_{RRM}, T_J = 125^\circ\text{C}$		10	
V_F	Forward Voltage Drop	$I_F = 250\text{A}$		1.55	V
V_{TO}	For power loss calculations only, $T_J = 125^\circ\text{C}$			0.85	V
r_T				2.7	m Ω

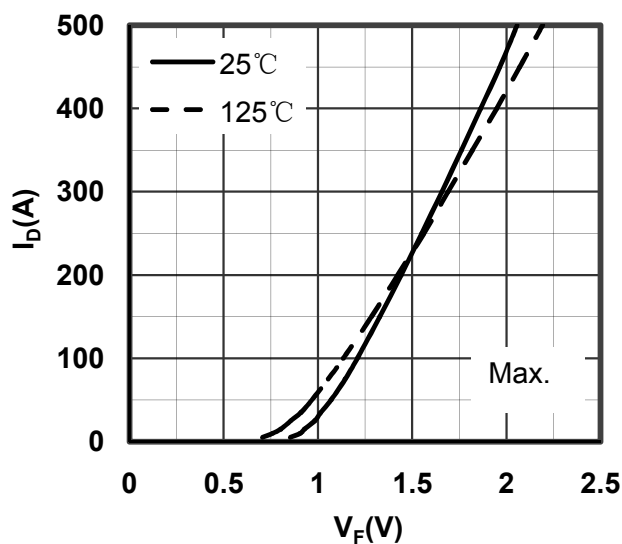


Figure 1. Forward Voltage Drop vs Output Current

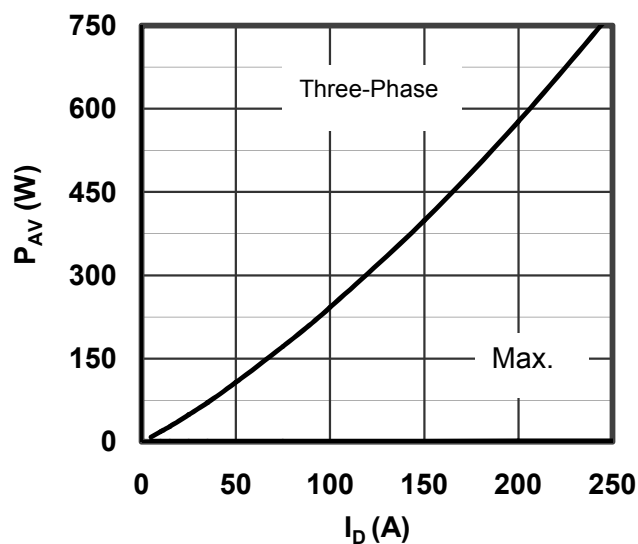


Figure 2. Power dissipation vs Output Current

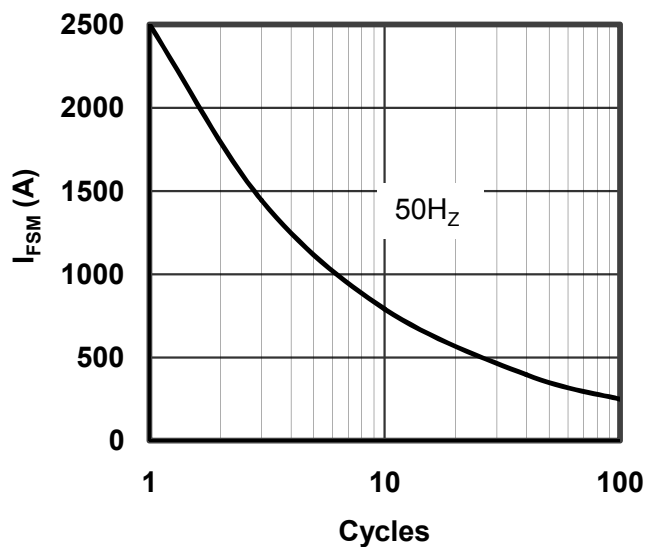


Figure 3. Max Non-Repetitive Forward Surge Current

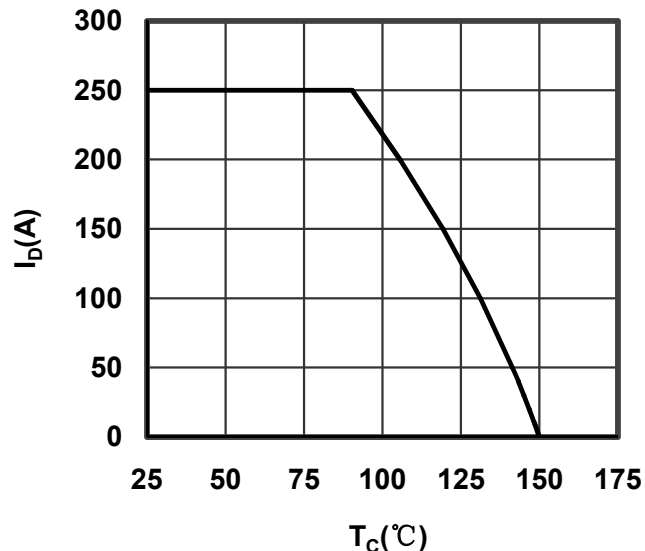


Figure 4. Output current vs Case temperature

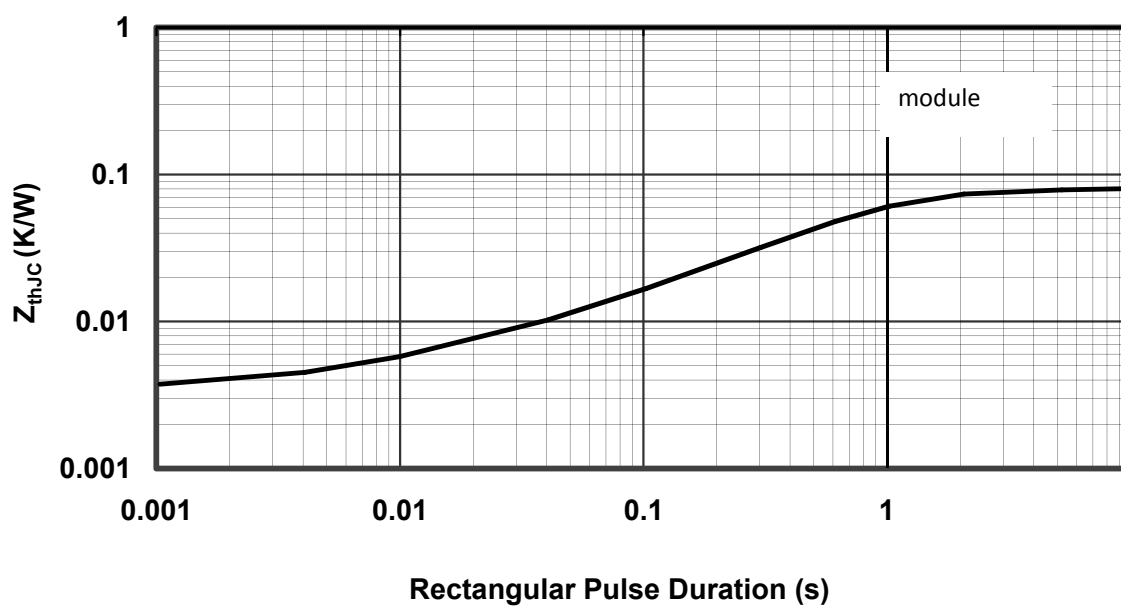
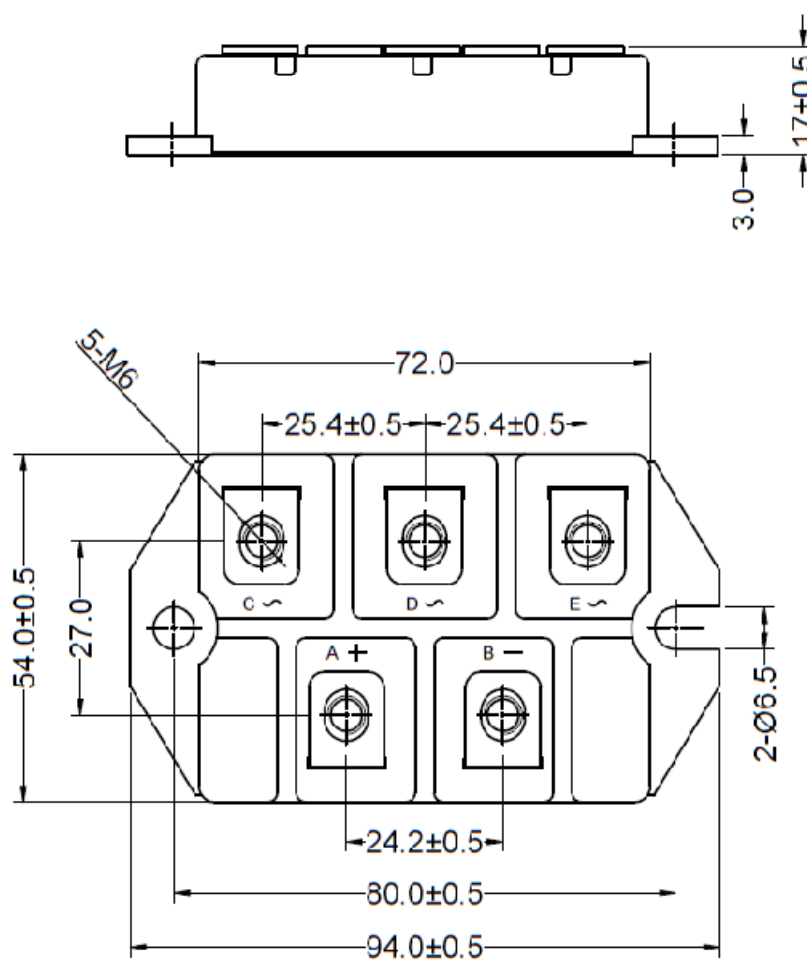


Figure 5. Transient Thermal Impedance



Dimensions in (mm)
Figure 6. Package Outline