MMD200FB

200A Three-Phase Rectifier Bridge Module

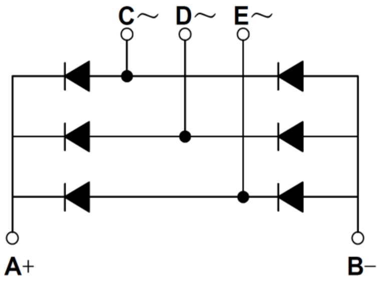
June 2015 Version 01 RoHS Compliant

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
MMD200FB120X	1200	1300	V
MMD200FB140X	1400	1500	
MMD200FB160X	1600	1700	
MMD200FB180X	1800	1900	

ABSOLUTE MAXIMUM RATINGS

T_C =25°C unless otherwise specified

Symbol	Parameter/Test Conditions		Values	Unit
I_D	Output Current(D.C.)	Three phase, half wave, Tc= 95℃	200	A
I_{FSM}	Non-Repetitive Surge Forward Current	1/2 cycle, 50HZ, peak value, Tc =45℃	2000	
		1/2 cycle, 60HZ, peak value, Tc =45℃	2200	
I^2t	For Fusing	1/2 cycle, 50HZ, peak value ,Tc =45℃	20.0	KA^2S
		1/2 cycle, 60HZ, peak value, Tc =45℃	20.1	
P_D	Power Dissipation		1389	W
T_J	Junction Temperature		-40 to +150	℃
T_{STG}	Storage Temperature Range		-40 to +125	℃
V_{ISO}	Isolation Breakdown Voltage	AC, 50Hz(R.M.S), t=1minute	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	0.54	K /W
		per module	0.09	
Weight			210	g

ELECTRICAL CHARACTERISTICS

T_C=25°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℃			10	
V_F	Forward Voltage Drop	I_F=200A			1.45	V
V_{TO}	For power loss calculations only , T_J = 125℃				0.85	V
r_T					3	mΩ

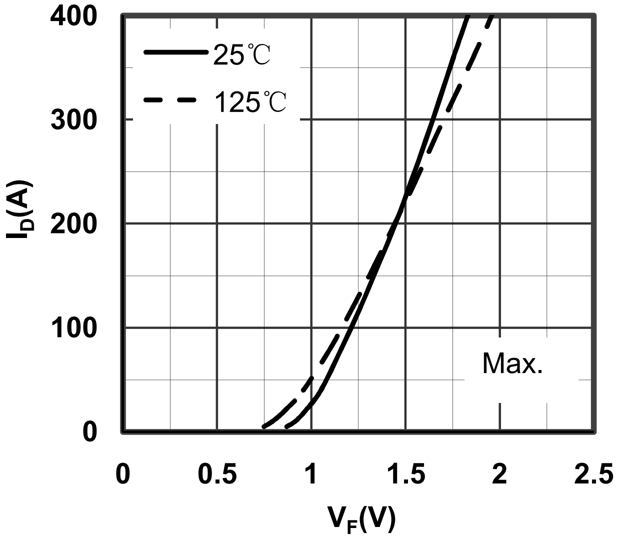


Figure 1. Forward Voltage Drop vs Output Current

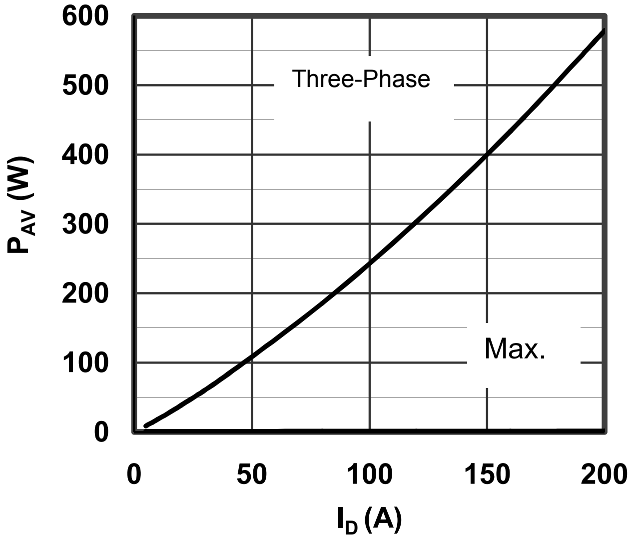


Figure 2. Power dissipation vs Output Current

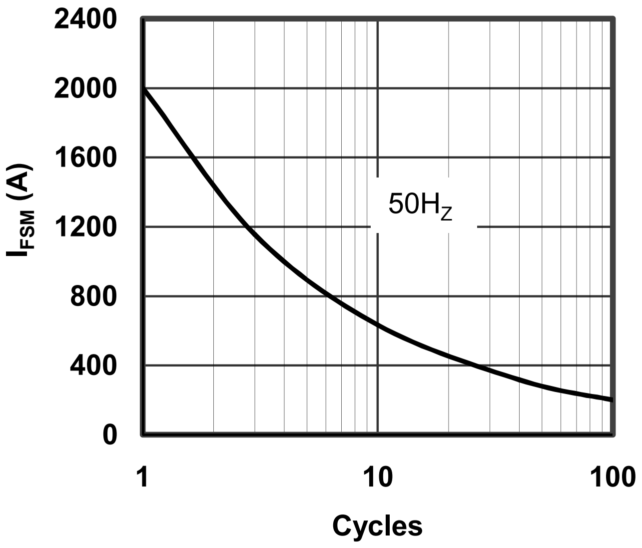


Figure 3. Max Non-Repetitive Forward Surge Current

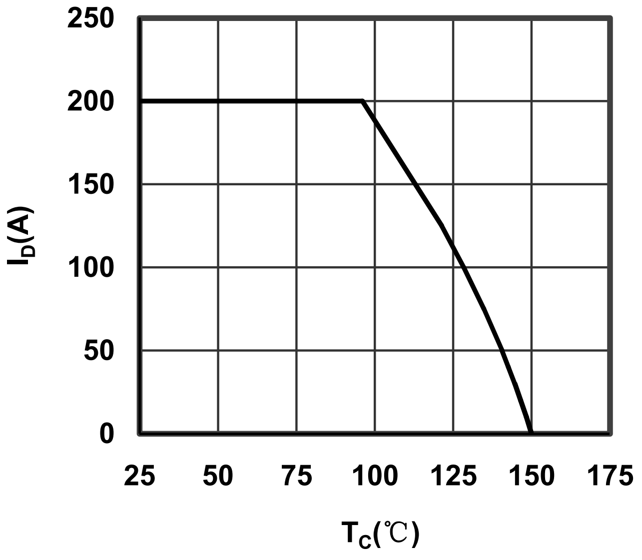


Figure 4. Output current vs Case temperature

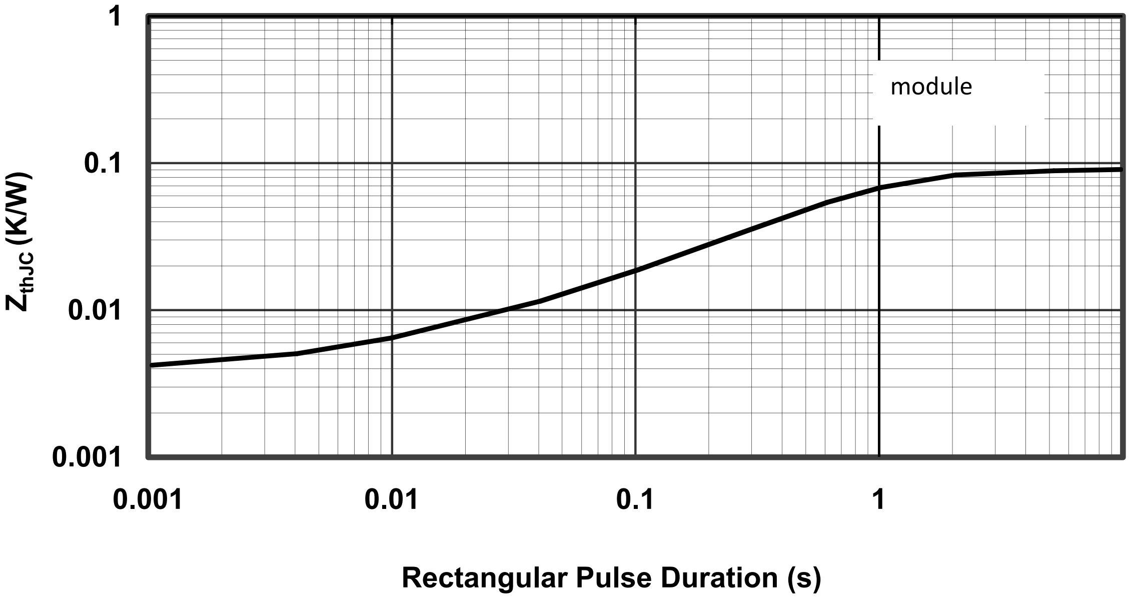
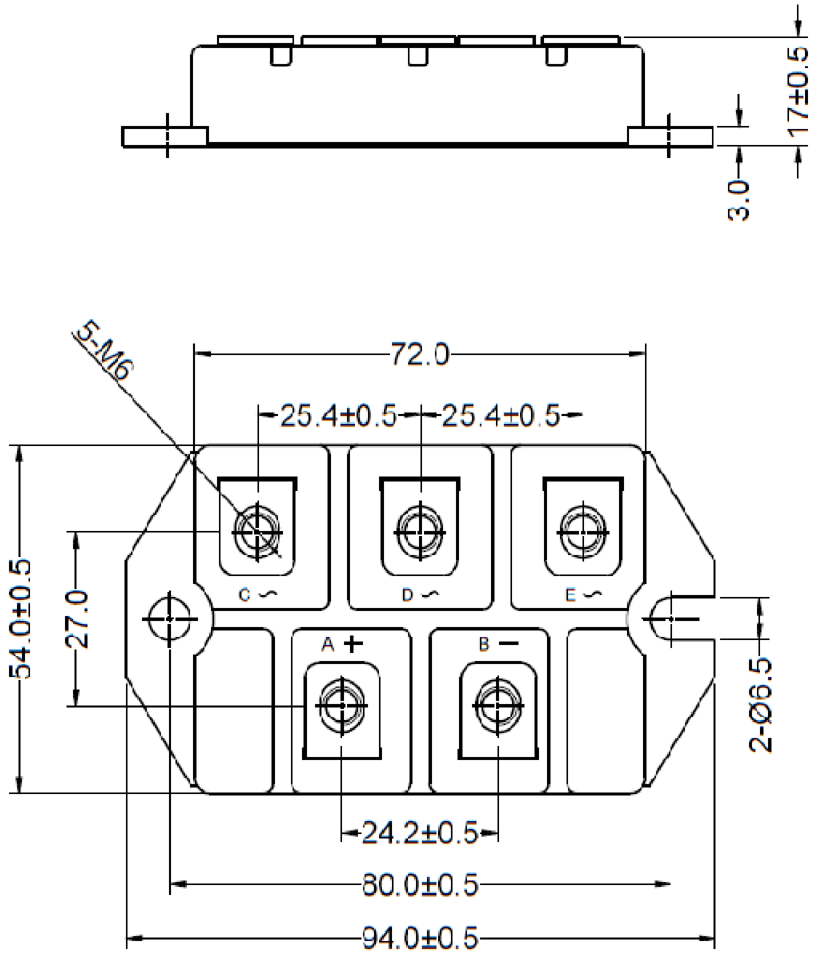


Figure 5. Transient Thermal Impedance



Dimensions in (mm)

Figure 6. Package Outline