MMD100F200X

100A Three-Phase Rectifier Bridge Module

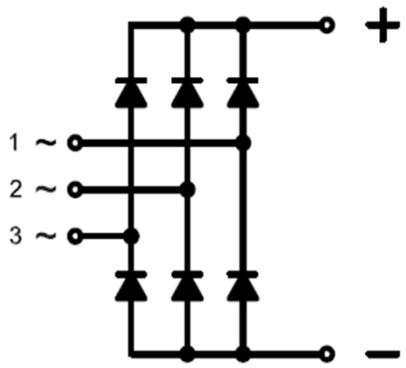
February 2015 **Version 0** **RoHS Compliant**

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
MMD100F200X	2000	2100	V

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, T_C= 95℃		100	A
I_{FSM}	Non Repetitive Surge Forward Current	1/2 cycle, 50Hz, peak value, Tc =45℃		1000	A
		1/2 cycle, 60Hz, peak value, T_C =45℃		1100	A
I^2t	For Fusing	1/2 cycle, 50Hz, peak value ,T_C =45°C		5.0	KA^2S
		1/2 cycle, 60Hz peak value, T_C =45℃		5.1	KA^2S
P_D	Power Dissipation			830	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	0.9	K /W
			per module	0.15	K /W
Weight				250	g

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ELECTRICAL CHARACTERISTICS

T_C =25°C unless otherwise specified

Symbol	Parameter/Test Conditions		Min.	Typ.	Max.	Unit
I_{RM}	Maximum Reverse Leakage Current	$V_R = V_{RRM}$			1	mA
		$V_R = V_{RRM}$, T_J = 125℃			10	
V_F	Forward Voltage Drop	I_F=100A			1.35	V
V_{TO}	For power oss calculations only , T_J = 125℃				0.86	V
r_T					4.9	mΩ

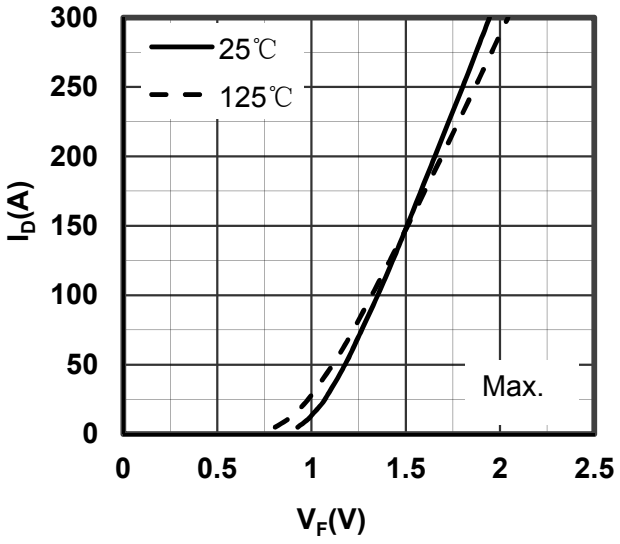


Figure 1. Forward Voltage Drop vs Output Current

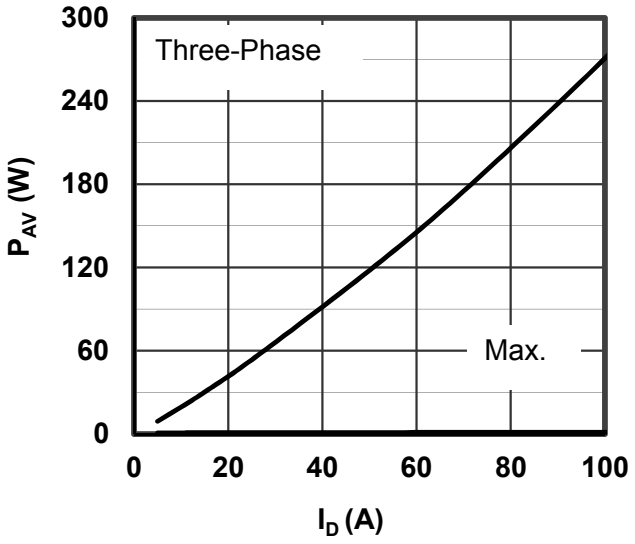


Figure 2. Power dissipation vs Output Current

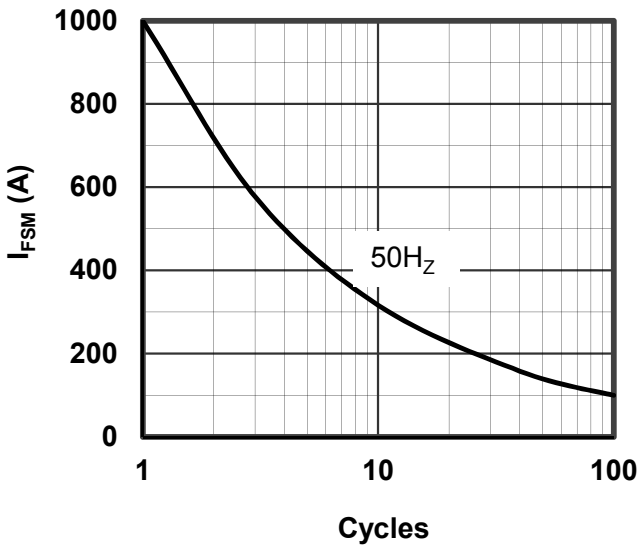


Figure 3. Max Non Repetitive Forward Surge Current

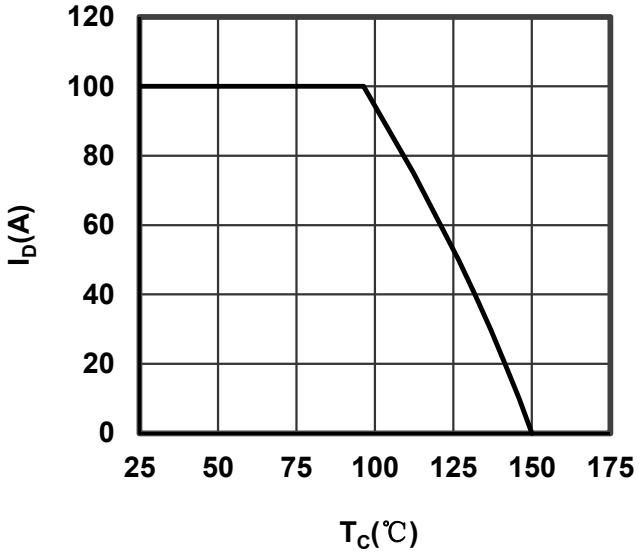


Figure 4. Output current vs Case temperature

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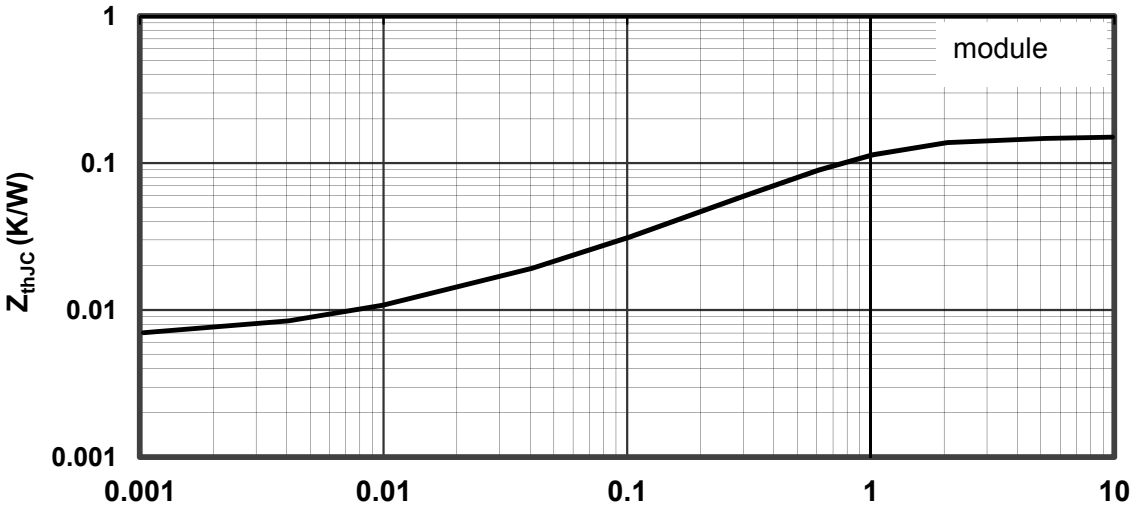
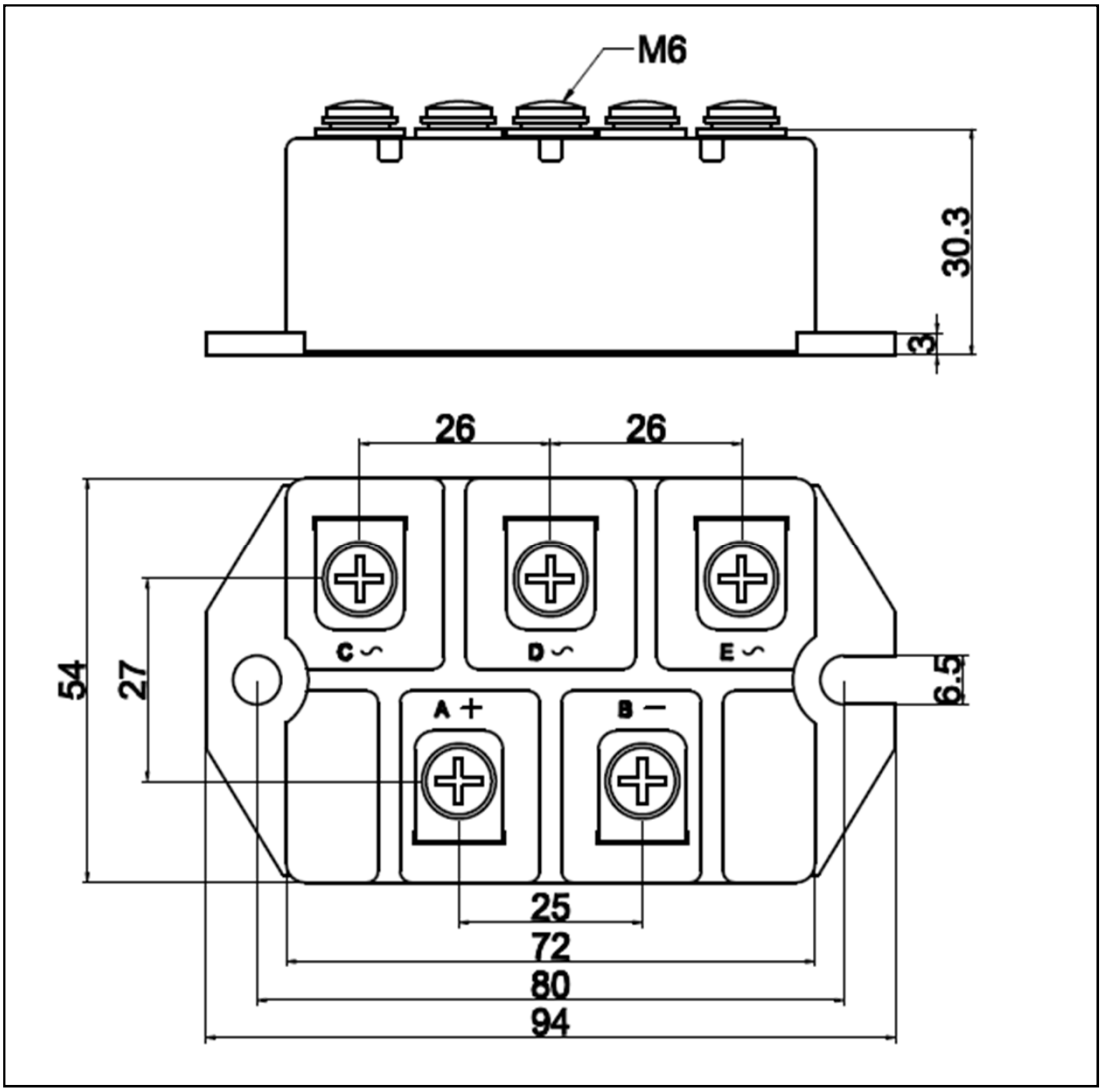


Figure 5. Transient Thermal Impedance



Dimensions in (mm)

Figure 6. Package Outline

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