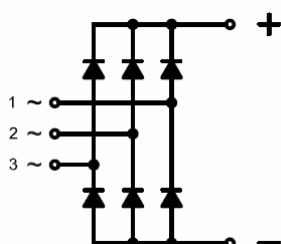


FEATURES

- 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
MMD100E120X	1200	1300	V
MMD100E140X	1400	1500	
MMD100E160X	1600	1700	
MMD100E180X	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, $T_c=95^{\circ}\text{C}$	100	A
I_{FSM}	Non-Repetitive Surge Forward Current	1/2 cycle, 50HZ, peak value $T_c=45^{\circ}\text{C}$	1000	
		1/2 cycle, 60HZ, peak value $T_c=45^{\circ}\text{C}$	1100	
I^2t	I^2t (For Fusing)	1/2 cycle, 50HZ, peak value $T_c=45^{\circ}\text{C}$	5.0	KA^2s
		1/2 cycle, 60HZ, peak value $T_c=45^{\circ}\text{C}$	5.1	KA^2s
P_D	Power Dissipation		830	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), $t=1$ minute	3000	V
Torque	Module-to-Sink	Recommended (M5)	2.5~5	N.m
Torque	Module Electrodes	Recommended (M5)	2.5~5	N.m
$R_{th(J-C)}$	Junction-to-Case Thermal Resistance	Per diode	0.9	K/W
		Per module	0.15	
Weight			150	g

MMD100E

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

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{RM}	Max.Reverse Leakage Current	$V_R = V_{RRM}$			500	μA
		$V_R = V_{RRM}, T_J = 125^\circ\text{C}$			10	mA
V_F	Forward Voltage	$I_F = 100\text{A}$			1.35	V
V_{T0}	For power-loss calculations only				0.92	V
r_T	$T_J = 125^\circ\text{C}$				3.8	m Ω

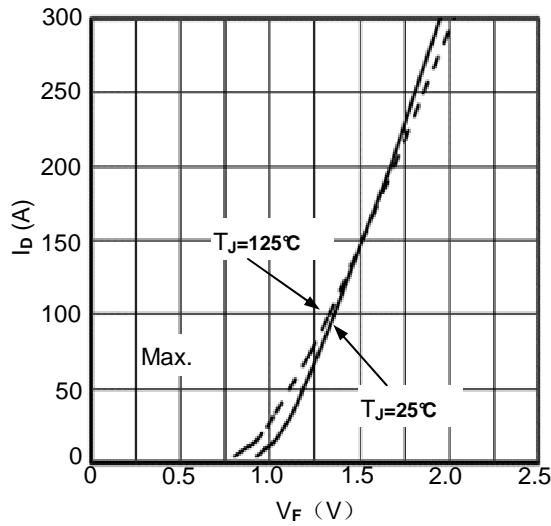


Figure1. Forward Voltage Drop vs Output Current

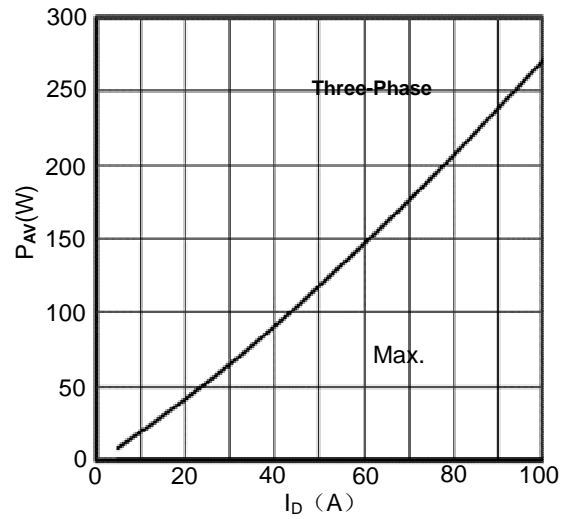


Figure2. Power dissipation vs. Output Current

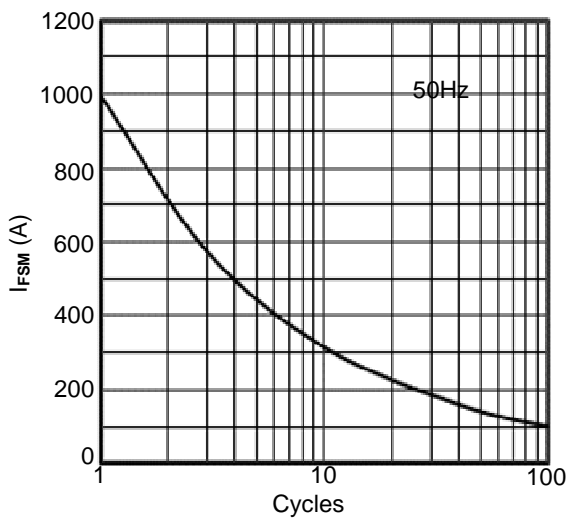


Figure3. Max Non-Repetitive Forward Surge Current

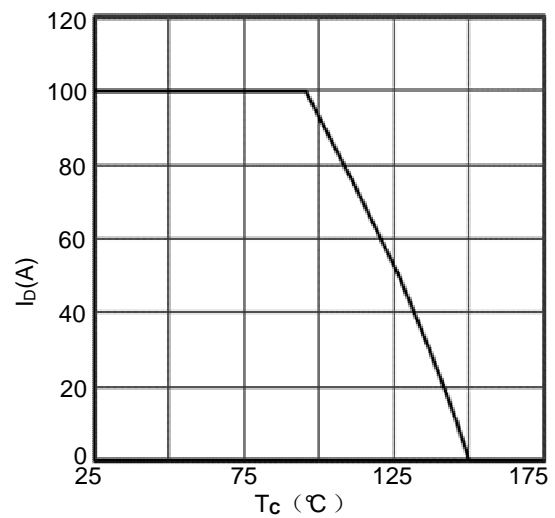


Figure4. Output Current vs. Case temperature

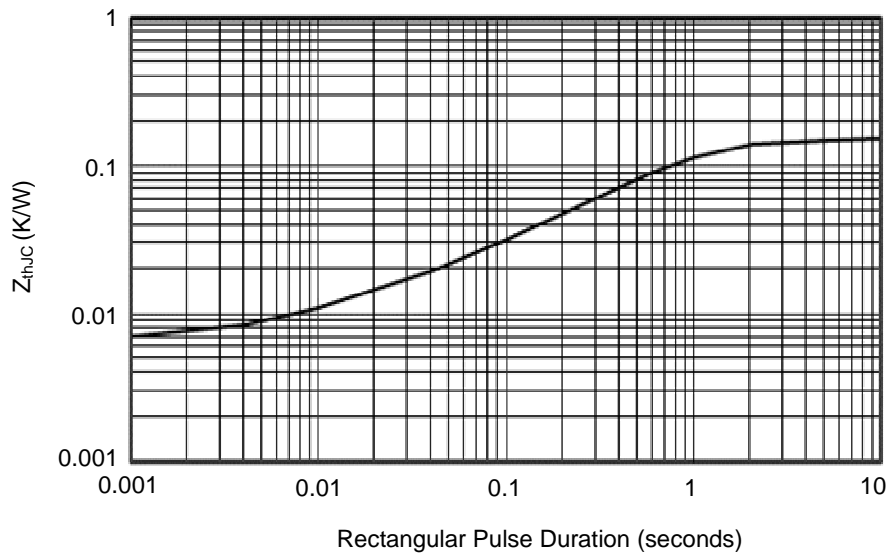
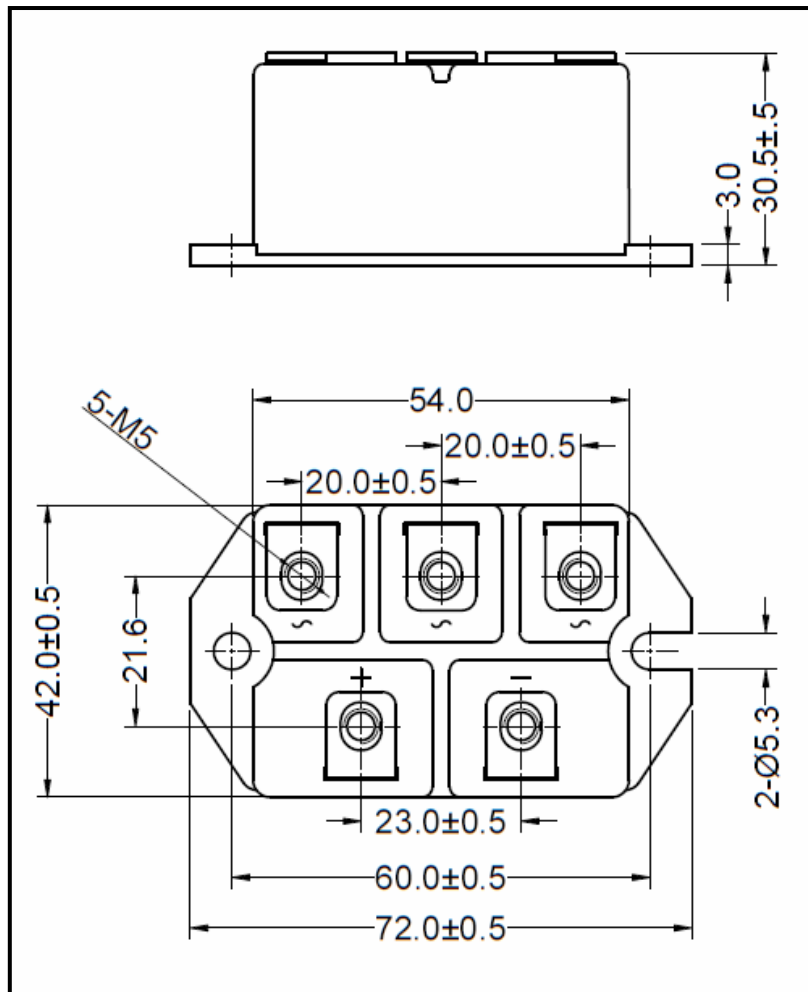


Figure5. Transient Thermal Impedance



Dimensions in Millimeters
Figure6. Package Outline