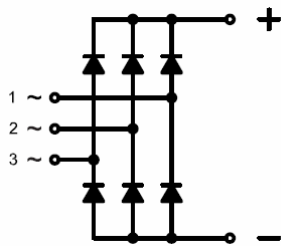


FEATURES

- 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
MMD70E120X	1200	1300	V
MMD70E140X	1400	1500	
MMD70E160X	1600	1700	
MMD70E180X	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, T _c = 95°C	70	A
I _{FSM}	Non-Repetitive Surge Forward Current	1/2 cycle, 50HZ, peak value T _c =45°C	700	
		1/2 cycle, 60HZ, peak value T _c =45°C	750	
I ² t	I ² t (For Fusing)	1/2 cycle, 50HZ, peak value T _c =45°C	2.45	KA ² s
		1/2 cycle, 60HZ, peak value T _c =45°C	2.33	KA ² s
P _D	Power Dissipation		690	W
T _J	Junction Temperature		-40 to +150	°C
T _{STG}	Storage Temperature Range		-40 to +125	°C
V _{ISO}	Isolation Breakdown Voltage	AC, 50Hz(R.M.S), t=1minute	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	1.1	K/W
		Per module	0.18	
Weight			150	g

MMD70E

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	$I_F = 70\text{A}$			1.35	V
V_{T0}	For power-loss calculations only				0.95	V
r_T	$T_J = 125^\circ\text{C}$				4.7	m Ω

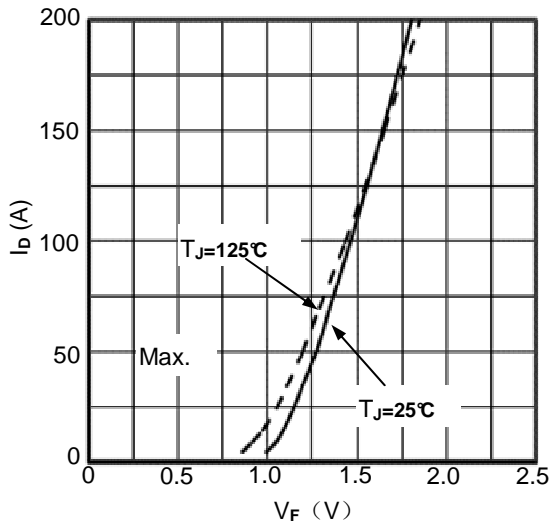


Figure1. Forward Voltage Drop vs Output Current

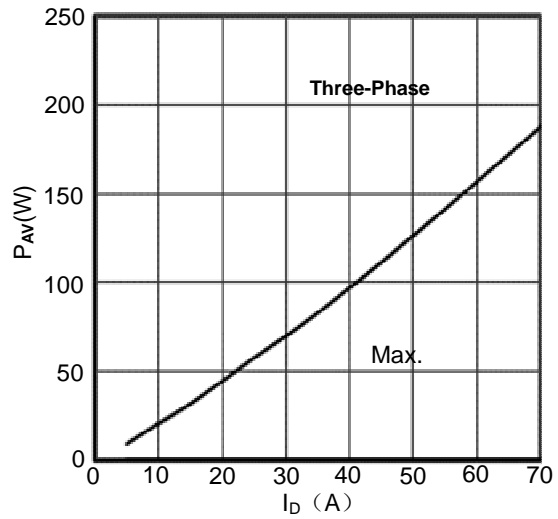


Figure2. Power dissipation vs. Output Current

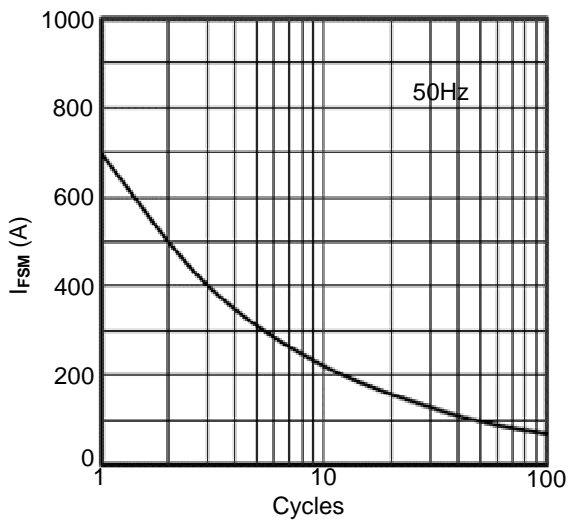


Figure3. Max Non-Repetitive Forward Surge Current

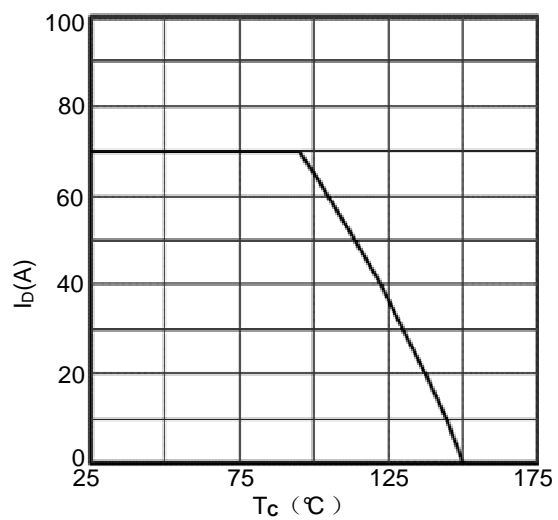
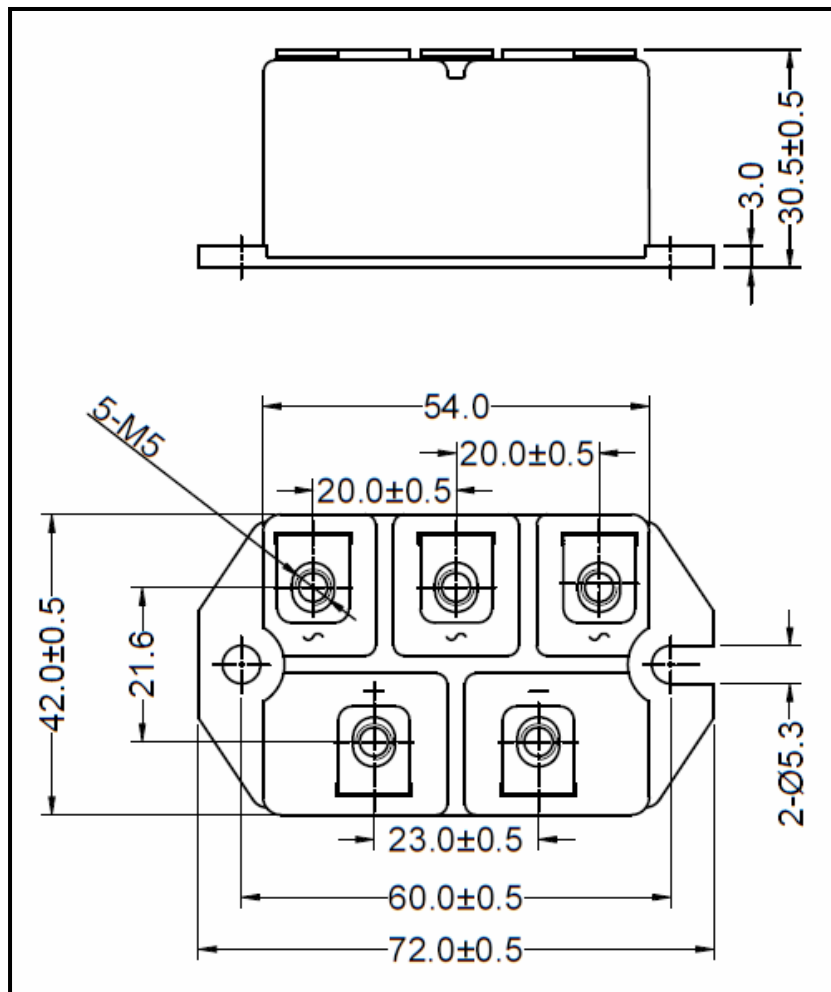
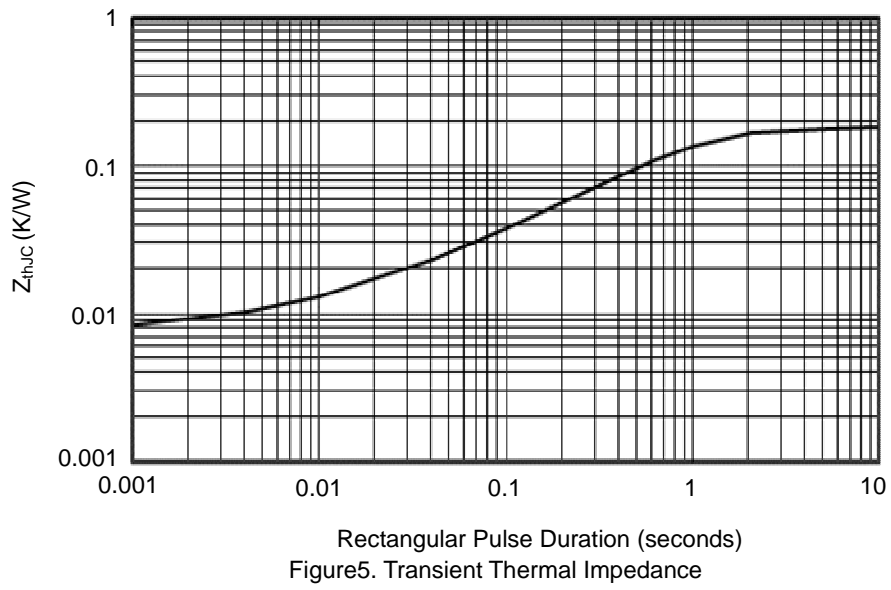


Figure4. Output Current vs. Case temperature



Dimensions in Millimeters
Figure 6. Package Outline