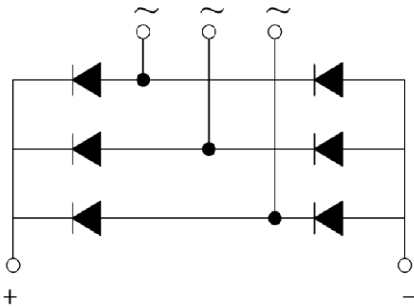


### PRODUCT FEATURES

- 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
MMD70EB120X	1200	1300	V
MMD70EB140X	1400	1500	
MMD70EB160X	1600	1700	
MMD70EB180X	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, $T_c = 95^\circ\text{C}$	70	A	
$I_{FSM}$	Non-Repetitive Surge Forward Current	1/2 cycle, 50HZ, peak value, $T_c = 45^\circ\text{C}$	700		
		1/2 cycle, 60HZ, peak value, $T_c = 45^\circ\text{C}$	750		
$I^2t$	For Fusing	1/2 cycle, 50HZ, peak value, $T_c = 45^\circ\text{C}$	2.45	KA <sup>2</sup> S	
		1/2 cycle, 60HZ, peak value, $T_c = 45^\circ\text{C}$	2.33		
$P_D$	Power Dissipation		690	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	
<b>Torque</b>	Module to Sink	Recommended (M5)	2.5~5	Nm	
<b>Torque</b>	Module Electrodes	Recommended (M5)	2.5~5	Nm	
$R_{thJC}$	Junction to Case Thermal Resistance		per diode	1.1	K/W
			per module	0.18	
<b>Weight</b>			130	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			0.5	mA
				$V_R = V_{RRM}, T_J = 125^\circ\text{C}$	
$V_F$	Forward Voltage Drop			1.35	V
$V_{TO}$	For power loss calculations only, $T_J = 125^\circ\text{C}$			0.95	V
$r_T$				4.7	m $\Omega$

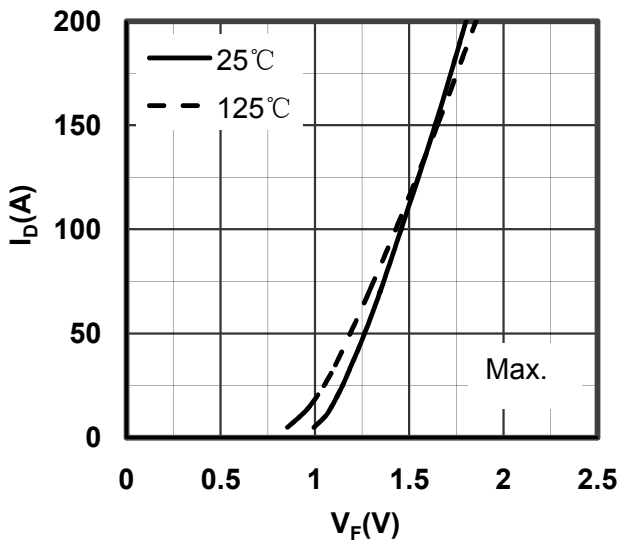


Figure 1. Forward Voltage Drop vs Output Current

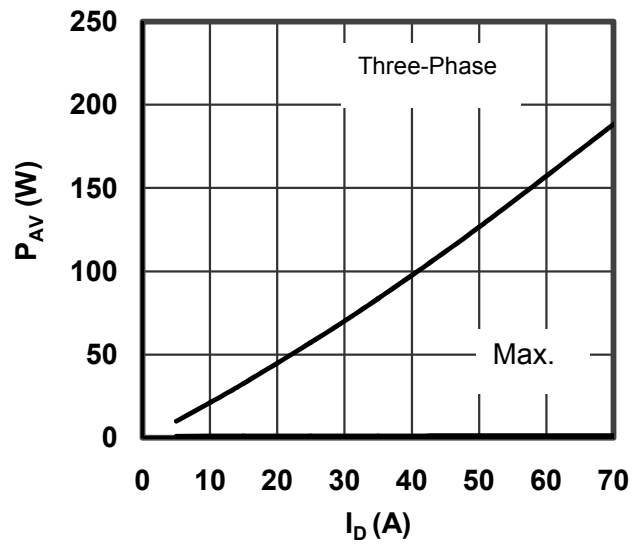


Figure 2. Power dissipation vs Output Current

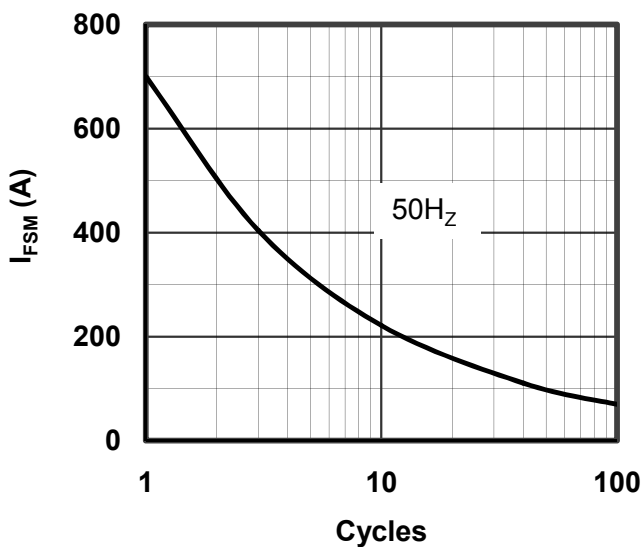


Figure 3. Max Non-Repetitive Forward Surge Current

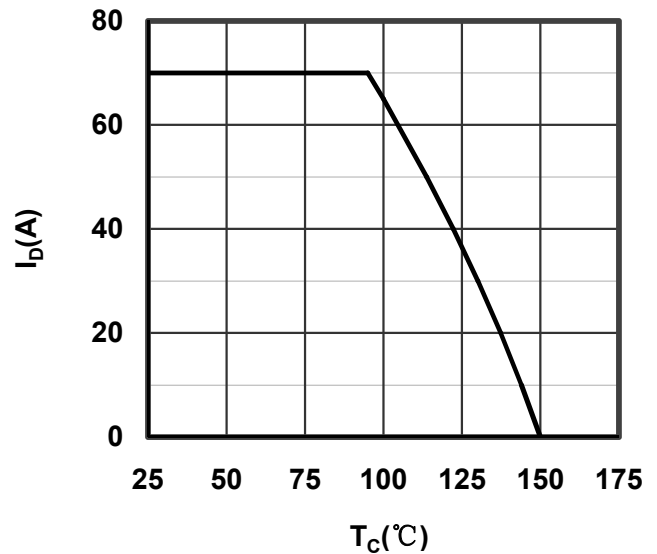


Figure 4. Output current vs Case temperature

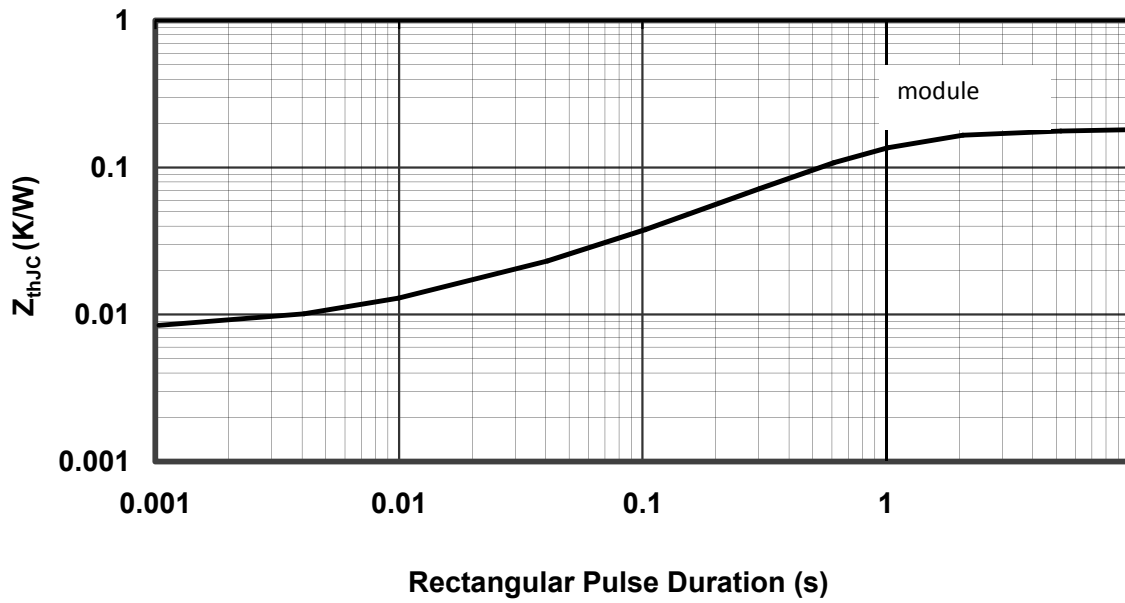
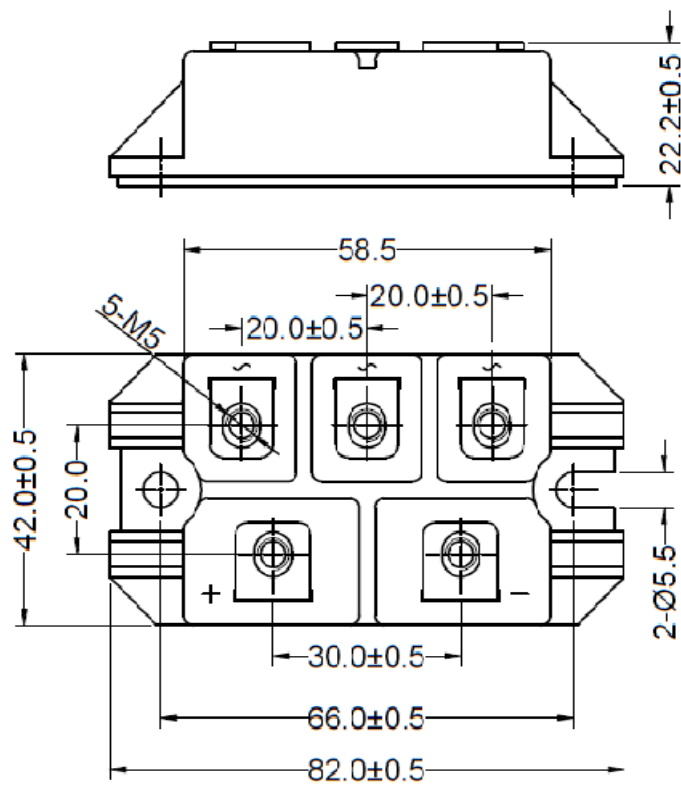


Figure 5. Transient Thermal Impedance



Dimensions in (mm)  
Figure 6. Package Outline