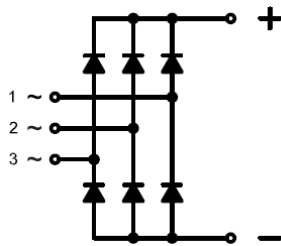


**FEATURES**

- 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
MMD150F120X	1200	1300	V
MMD150F140X	1400	1500	
MMD150F160X	1600	1700	
MMD150F180X	1800	1900	

**ABSOLUTE MAXIMUM RATINGS**

*T<sub>c</sub>=25°C unless otherwise specified*

Symbol	Parameter	Test Conditions	Values	Unit
$I_D$	Output Current(D.C.)	Three phase, half wave, T <sub>c</sub> = 95°C	150	A
$I_{FSM}$	Non-Repetitive Surge Forward Current	1/2 cycle, 50HZ, peak value T <sub>c</sub> =45°C	1500	
		1/2 cycle, 60HZ, peak value T <sub>c</sub> =45°C	1600	
$I^2t$	$I^2t$ (For Fusing)	1/2 cycle, 50HZ, peak value T <sub>c</sub> =45°C	11.2	KA <sup>2</sup> s
		1/2 cycle, 60HZ, peak value T <sub>c</sub> =45°C	10.6	KA <sup>2</sup> s
$P_D$	Power Dissipation		1136	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 (M6)	3~5	N.m
Torque	Module Electrodes	Recommended (M6)	3~5	N.m
$R_{th(J-C)}$	Junction-to-Case Thermal Resistance	Per diode	0.63	K/W
		Per module	0.11	
Weight			250	g

# MMD150F

## 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	$\mu\text{A}$
		$V_R = V_{RRM}, T_J = 125^\circ\text{C}$			10	mA
$V_F$	Forward Voltage	$I_F = 150\text{A}$			1.45	V
$V_{T0}$	For power-loss calculations only				0.9	V
$r_T$	$T_J = 125^\circ\text{C}$				3.5	m $\Omega$

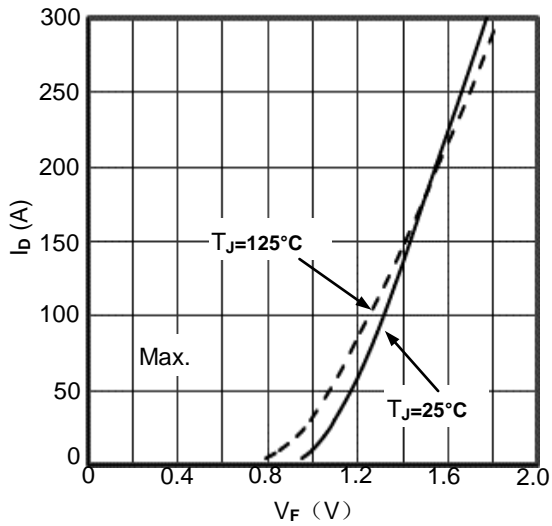


Figure1. Forward Voltage Drop vs Output Current

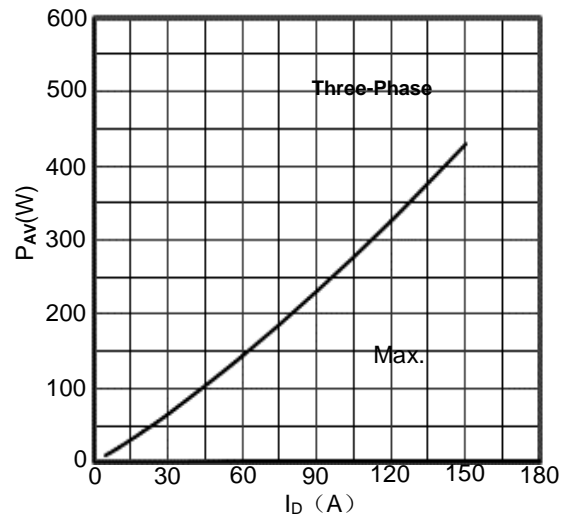


Figure2. Power dissipation vs. Output Current

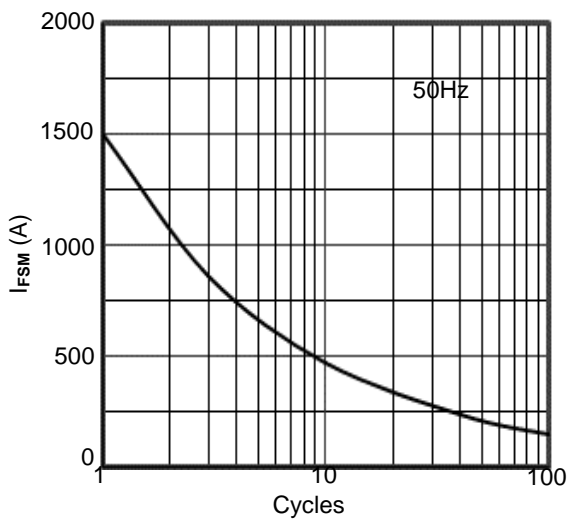


Figure3. Max Non-Repetitive Forward Surge Current

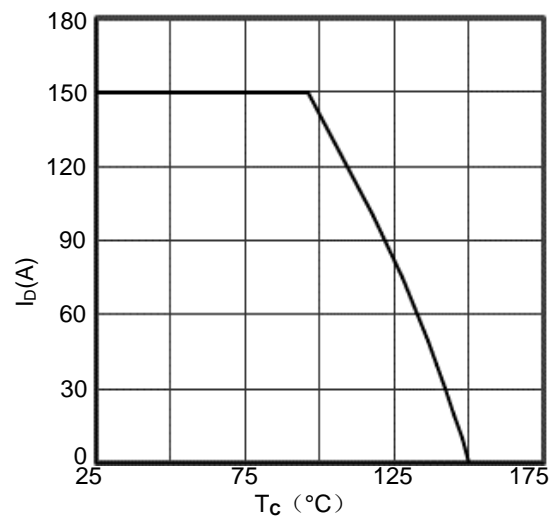
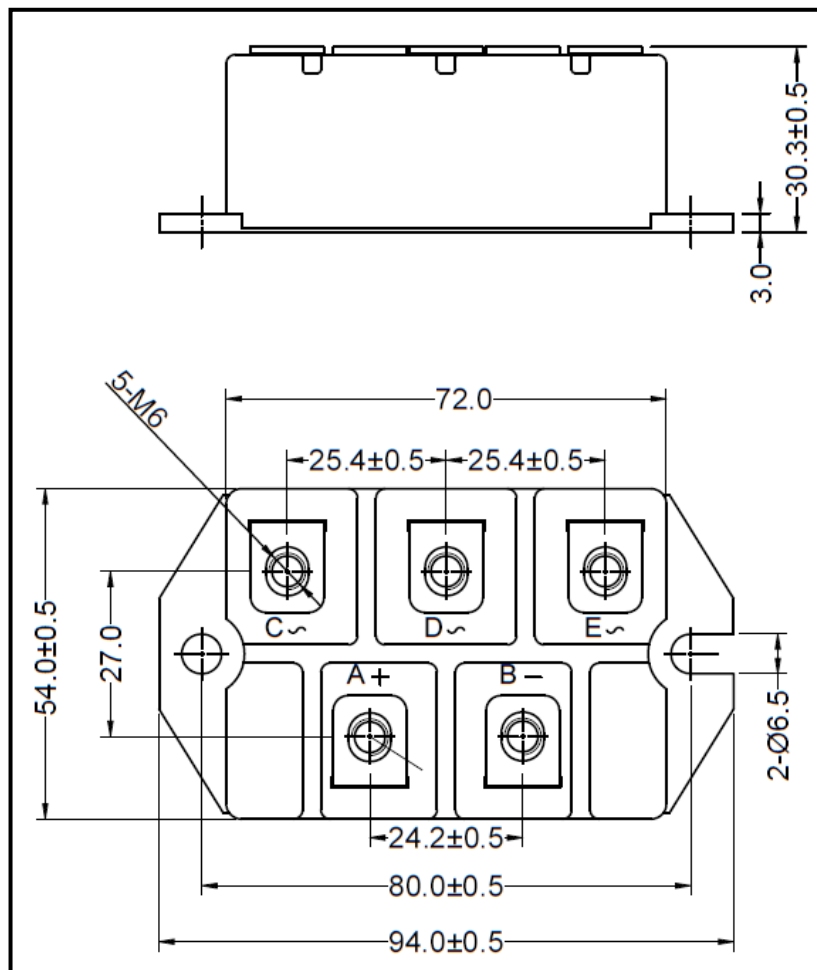
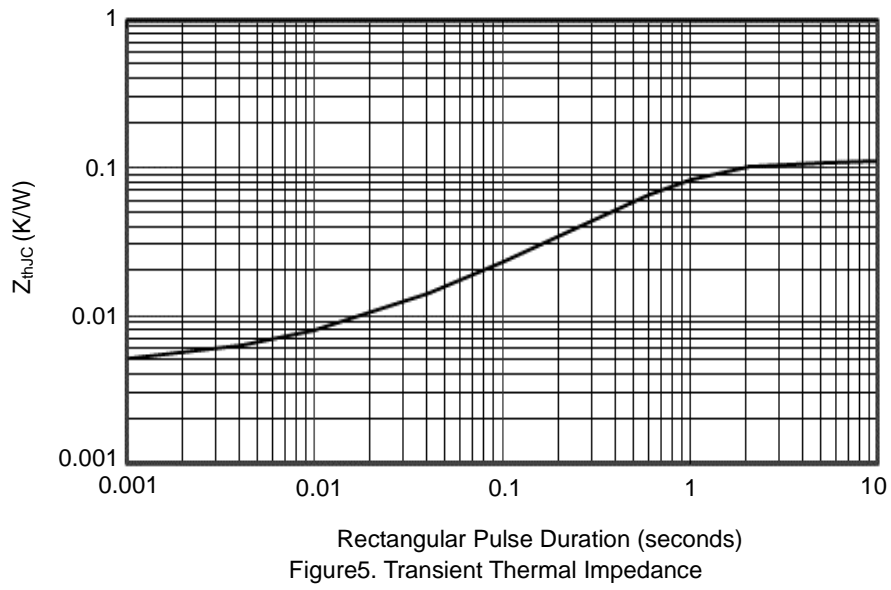


Figure4. Output Current vs. Case temperature



Dimensions in Millimeters  
Figure 6. Package Outline