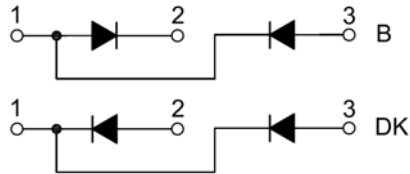


FEATURES

- ☐ 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

TYPE	Circuit Diagram		VRRM (Repetitive Peak Reverse Voltage)	VRSM (Non-Repetitive Peak Reverse Voltage)	Unit
	B	DK			
MMD110A120B		MMD110A120DK	1200	1300	V
MMD110A140B		MMD110A140DK	1400	1500	
MMD110A160B		MMD110A160DK	1600	1700	
MMD110A180B		MMD110A180DK	1800	1900	

ABSOLUTE MAXIMUM RATINGS

$T_c=25^{\circ}\text{C}$ unless otherwise specified

Symbol	Parameter	Test Conditions	Values	Unit
$I_{F(AV)}$	Average Forward Current	Single phase, half wave, 180°conduction, $T_c=85^{\circ}\text{C}$	110	A
$I_{F(RMS)}$	R.M.S. Forward Current		170	
I_{FSM}	Non-Repetitive Surge Forward Current	1/2 cycle, 50HZ, peak value $T_c=45^{\circ}\text{C}$	2500	
		1/2 cycle, 60HZ, peak value $T_c=45^{\circ}\text{C}$	2700	
I^2t	I^2t (For Fusing)	1/2 cycle, 50HZ, peak value $T_c=45^{\circ}\text{C}$	31.2	KA^2s
		1/2 cycle, 60HZ, peak value $T_c=45^{\circ}\text{C}$	30.2	KA^2s
P_D	Power Dissipation		410	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), $t=1\text{minute}$	3000	V
Torque	Module-to-Sink	Recommended (M6)	3~5	N.m
Torque	Module Electrodes	Recommended (M5)	2.5~5	N.m
$R_{th(J-C)}$	Junction-to-Case Thermal Resistance		0.3	K/W
Weight			110	g

MMD110A

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	$I_F=350\text{A}$			1.6	V
V_{T0}	For power-loss calculations only $T_J=125^{\circ}\text{C}$				0.8	V
r_T					2.4	m Ω

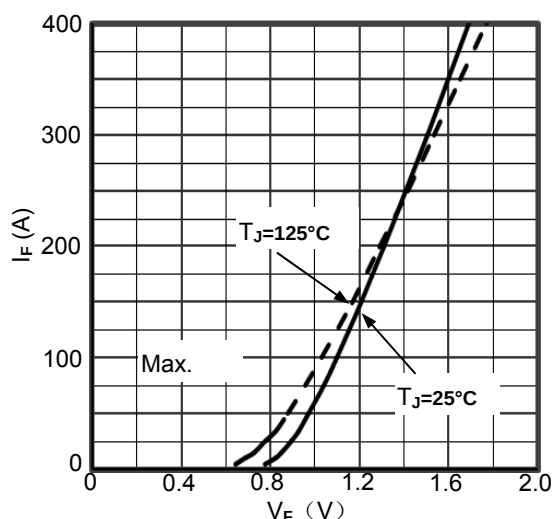


Figure1. Forward current vs.voltage drop

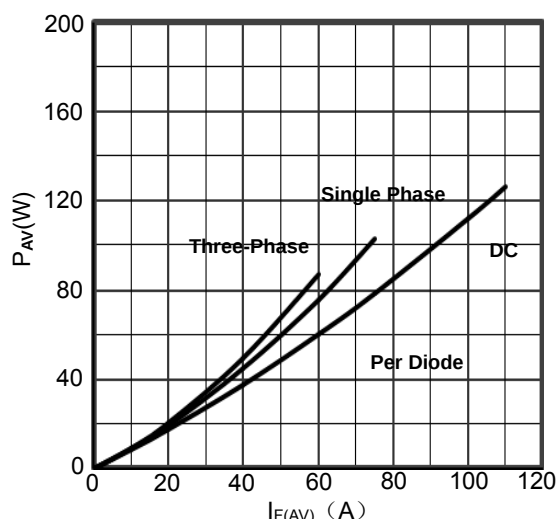


Figure2. Diode Power dissipation vs. $I_{F(AV)}$

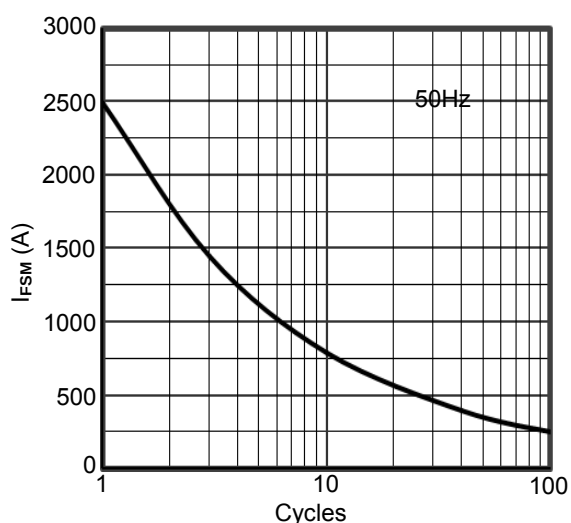


Figure3. Max Non-Repetitive Forward Surge Current

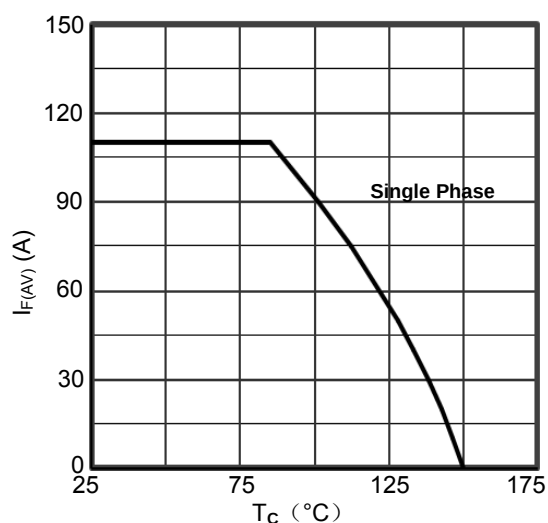


Figure4. Forward current vs. Case temperature

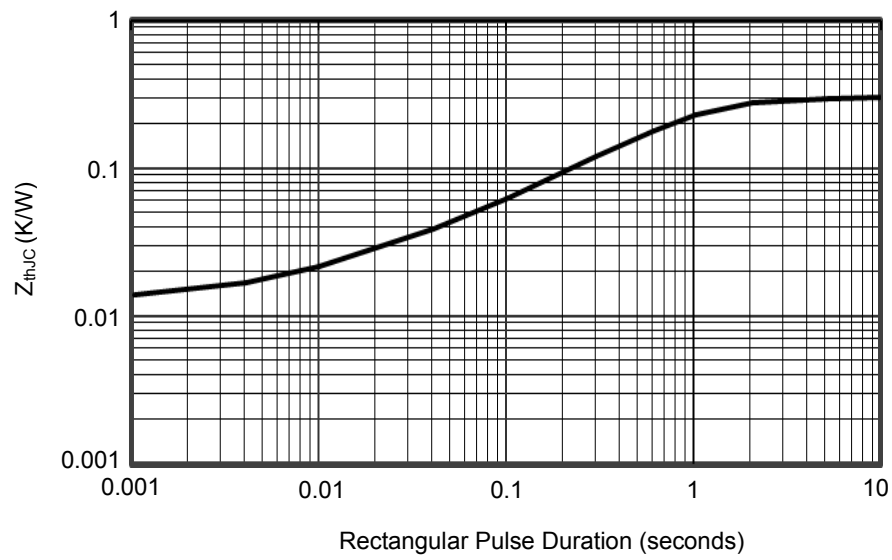
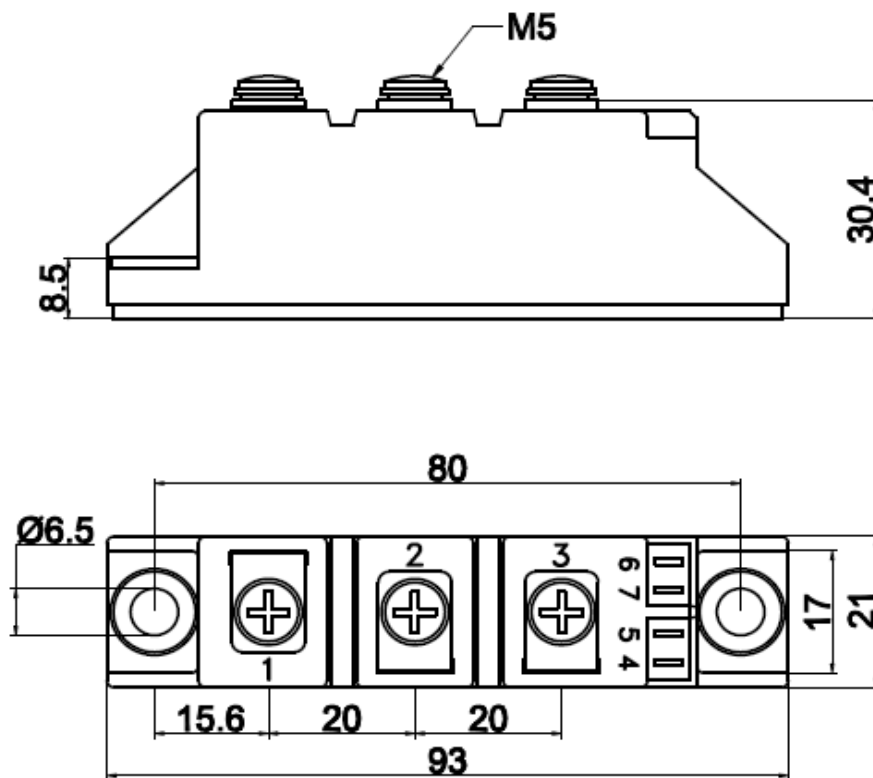


Figure5. Transient Thermal Impedance



Dimensions in Millimeters
Figure6. Package Outline