PRODUCT FEATURES

☐ High Surge Current Capability

☐ Easy Construction

☐ Non-isolated (Mounting base as common Anode terminal)

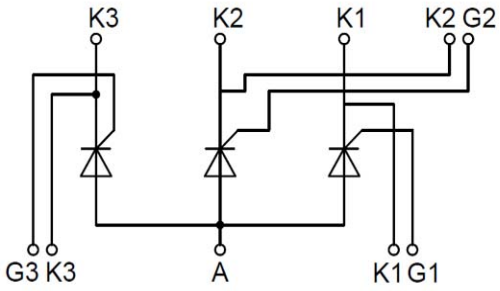
☐ High $I_{T(AV)}$

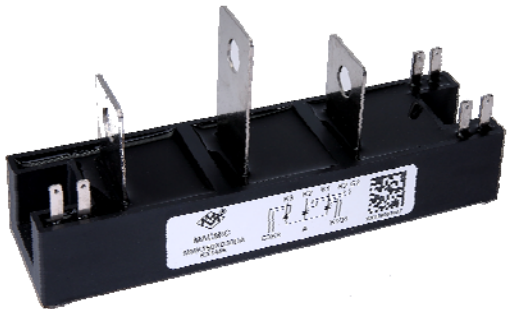
APPLICATIONS

☐ DC Motor Control and Drives

☐ Welders,Power Converters

☐ Heat and Temperature Control





ABSOLUTE MAXIMUM RATINGS(T_C =25°C *unless otherwise specified)*

Symbol	Parameter/Test Conditions	Values	Unit
		MMK150X030DA	
V_{RRM}	Repetitive Peak Reverse Voltage	300	V
V_{DRM}	Repetitive Peak Off State Voltage	300	

Symbol	Parameter/Test Conditions		Values	Unit
$I_{T(AV)}$	Average On State Current	Single phase, half wave, 180°conduction, Tc= 100℃	150	A
$I_{T(RMS)}$	R.M.S. On State Current	Single phase, half wave, 180°conduction, Tc =100℃	235	
I_{TSM}	Non Repetitive Surge On State Current	1/2 cycle, 50HZ, peak value, T_J =25℃	3300	
		1/2 cycle, 60HZ, peak value, T_J =25℃	3630	
I^2t	For Fusing	1/2 cycle, 50HZ, peak value ,T_J =25℃	54.5	KA^2S
		1/2 cycle, 60HZ, peak value, T_J =25℃	54.7	
T_J	Junction Temperature		-40 to +125	℃
T_{STG}	Storage Temperature Range		-40 to +125	℃
Torque	Module to Sink	Recommended（M6）	3～5	Nm
Torque	Module Electrodes	Recommended（M6）	3～5	Nm
R_{thJC}	Junction to Case Thermal Resistance(Per Thyristor)		0.1	K /W
Weight			205	g

ELECTRICAL CHARACTERISTICS *(T_C=25°C unless otherwise specified)*

Symbol	Parameter/Test Conditions			Min.	Typ.	Max.	Unit
I_{DRM}	Maximum Peak Off-State Current	$V_D = V_{DRM}$, T_J = 125℃				25	mA
I_{RRM}	Maximum Peak Reverse Current	$V_R = V_{RRM}$, T_J = 125℃				25	
V_{TM}	Maximum on-state voltage drop	I_{TM}=450A,td=10 ms, half sine	T_J = 25℃		1.15	1.5	V
			T_J = 125℃		1.1	1.4	
V_{TO}	For power-loss calculations only	T_J = 125℃				1.0	
r_T						9	mΩ
V_{GT}	Max. required DC gate voltage to trigger	V_A=6V, R_A=1Ω,T_J = 25℃			1.1	1.5	V
		V_A=6V, R_A=1Ω,T_J = 125℃			0.9	1.3	
I_{GT}	Max. required DC gate current to trigger	V_A=6V, R_A=1Ω,T_J = 25℃			75	120	mA
		V_A=6V, R_A=1Ω,T_J = 125℃			50	80	
V_{GD}	Max. required DC gate voltage not to trigger,V_D = 1/2V_{DRM}, T_J = 125℃					0.35	V
I_H	Maximum holding current				70		mA
P_{GM}	Maximum peak gate power					12	W
$P_{G(AV)}$	Maximum average gate power					1.5	
I_{FGM}	Peak Gate Current					3.5	A
V_{FGM}	Peak Gate Voltage (Forward)					12	V
V_{RGM}	Peak Gate Voltage (Reverse)					6	
dv/dt	Critical Rate of Rise of Off-State Voltage,T_J=125℃,exponential to 67% rated V_{DRM}					1000	V/μs
di/dt	Max.Rate of Rise of Turned-on Current, I_G=200mA, T_J =25°C, V_D =1/2V_{DRM}, dI_G=1A/μS					100	A/μs

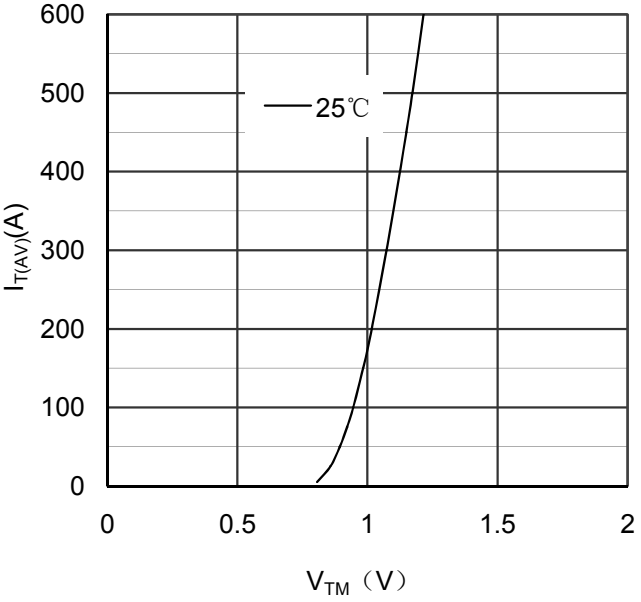


Figure 1. SCR Average On State Current vs Forward Voltage

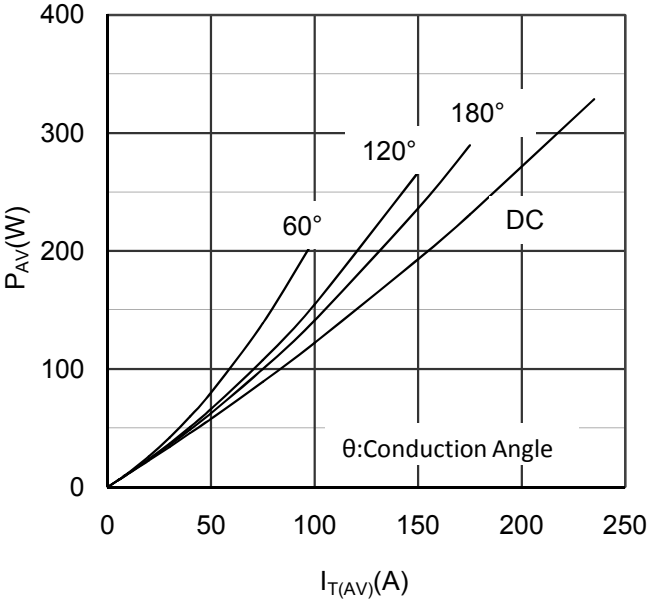


Figure 2. SCR Power dissipation vs $I_{T(AV)}$

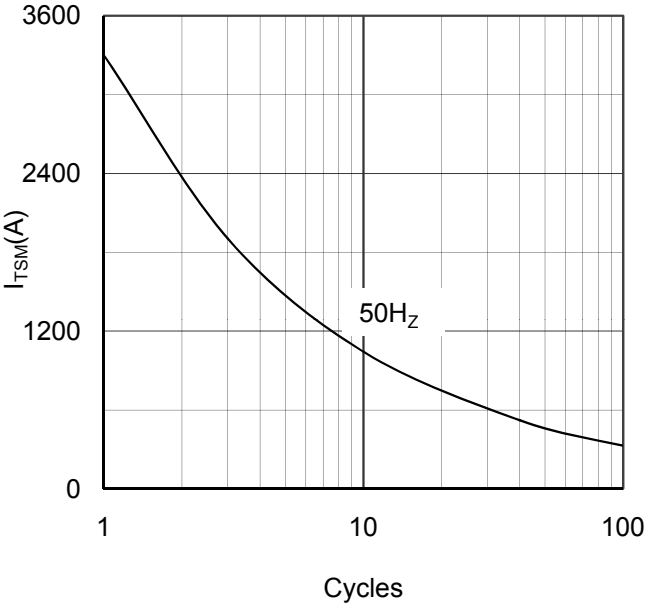


Figure 3. Max Non Repetitive Surge On State Current

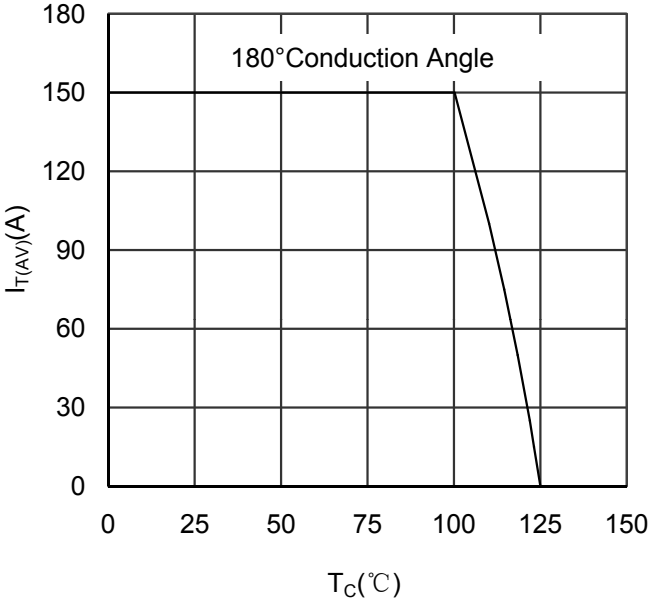


Figure 4. On State current vs Case temperaturer

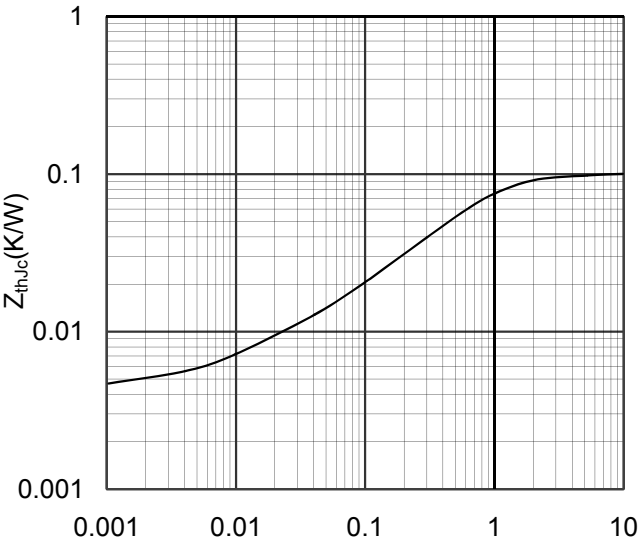
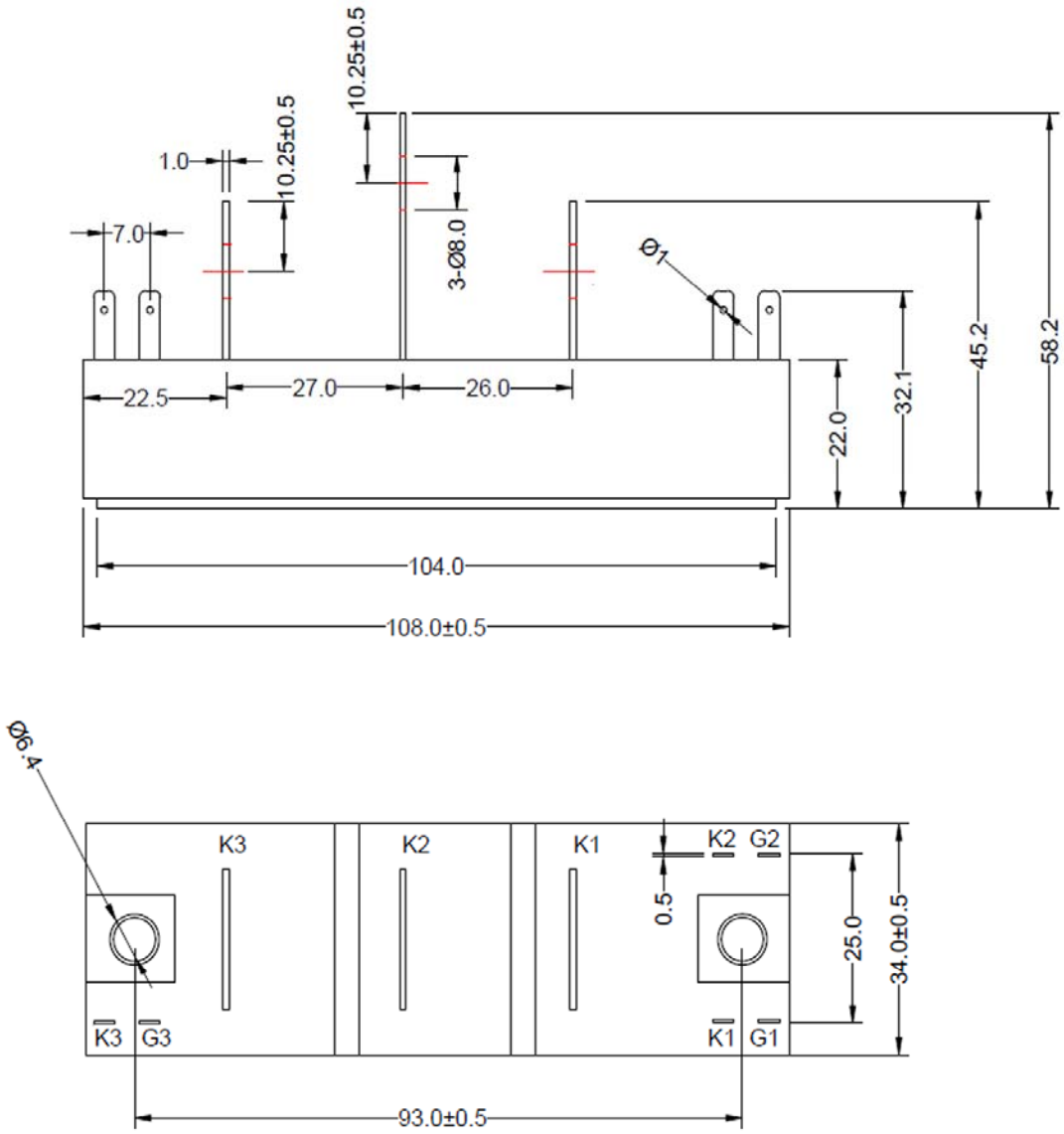


Figure 5. Transient Thermal Impedance



Dimensions in (mm)

Figure 6. Package Outline