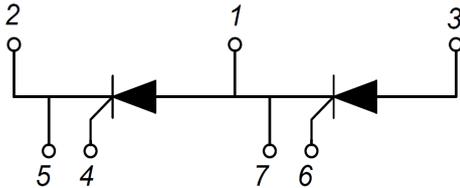


## PRODUCT FEATURES

- Electrically Isolated by DBC Ceramic
- High Surge Current Capability
- Low Inductance Package

## APPLICATIONS

- DC Motor Control and Drives
- Battery Charges ,Heater controls,Light dimmers
- Static switches



## ABSOLUTE MAXIMUM RATINGS

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

Symbol	Parameter/Test Conditions	Values	Unit
		MMK200S160B	
$V_{RRM}$	Repetitive Peak Reverse Voltage	1600	V
$V_{DRM}$	Repetitive Peak Off State Voltage	1600	
$V_{RSM}$	Non-Repetitive Peak Reverse Voltage	1700	

Symbol	Parameter/Test Conditions		Values	Unit
$I_{T(AV)}$	Average On State Current	Single phase, half wave, 180°conduction, $T_c = 80^\circ\text{C}$	200	A
$I_{T(RMS)}$	R.M.S. On State Current	Single phase, half wave, 180°conduction, $T_c = 80^\circ\text{C}$	310	
$I_{TSM}$	Non Repetitive Surge On State Current	1/2 cycle, 50HZ, peak value, $T_c = 45^\circ\text{C}$	5000	
		1/2 cycle, 60HZ, peak value, $T_c = 45^\circ\text{C}$	5400	
$I^2t$	For Fusing	1/2 cycle, 50HZ, peak value, $T_c = 45^\circ\text{C}$	125.0	KA <sup>2</sup> S
		1/2 cycle, 60HZ, peak value, $T_c = 45^\circ\text{C}$	121.0	
$T_J$	Junction Temperature		-40 to +125	°C
$T_{STG}$	Storage Temperature Range		-40 to +125	°C
$V_{ISO}$	Isolation Breakdown Voltage	AC, 50Hz(R.M.S), t=1minute	3000	V
<b>Torque</b>	Module to Sink	Recommended (M6)	3~5	Nm
<b>Torque</b>	Module Electrodes	Recommended (M6)	3~5	Nm
$R_{thJC}$	Junction to Case Thermal Resistance		0.12	K/W
<b>Weight</b>			160	g

## ELECTRICAL CHARACTERISTICS

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

Symbol	Parameter/Test Conditions	Min.	Typ.	Max.	Unit		
$I_{\text{DRM}}$	Maximum Peak Off-State Current			25	mA		
$I_{\text{RRM}}$	Maximum Peak Reverse Current			25			
$V_{\text{TM}}$	Maximum on-state voltage drop			1.75	V		
$V_{\text{TO}}$	For power-loss calculations only			0.85	V		
$r_{\text{T}}$						1.7	m $\Omega$
$V_{\text{GT}}$	Max. required DC gate voltage to trigger			4.0	V		
						2.5	
						1.7	
$I_{\text{GT}}$	Max. required DC gate current to trigger			270	mA		
						75	150
							80
$V_{\text{GD}}$	Max. required DC gate voltage not to trigger, $V_{\text{D}} = V_{\text{DRM}}$ , $T_{\text{J}} = 125^\circ\text{C}$			0.25	V		
$I_{\text{GD}}$	Max. required DC gate current not to trigger, $V_{\text{D}} = V_{\text{DRM}}$ , $T_{\text{J}} = 125^\circ\text{C}$			10	mA		
$I_{\text{H}}$	Maximum holding current		150	300	mA		
$I_{\text{L}}$	Maximum latching current		250	500	mA		
$P_{\text{GM}}$	Maximum peak gate power			10	W		
$P_{\text{G(AV)}}$	Maximum average gate power			2.5			
$I_{\text{GM}}$	Maximum peak gate current			2.5	A		
$-V_{\text{GM}}$	Maximum peak negative gate voltage			10	V		
$dv/dt$	Critical Rate of Rise of Off-State Voltage, $T_{\text{J}}=125^\circ\text{C}$ , exponential to 67% rated $V_{\text{DRM}}$			1000	V/ $\mu\text{s}$		
$di/dt$	$V_{\text{D}} = 2/3V_{\text{DRM}}$ , $I_{\text{G}} = 0.3\text{A}$ , $di/dt=0.3\text{A}/\mu\text{s}$ , $T_{\text{J}} = 125^\circ\text{C}$			150	A/ $\mu\text{s}$		

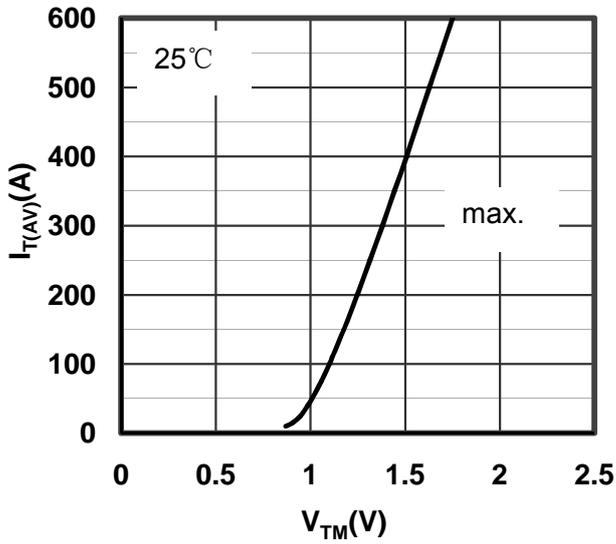


Figure 1. SCR Average On State Current vs Forward Voltage

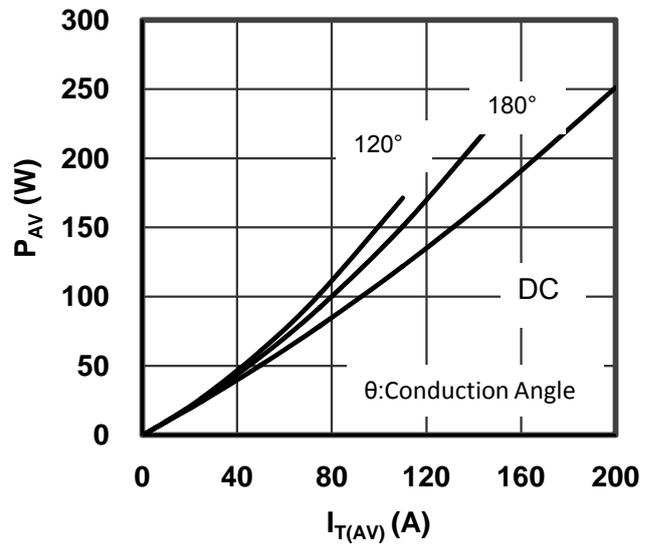


Figure 2. SCR Power dissipation vs  $I_{T(AV)}$

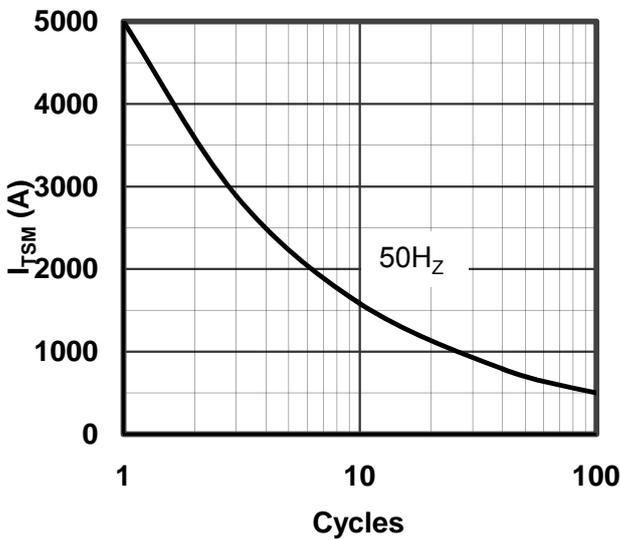


Figure 3. Max Non Repetitive Surge On State Current

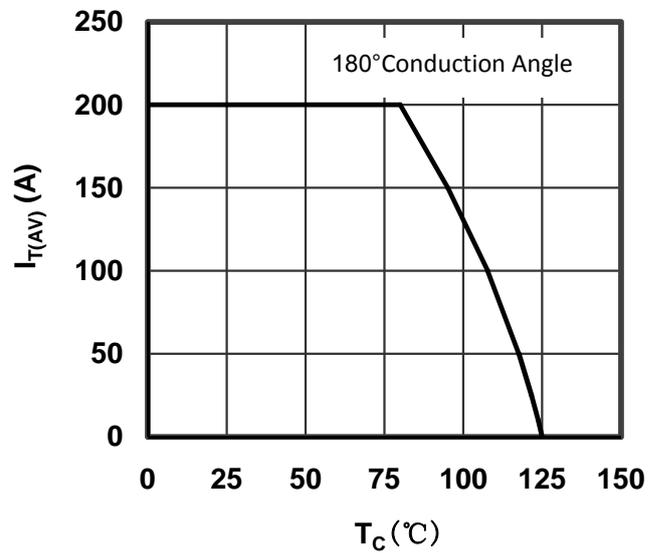


Figure 4. On State current vs Case temperature

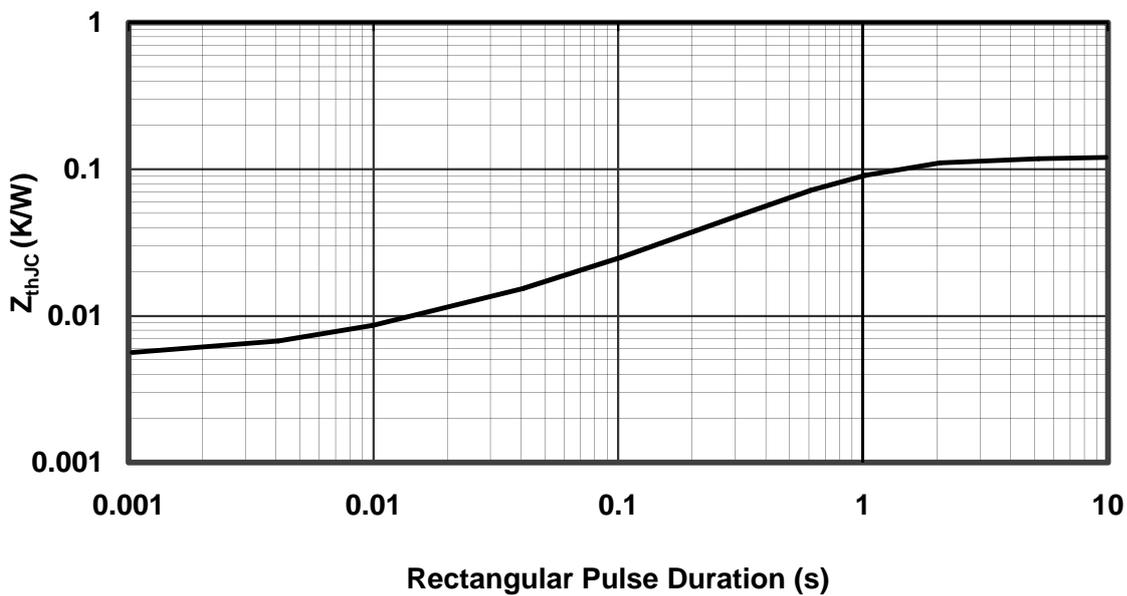
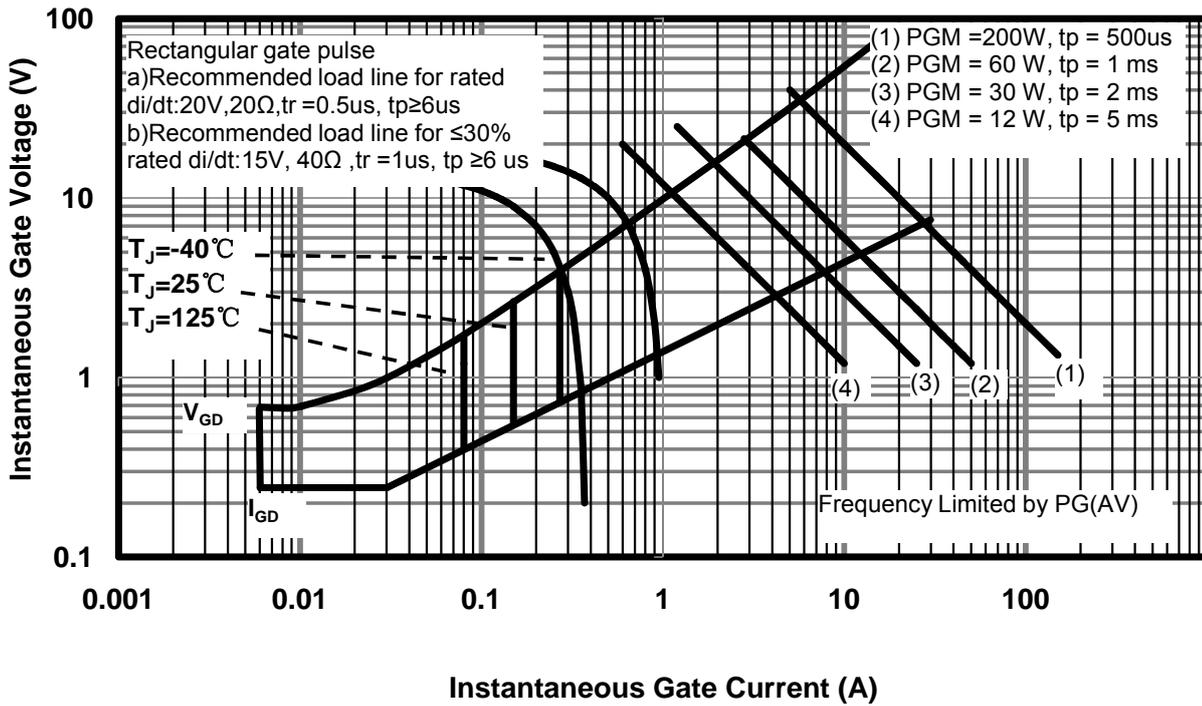
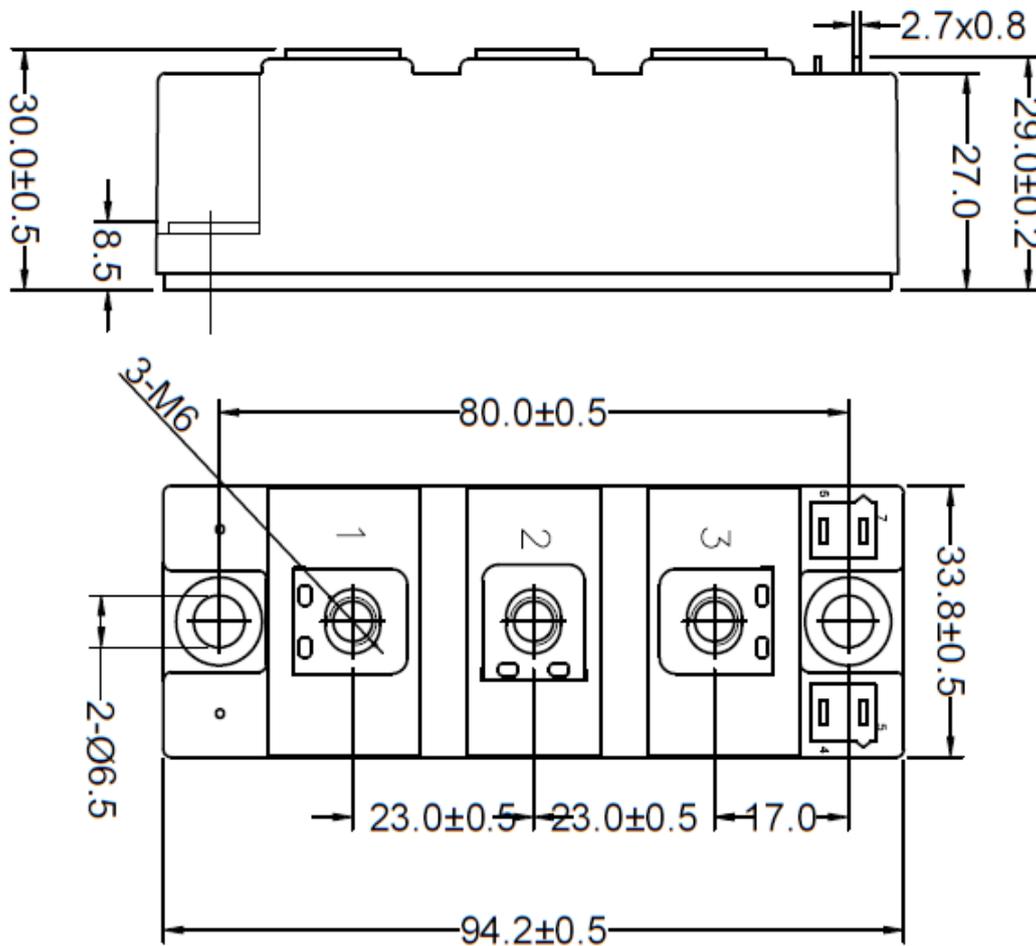


Figure 5. Transient Thermal Impedance



Instantaneous Gate Current (A)

Figure 6. Gate Characteristics



Dimensions in (mm)  
 Figure 7. Package Outline