

1. Cathode 2. Gate 3. Anode

TO-92 Plastic Package  
Weight approx. 0.18g

**MAXIMUM RATINGS ( $T_J=25^{\circ}\text{C}$  unless otherwise noted.)**

Rating	Symbol	Value	Unit
Peak Repetitive Forward and Reverse Blocking Voltage, Note 1 ( $T_J=25$ to $125^{\circ}\text{C}$ , $R_{GK}=1\text{K}\Omega$ )	$V_{\text{DRM}}$ and $V_{\text{RRM}}$	MCR100-3: 100 MCR100-4: 200 MCR100-5: 300 MCR100-6: 400 MCR100-7: 500 MCR100-8: 600	Volts
Forward Current RMS (All Conduction Angles)	$I_{\text{T(RMS)}}$	0.8	Amps
Peak Forward Surge Current, $T_A=25^{\circ}\text{C}$ (1/2 Cycle, Sine Wave, 60Hz)	$I_{\text{TSM}}$	10	Amps
Circuit Fusing ( $t=8.3\text{ms}$ )	$I^2t$	0.415	$\text{A}^2\text{s}$
Peak Gate Power - Forward, $T_A=25^{\circ}\text{C}$	$P_{\text{GM}}$	0.1	Watts
Average Gate Power - Forward, $T_A=25^{\circ}\text{C}$	$P_{\text{GF(AV)}}$	0.01	Watt
Peak Gate Current - Forward, $T_A=25^{\circ}\text{C}$ (300 $\mu\text{s}$ , 120PPS)	$I_{\text{GFM}}$	1	Amp
Peak Gate Voltage - Reverse	$V_{\text{ORM}}$	5	Volts
Operating Junction Temperature Range @ Rated $V_{\text{RRM}}$ and $V_{\text{DRM}}$	$T_J$	-40 to +125	$^{\circ}\text{C}$
Storage Temperature Range	$T_S$	-40 to +150	$^{\circ}\text{C}$

Note 1. Ratings apply for zero or negative gate voltage; however, positive gate voltage shall not be applied concurrent with negative potential on the anode.

**CHARACTERISTICS ( $T_c=25^\circ\text{C}$ ,  $R_{GK}=1\text{K}\Omega$  unless otherwise noted.)**

Characteristic	Symbol	Min	Max	Unit
Peak Forward or Reverse Blocking Current ( $V_{AK}=\text{Rated } V_{DRM} \text{ or } V_{RRM}$ )	$I_{DRM}, I_{RRM}$	-	10	$\mu\text{A}$
Forward "On" Voltage ( $I_{TM}=1\text{A Peak @ } T_A=25^\circ\text{C}$ )	$V_{TM}$	-	1.7	Volts
Gate Trigger Current(Continuous dc),Note 1 (Anode Voltage=7Vdc, $R_L=100$ Ohms)	$I_{GT}$	-	200	$\mu\text{A}$
Gate Trigger Voltage(Continuous dc) (Anode Voltage=7Vdc, $R_L=100$ Ohms) (Anode Voltage=Rated $V_{DRM}$ , $R_L=100$ Ohms)	$V_{GT}$	-	0.8	Volts
Holding Current (Anode Voltage=7Vdc,initiating current=20mA)	$I_H$	-	5	mA

Note 1.  $R_{GK}$  current is not included in measurement.

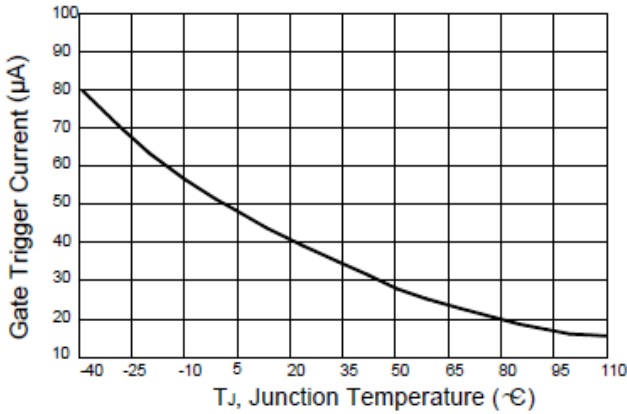


Figure 1. Typical Gate Trigger Current Versus Junction Temperature

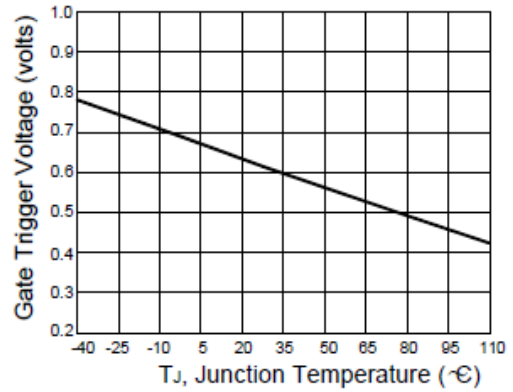


Figure 2. Typical Gate Trigger Voltage Versus Junction Temperature

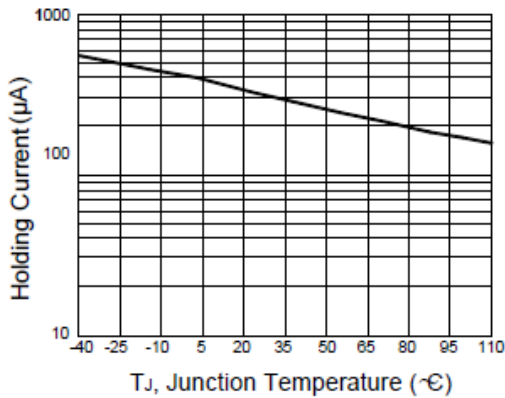


Figure 3. Typical Holding Current Versus Junction Temperature

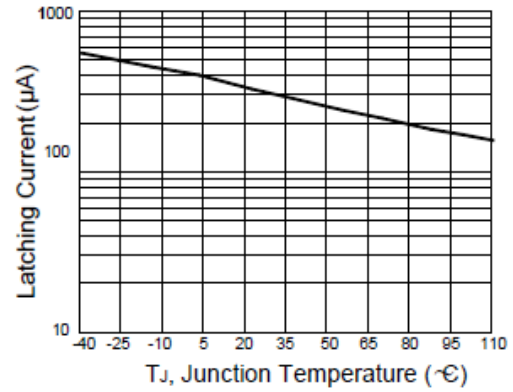


Figure 4. Typical Latching Current Versus Junction Temperature

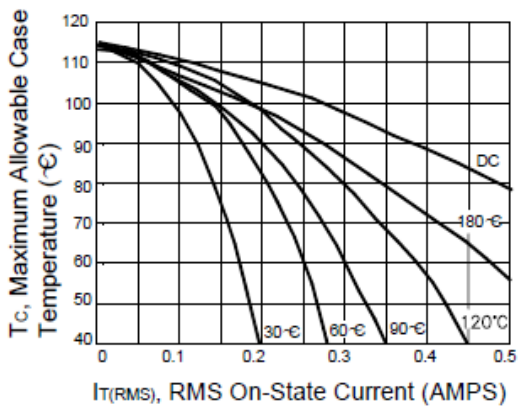


Figure 5. Typical RMS Current Derating

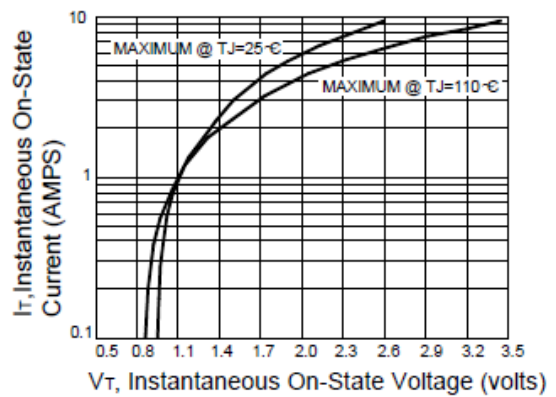


Figure 6. Typical On-State Characteristics