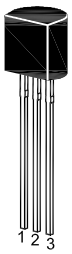
MCR100-3 … MCR100-8



1. Cathode 2. Gate 3. Anode
TO-92 Plastic Package

Absolute Maximum Ratings (T_J = 25 °C unless otherwise noted)

Parameter		Symbol	Value	Unit
Peak Repetitive Forward and Reverse Blocking Voltage [1] (T_J = 25 to 125 °C, R_{GK} = 1 KΩ)	MCR100-3	V_{DRM} and V_{RRM}	100	V
	MCR100-4		200	
	MCR100-5		300	
	MCR100-6		400	
	MCR100-7		500	
	MCR100-8		600	
Forward Current RMS (All Conduction Angles)		$I_{T(RMS)}$	0.8	A
Peak Forward Surge Current, T_A = 25 °C (1/2 Cycle, Sine Wave, 60 Hz)		I_{TSM}	10	A
Circuit Fusing Considerations (t = 8.3 ms)		I^2t	0.415	A^2s
Forward Peak Gate Power (T_A = 25 °C, PW ≤ 1 µs)		P_{GM}	0.1	W
Forward Average Gate Power (T_A = 25 °C)		$P_{GF(AV)}$	0.01	W
Forward Peak Gate Current (T_A = 25 °C, PW ≤ 1 µs)		I_{GFM}	1	A
Reverse Peak Gate Voltage (T_A = 25 °C PW ≤ 1 µs)		V_{GRM}	5	V
Operating Junction Temperature Range at Rated V_{RRM} and V_{DRM}		T_j	- 40 to + 125	°C
Storage Temperature Range		T_{stg}	- 40 to + 150	°C

[1] V_{DRM} and V_{RRM} for types can be applied on a continuous basis. Ratings apply for zero or negative gate voltage; however, positive gate voltage shall not be applied concurrent with negative potential on the anode. Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the device are exceeded.

Characteristics at T_a = 25 °C, R_{GK} = 1 KΩ unless otherwise noted.

Parameter	Symbol	Min.	Max.	Unit
Peak Forward or Reverse Blocking Current at V_{AK} = Rated V_{DRM} or V_{RRM}	I_{DRM}, I_{RRM}	-	10	µA
Peak Forward On-State Voltage at I_{TM} = 1 A Peak, T_A = 25 °C	V_{TM}	-	1.7	V
Gate Trigger Current (Continuous dc) [1] at Anode Voltage = 7 Vdc, R_L=100 Ω)	I_{GT}	-	200	µA
Gate Trigger Voltage (Continuous dc) at Anode Voltage = 7 Vdc, R_L = 100 Ω) at Anode Voltage = Rated V_{DRM}, R_L = 100 Ω)	V_{GT}	-	0.8	V
Holding Current at Anode Voltage = 7 Vdc, initiating current = 20 mA)	I_H	-	5	mA

[1] R_{GK} current is not included in measurement.

®

Dated : 06/12/2003

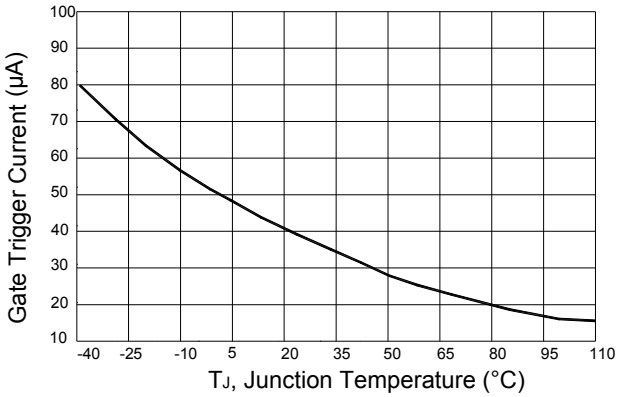


Figure 1. Typical Gate Trigger Curent Versus Junction Temperature

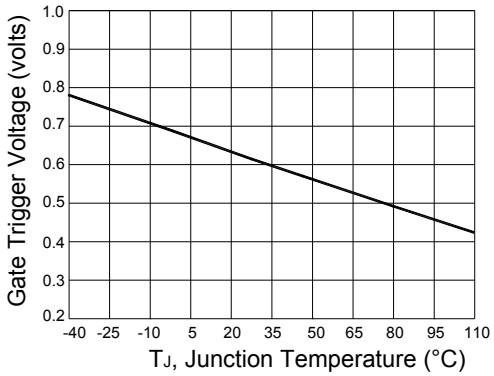


Figure 2. Typical Gate Trigger Voltage Versus Junction Temperature

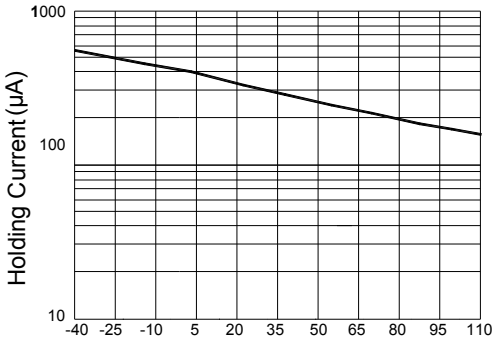


Figure 3. Typical Holding Curent Versus Junction Temperature

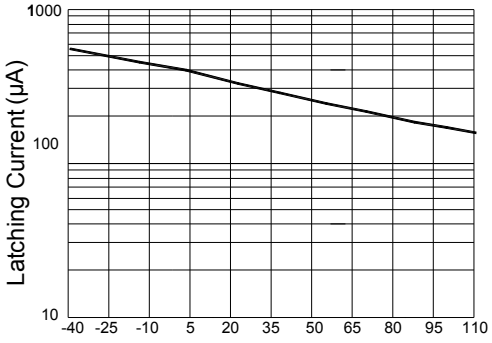


Figure 4. Typical Latching Curent Versus Junction Temperature

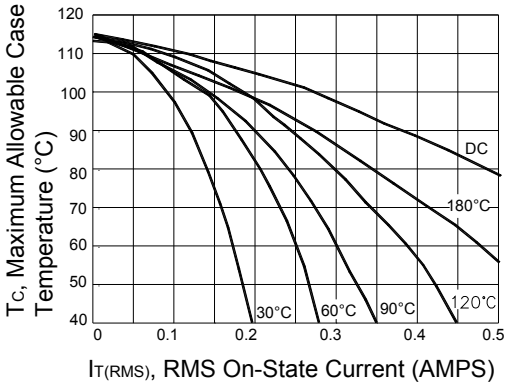


Figure 5. Typical RMS Current Derating

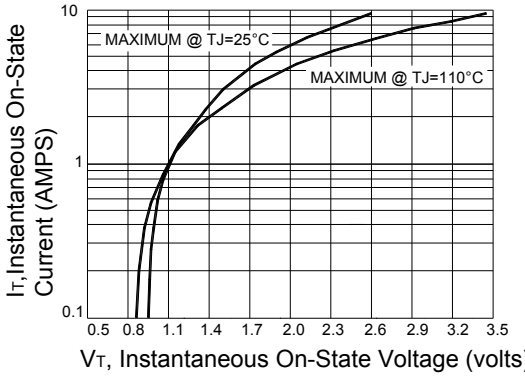


Figure 6. Typical On-State Characteristics