



1. Cathode 2. Gate 3. Anode

TO-92 Plastic Package Weight approx. 0.18g

### MAXIMUM RATINGS (T<sub>J</sub>=25°C unless otherwise noted.)

Rating Peak Repetitive Forward and Reverse Blocking		Symbol	Value	Unit	
Voltage, Note 1 MCR100-3			100		
(T <sub>J</sub> =25 to 125°C, R <sub>GK</sub> =1K $\Omega$ )	MCR100-4	$V_{DRM}$	200		
	MCR100-5	and	300	Volts	
	MCR100-6	$V_{RRM}$	400		
	MCR100-7		500		
	MCR100-8		600		
Forward Current RMS		1	0.8	Amps	
(All Conduction Angles)		I <sub>T(RMS)</sub>			
Peak Forward Surge Current, T <sub>A=</sub> 25°C (1/2 Cycle, Sine Wave, 60Hz)		1	10	Amps	
		I <sub>TSM</sub>			
Circuit Fusing (t=8.3ms)		l <sup>2</sup> t	0.415	A <sup>2</sup> s	
Peak Gate Power - Forward, T <sub>A</sub> =25°C		P <sub>GM</sub>	0.1	Watts	
Average Gate Power - Forward, T <sub>A</sub> =25°C		P <sub>GF(AV)</sub>	0.01	Watt	
Peak Gate Current - Forward, T <sub>A</sub> =25°C (300μs,120PPS)		I <sub>GFM</sub>	1	Amp	
					Peak Gate Voltage - Reverse
Operating Junction Temperature Range @ Rated V <sub>RRM</sub> and V <sub>DRM</sub>		TJ	-40 to +125	°C	
Storage Temperature Range		Ts	-40 to +150	°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.

#### **GSP FORM A IS AVAILABLE**



Acceptable

Accept

SEMTECH ELECTRONICS LTD. (Wholly owned subsidiary of Honey Technology Ltd.)

# MCR100-3 ... MCR100-8

## CHARACTERISTICS (Tc=25°C, RGK=1K $\Omega$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
Peak Forward or Reverse Blocking Current	$I_{DRM}, I_{RRM}$			
(V <sub>AK</sub> =Rated V <sub>DRM</sub> or V <sub>RRM</sub> )		-	10	μΑ
Forward "On" Voltage	$V_{TM}$	-	1.7	Volts
(I <sub>TM</sub> =1A Peak @T <sub>A</sub> =25°C)				
Gate Trigger Current(Continuous dc),Note 1	I <sub>GT</sub>	-	200	μΑ
(Anode Voltage=7Vdc,R <sub>L</sub> =100 Ohms)				
Gate Trigger Voltage(Continuous dc)	$V_{GT}$	-	0.8	Volts
(Anode Voltage=7Vdc,R <sub>L</sub> =100 Ohms)				
(Anode Voltage=Rated V <sub>DRM</sub> ,R <sub>L</sub> =100 Ohms)				
Holding Current	I <sub>H</sub>	-	5	mA
(Anode Voltage=7Vdc,initiating current=20mA)				

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

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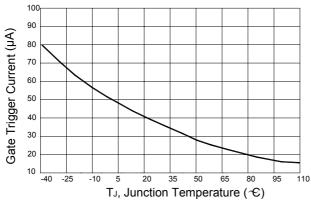


Figure 1. Typical Gate Trigger Curent Versus
Junction Temperature

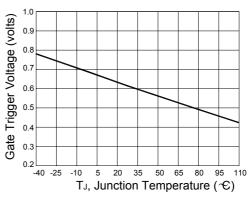


Figure 2. Typical Gate Trigger Voltage Versus Junction Temperature

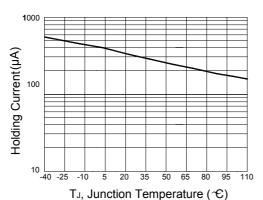


Figure 3. Typical Holding Curent Versus
Junction Temperature

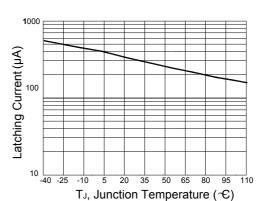


Figure 4. Typical Latching Curent Versus
Junction Temperature

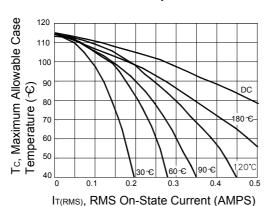


Figure 5. Typical RMS Current Derating

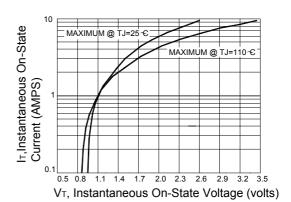


Figure 6. Typical On-State Characteristics

