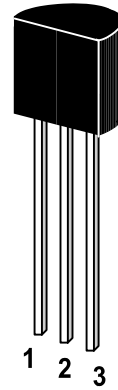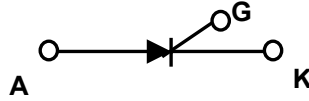# MCR100-3 … MCR100-8

1. Cathode 2. Gate 3. Anode
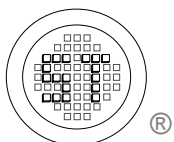
TO-92 Plastic Package
Weight approx. 0.18g

MAXIMUM RATINGS (T$_J$=25°C unless otherwise noted.)

Rating		Symbol	Value	Unit
Peak Repetitive Forward and Reverse Blocking Voltage, Note 1 (T$_J$=25 to 125°C, R$_{GK}$=1KΩ)	MCR100-3	V$_{DRM}$ and V$_{RRM}$	100	Volts
	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	Amps
Peak Forward Surge Current, T$_A$=25°C (1/2 Cycle, Sine Wave, 60Hz)		I$_{TSM}$	10	Amps
Circuit Fusing (t=8.3ms)		I^{2}t	0.415	A^{2}s
Peak Gate Power - Forward, T$_A$=25°C		P$_{GM}$	0.1	Watts
Average Gate Power - Forward, T$_A$=25°C		P$_{GF(AV)}$	0.01	Watt
Peak Gate Current - Forward, T$_A$=25°C (300μs,120PPS)		I$_{GFM}$	1	Amp
Peak Gate Voltage - Reverse		V$_{GRM}$	5	Volts
Operating Junction Temperature Range @ Rated V$_{RRM}$ and V$_{DRM}$		T$_J$	-40 to +125	°C
Storage Temperature Range		T$_s$	-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

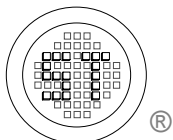**SEMTECH ELECTRONICS LTD.** (**Wholly owned subsidiary of Honey Technology Ltd.**)

MCR100-3 … MCR100-8

CHARACTERISTICS (T_C=25°C, R_{GK}=1KΩ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
Peak Forward or Reverse Blocking Current (V_{AK}=Rated V_{DRM} or V_{RRM})	I_{DRM}, I_{RRM}	 -	 10	 μA
Forward "On" Voltage (I_{TM}=1A Peak @T_A=25°C)	V_{TM}	-	1.7	Volts
Gate Trigger Current(Continuous dc),Note 1 (Anode Voltage=7Vdc,R_L=100 Ohms)	I_{GT}	-	200	μA
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

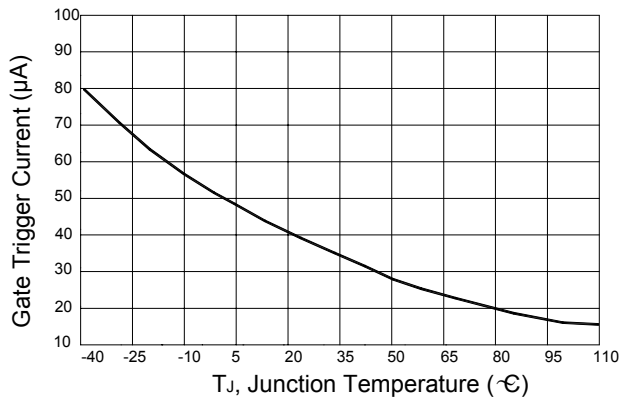Note 1. R_{GK} current is not included in measurement.

GSP FORM A IS AVAILABLE

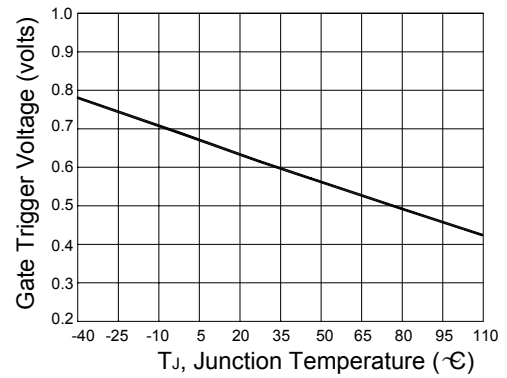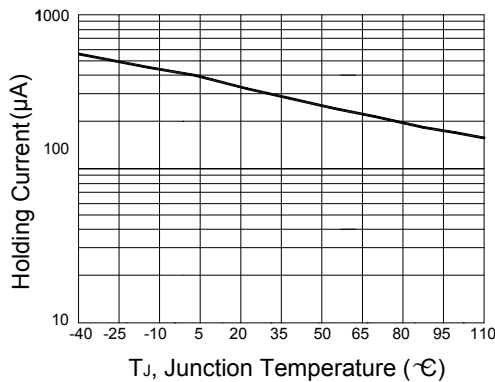**SEMTECH ELECTRONICS LTD.** (**Wholly owned subsidiary of Honey Technology Ltd.**)

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MCR100-3 … MCR100-8

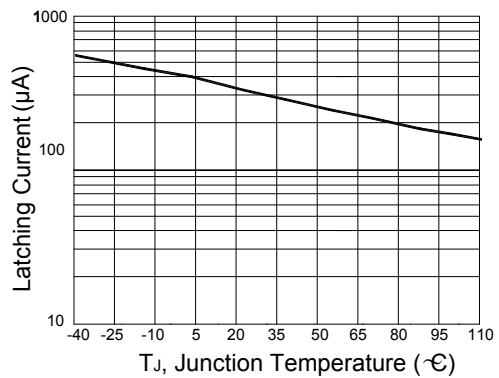

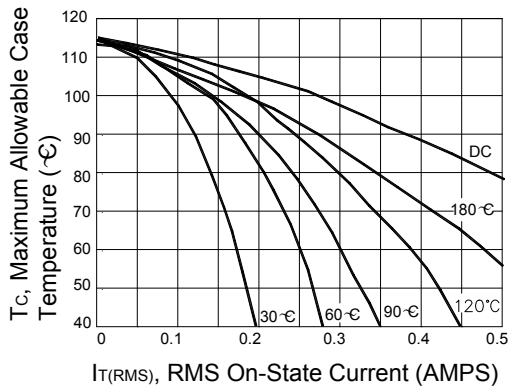**Figure 1. Typical Gate Trigger Curent Versus Junction Temperature**

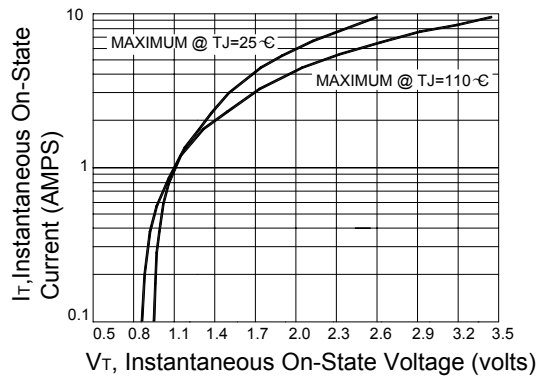**Figure 2. Typical Gate Trigger Voltage Versus Junction Temperature**

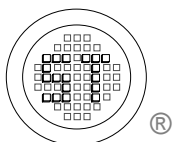**Figure 3. Typical Holding Curent Versus Junction Temperature**

Figure 4. Typical Latching Curent Versus Junction Temperature

Figure 5. Typical RMS Current Derating

Figure 6. Typical On-State Characteristics