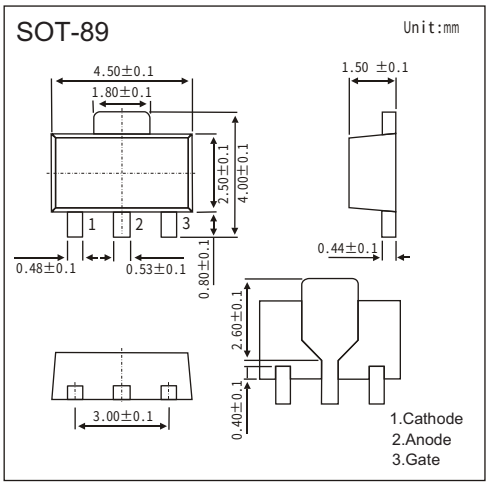
Silicon Controlled Rectifiers
CR05AS



Features

- Blocking Voltage to 400 V
- High Surge Current Capability — 10 A
- Glass-Passivated Surface for Reliability and Uniformity

Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Peak Repetitive Forward and Reverse Blocking Voltage (T_J = 25 to 125℃, R_{GK} = 1 K Ω)	V_{DRM} and V_{RRM}	400	V
Forward Current RMS	$I_{T(RMS)}$	0.8	A
Average on-state current	$I_{T(AV)}$	0.5	A
Peak Forward Surge Current, T_A = 25℃ (1/2 Cycle, Sine Wave, 60 Hz)	I_{TSM}	10	A
Circuit Fusing Considerations (t = 8.3 ms)	I^2t	0.415	A^2s
Peak Gate Power — Forward, T_A = 25℃	P_{GM}	0.1	W
Average Gate Power — Forward, T_A = 25℃	$P_{GF(AV)}$	0.01	W
Peak Gate Current — Forward, T_A = 25℃ (300 ms, 120 PPS)	I_{GFM}	0.1	A
Peak Gate Voltage — Reverse	V_{GRM}	6	V
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	℃/W
Thermal Resistance, Junction to Case	$R_{\theta JC}$	75	℃/W
Operating Junction Temperature Range @ Rated V_{RRM} and V_{DRM}	T_J	-40 to +125	℃
Storage Temperature Range	T_{stg}	-40 to +150	℃
Lead Solder Temperature(＜1/16"from case, 10 s max)		260	℃

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■ Electrical Characteristics (Ta = 25℃,RGK = 1 kΩ unless otherwise noted.)

Parameter	Symbol	Test conditons	Min	Max	Unit
Peak Forward or Reverse Blocking Current T_C = 25℃	I_{DRM}, I_{RRM}	V_{AK} = Rated V_{DRM} or V_{RRM}		10	μA
Peak Forward or Reverse Blocking Current T_C = 125℃				100	
Forward "On" Voltage *1	V_{TM}	I_{TM} = 1 A Peak @ T_A = 25℃		1.7	V
Gate Trigger Current (Continuous DC) *2 T_C = 25℃	I_{GT}	Anode Voltage = 7 V, R_L = 100Ω		200	μA
Gate Trigger Voltage (Continuous DC) T_C = 25℃	V_{GT}	Anode Voltage=7V,R_L=100 Ω		0.8	V
Gate Trigger Voltage (Continuous DC) T_C = -40℃				1.2	
Holding Current T_C=25℃	I_H	Anode Voltage=7V,initiating current=20mA		5	mA
Holding Current T_C=-40℃				10	

*1. Forward current applied for 1 ms maximum duration, duty cycle ≤ 1%.

■ Marking

Marking	CR05AS

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■ Typical Characteristics

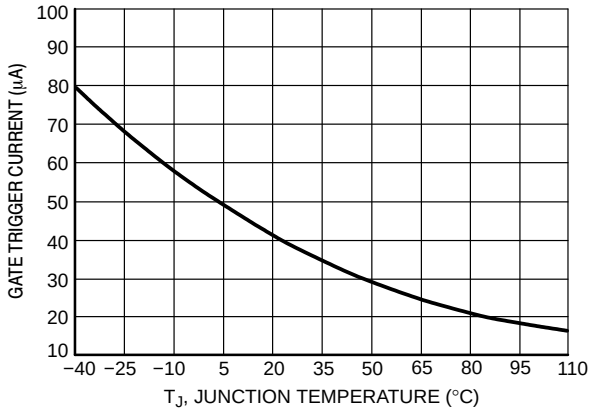

Figure 1. Typical Gate Trigger Current versus Junction Temperature

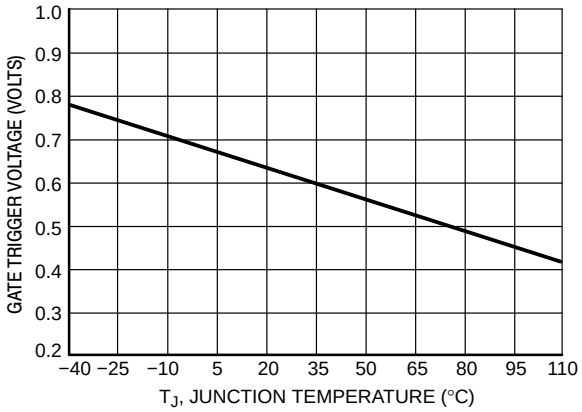

Figure 2. Typical Gate Trigger Voltage versus Junction Temperature

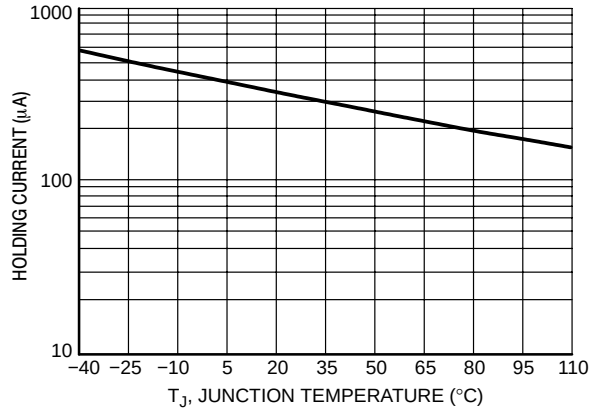

Figure 3. Typical Holding Current versus Junction Temperature

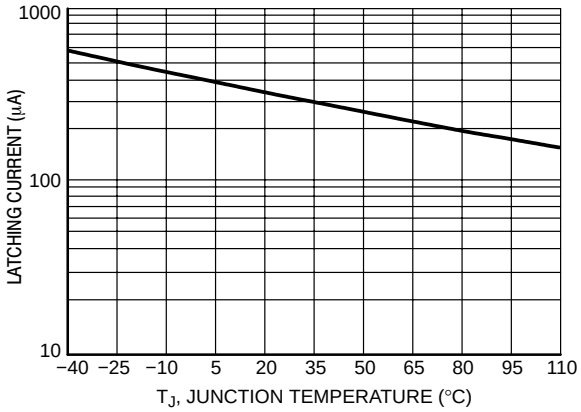

Figure 4. Typical Latching Current versus Junction Temperature

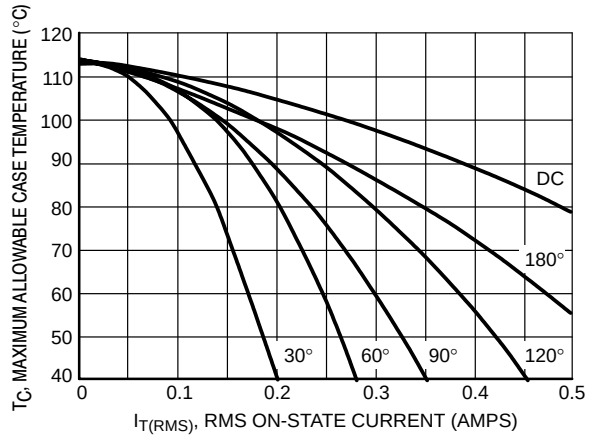

Figure 5. Typical RMS Current Derating

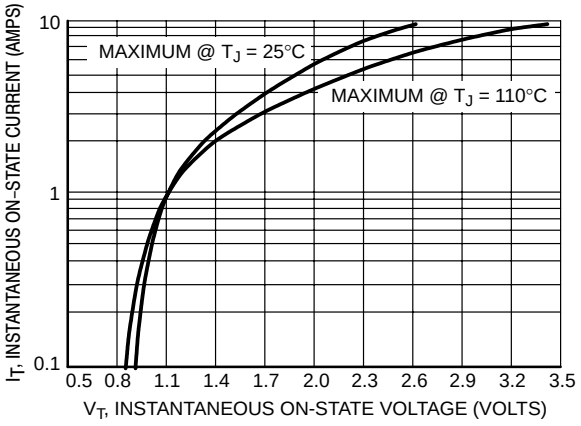

Figure 6. Typical On−State Characteristics