

Silicon Controlled Rectifiers

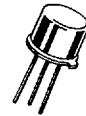
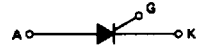
Reverse Blocking Triode Thyristors

These devices are glassivated planar construction designed for applications in control systems and sensing circuits where low-level gating and holding characteristics are necessary.

- Low-Level Gate Characteristics — $I_{GT} = 1 \text{ mA (Max) @ } T_C = 25^\circ\text{C}$
- Low Holding Current — $I_H = 5 \text{ mA (Max) @ } T_C = 25^\circ\text{C}$
- Glass-to-Metal Bond for Maximum Hermetic Seal

MCR1906 Series

SCRs
1.6 AMPERES RMS
50 thru 600 VOLTS



CASE 79-04
(TO-205AD)
STYLE 3

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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 110°C , $R_{GK} = 1 \text{ k}\Omega$)	V_{RRM}	200 400 600	Volts
RMS On-State Current (All Conduction Angles)	$I_T(\text{RMS})$	1.6	Amp
Peak Non-Repetitive Surge Current (One Cycle, 60 Hz, $T_J = -40$ to $+110^\circ\text{C}$) Preceded and followed by rated current and voltage	I_{TSM}	15	Amps
Peak Gate Power	P_{GM}	0.1	Watt
Average Gate Power	$P_{GF(AV)}$	0.01	Watt
Peak Gate Current	I_{GM}	0.1	Amp
Peak Gate Voltage	V_{GM}	6	Volts
Operating Junction Temperature Range	T_J	-65 to +110	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150	$^\circ\text{C}$
Lead Solder Temperature ($>1/16"$ From Case, 10 s max)	—	+230	$^\circ\text{C}$

Note 1. V_{DRM} and V_{RRM} for all 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 devices are exceeded.

MCR1906 Series

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$, $R_{GK} = 1\text{ k}\Omega$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Peak Forward or Reverse Blocking Current ($V_{AK} = \text{Rated } V_{DRM} \text{ or } V_{RRM}$, $R_{GK} = 1000\text{ Ohms}$) $T_J = 25^\circ\text{C}$ $T_J = 110^\circ\text{C}$	I_{DRM} , I_{RRM}	—	—	10 500	μA μA
Peak On-State Voltage (Pulsed, 1 ms max, Duty Cycle $\leq 1\%$) ($I_F = 1\text{ Adc Peak}$)	V_{TM}	—	—	1.75	Volt
Gate Trigger Current (Continuous dc) ($V_{AK} = 7\text{ V}$, $R_L = 100\text{ Ohms}$)	I_{GT}	—	—	1	mAdc
Gate Trigger Voltage (Continuous dc) ($V_{AK} = 7\text{ V}$, $R_L = 100\text{ Ohms}$) ($V_{AK} = \text{Rated } V_{DRM}$, $R_L = 100\text{ Ohms}$, $R_{GK} = 1000\text{ Ohms}$, $T_J = 110^\circ\text{C}$)	V_{GT}	— 0.1	—	1	Volt
Holding Current ($V_{AK} = 7\text{ V}$, $R_{GK} = 1000\text{ Ohms}$)	I_H	—	—	5	mA
Turn-On Time ($I_{GT} = 10\text{ mA}$, $I_F = 1\text{ A}$) ($I_{GT} = 20\text{ mA}$, $I_F = 1\text{ A}$)	t_{gt}	—	0.8 0.6	—	μs
Turn-Off Time ($I_F = 1\text{ A}$, $I_R = 1\text{ A}$, $dv/dt = 20\text{ V}/\mu\text{s}$, $T_J = 110^\circ\text{C}$)	t_q	—	10	—	μs

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CURRENT DERATING

FIGURE 1 – CASE TEMPERATURE REFERENCE

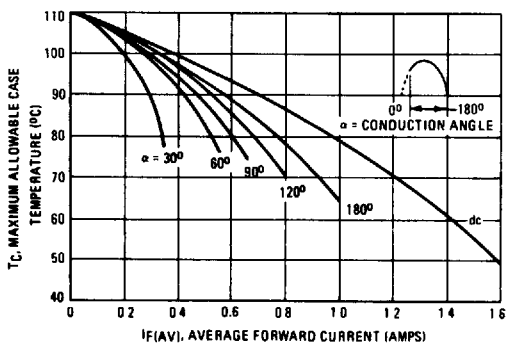


FIGURE 2 – AMBIENT TEMPERATURE REFERENCE

