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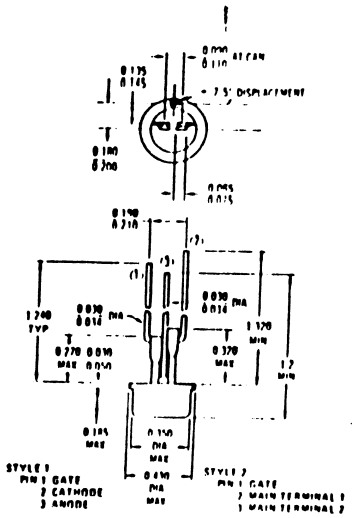
SILICON CONTROLLED RECTIFIER

OUTLINE DRAWING



MAXIMUM RATINGS

(Apply over operating temperature range and for all case types unless otherwise noted)

Rating	Symbol	Value	Unit
*Peak Reverse Blocking Voltage (1)	V_{RRM}	200	Volts
Forward Current RMS	$I_{T(RMS)}$	8.0	Amp
*Peak Forward Surge Current (One cycle, 60 Hz, T_J = -40 to +100°C)	I_{TSM}	100	Amp
Circuit Fusing Considerations (T_J = -40 to +100°C; t ≤ 8.3 ms)	I^2t	40	A^2s
*Peak Gate Power	P_{GM}	5.0	Watt
*Average Gate Power	$P_{G(AV)}$	0.5	Watt
*Peak Gate Current	I_{GM}	2.0	Amp
Peak Gate Voltage (2)	V_{GM}	10	Volts
*Operating Temperature Range	T_J	-40 to +100	°C
*Storage Temperature Range	T_{stg}	-40 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Case	$R\theta_{JC}$	1.5	2.5*	°C/W

(1) Ratings apply for zero or negative gate voltage. Devices should not be tested for blocking capability in a manner such that the voltage applied exceeds the rated blocking voltage.
(2) Devices should not be operated with a positive bias applied to the gate concurrently with a negative potential applied to the anode.

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
*Peak Forward Blocking Voltage (1) (T_J = 100°C)	V_{DRM}	200	–	–	Volts
*Peak Forward Blocking Current (Rated V_{DRM} @ T_J = 100°C, gate open)	I_{DRM}	–	–	2.0	mA
*Peak Reverse Blocking Current (Rated V_{DRM} @ T_J = 100°C, gate open)	I_{RRM}			2.0	mA
Gate Trigger Current (Continuous dc) (2) (Anode Voltage = 7.0 Vdc, R_L = 100 Ω) *(Anode Voltage = 7.0 Vdc, R_L = 100 Ω T_C = -40°C)	I_{GT}	– –	– –	30 60	mA
Gate Trigger Voltage (Continuous dc) (Anode Voltage = 7.0 Vdc, R_L = 100 Ω) *(Anode Voltage = 7.0 Vdc, R_L = 100 Ω, T_C = -40°C) *(Anode Voltage = 7.0 Vdc, R_L = 100 Ω, T_J = 100°C)	V_{GT}	– – 0.2	– – –	1.5 2.5 –	Volts
*Forward "On" Voltage (pulsed, 1.0 ms max, duty cycle ≤ 1%) (I_F = 15.7 A)	V_T	–	–	2.0	Volts
Holding Current (Anode Voltage = 7.0 Vdc, gate open) *(Anode Voltage = 7.0 Vdc, gate open, T_C = -40°C)	I_H	– –	– –	30 60	mA
Turn-On Time (t_d + t_r) (I_G = 20 mAdc, I_F = 5.0 Adc)	t_{on}	–	1.0	–	µs
Turn-Off Time (I_F = 5.0 Adc, I_R = 5.0 Adc) (I_F = 5.0 Adc, I_R = 5.0 Adc, T_J = 100°C) (V_{FXM} = rated voltage) (dv/dt = 30 V/µs)	t_{off}	–	15 25	– –	µs
Forward Voltage Application Rate (Gate open, T_J = 100°C)	dv/dt	–	50	–	V/µs

(1) Ratings apply for zero or negative gate voltage. These devices should not be tested with a constant current source for forward or reverse blocking capability such that the voltage applied exceeds the rated blocking voltage.

(2) For optimum operation, i.e. faster turn on, lower switching losses, best di/dt capability, recommended I_{GT} = 200 mA minimum.