



Silicon Controlled Rectifiers
Reverse Blocking Triode Thyristors

MAXIMUM RATINGS ($T_C = 110^\circ\text{C}$ unless otherwise noted.)

TO-18

Rating	Symbol	Value	Unit
*Repetitive Peak Forward and Reverse Blocking Voltage (Note 1) (1/2 Sine Wave) ($R_{GK} = 1000$ ohms, $T_C = -40$ to $+110^\circ\text{C}$)	V_{DRM} or V_{RRM}	30 200 50 100 400 600	Volts
*Non-Repetitive Peak Reverse Blocking Voltage (1/2 Sine Wave, $R_{GK} = 1000$ ohms, $T_C = -40$ to $+110^\circ\text{C}$)	V_{RSM}	50 100 150 250 450 650	Volts
*Average On-State Current ($T_C = -40$ to $+90^\circ\text{C}$) ($T_C = +100^\circ\text{C}$)	$I_{T(AV)}$	2.6 1.6	Amps
*Surge On-State Current (1/2 Sine Wave, 80 Hz, $T_C = +90^\circ\text{C}$) (1/2 Sine Wave, 1.5 ms, $T_C = +90^\circ\text{C}$)	I_{TSM}	25 35	Amps
Circuit Fusing ($T_C = -40$ to $+110^\circ\text{C}$, $t = 1$ to 8.3 ms)	I^2t	2.6	A^2s
*Peak Gate Power (Pulse Width = 10 μs , $T_C = 90^\circ\text{C}$)	P_{GM}	0.5	Watt
*Average Gate Power ($t = 8.3$ ms, $T_C = 90^\circ\text{C}$)	$P_{G(AV)}$	0.1	Watt
Peak Forward Gate Current	I_{GM}	0.2	Amp
Peak Reverse Gate Voltage	V_{RGM}	6	Volts
*Operating Junction Temperature Range	T_J	-40 to +110	$^\circ\text{C}$
*Storage Temperature Range	T_{stg}	-40 to +150	$^\circ\text{C}$
Mounting Torque (Note 2)	—	6	in. lb.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
*Thermal Resistance, Junction to Case	$R_{\theta JC}$	—	3	$^\circ\text{C/W}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	—	75	$^\circ\text{C/W}$

*Indicates JEDEC Registered Data.

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ and $R_{GK} = 1000$ ohms unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
*Peak Forward or Reverse Blocking Current (Note 1) (Rated V_{DRM} or V_{RRM}) $T_C = 25^\circ\text{C}$ $T_C = 110^\circ\text{C}$	I_{DRM} , I_{RRM}	— —	— —	10 200	μA μA
*Peak Forward "On" Voltage ($I_{TM} = 8.2$ A Peak, Pulse Width = 1 to 2 ms, 2% Duty Cycle)	V_{TM}	—	—	2.2	Volts
Gate Trigger Current (Continuous dc) (Note 3) ($V_{AK} = 12$ Vdc, $R_L = 24$ Ohms) *($V_{AK} = 12$ Vdc, $R_L = 24$ Ohms, $T_C = -40^\circ\text{C}$)	I_{GT}	—	—	200 500	μA
Gate Trigger Voltage (Continuous dc) (Source Voltage = 12 V, $R_S = 50$ Ohms) *($V_{AK} = 12$ Vdc, $R_L = 24$ Ohms, $T_C = -40^\circ\text{C}$)	V_{GT}	—	—	1	Volts
Gate Non-Trigger Voltage ($V_{AK} = \text{Rated } V_{DRM}$, $R_L = 100$ Ohms, $T_C = 110^\circ\text{C}$)	V_{GD}	0.2	—	—	Volts
Holding Current ($V_{AK} = 12$ Vdc, $I_{GT} = 2$ mA) $T_C = 25^\circ\text{C}$ *(Initiating On-State Current = 200 mA) $T_C = -40^\circ\text{C}$	I_H	—	—	5 10	mA
*Total Turn-On Time (Source Voltage = 12 V, $R_S = 6$ k Ohms) ($I_{TM} = 8.2$ A, $I_{GT} = 2$ mA, Rated V_{DRM}) (Rise Time = 20 ns, Pulse Width = 10 μs)	t_{gt}	—	—	2	μs
Forward Voltage Application Rate ($V_D = \text{Rated } V_{DRM}$, $T_C = 110^\circ\text{C}$)	dv/dt	—	10	—	$\text{V}/\mu\text{s}$

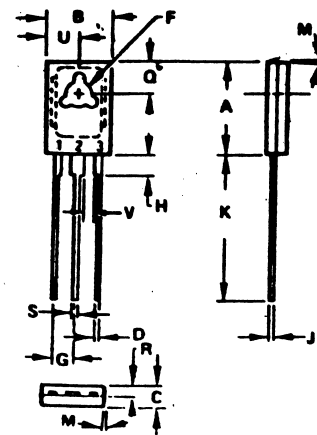


Quality Semi-Conductors

Style 2, 5, 7

STYLE 2
PIN 1. CATHODE
2. ANODE
3. GATE

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	10.00	11.05	0.425	0.435
B	7.49	7.75	0.295	0.305
C	2.41	2.67	0.095	0.105
D	0.51	0.66	0.020	0.026
F	2.92	3.18	0.115	0.125
G	2.31	2.46	0.091	0.097
H	1.27	2.41	0.050	0.095
J	0.38	0.64	0.015	0.025
K	15.11	16.64	0.595	0.655
M	3° TYP		3° TYP	
Q	3.76	4.01	0.148	0.158
R	1.14	1.40	0.045	0.055
S	0.64	0.89	0.025	0.035
U	3.68	3.94	0.145	0.155
V	1.02	-	0.040	-



STYLE 5

PIN 1. MT1
2. MT2
3. GATE

STYLE 7.

PIN 1. MT1
2. GATE
3. MT2