New Jersey Semi-Conductor Products, Inc.

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Sensitive Gate Triac

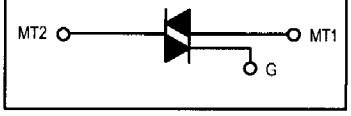
Silicon Bidirectional Triode Thyristor

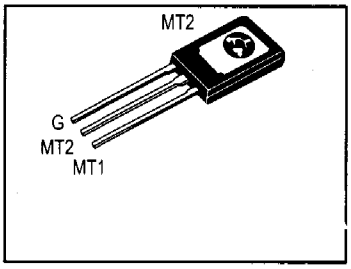
T2322B

SENSITIVE GATE TRIACs
2.5 AMPERES RMS
200 VOLTS

. . . designed primarily for ac power switching. The gate sensitivity of these triacs permits the use of economical transistorized or integrated circuit control circuits, and it enhances their use in low-power phase control and load-switching applications.

- Very High Gate Sensitivity
- Low On-State Voltage at High Current Levels
- Glass-Passivated Chip for Stability
- Small, Rugged Thermopad Construction for Low Thermal Resistance, High Heat Dissipation and Durability





MAXIMUM RATINGS (T_J = 25°C unless otherwise noted.)

Rating	Symbol	Value	Unit
Peak Repetitive Off-State Voltage(1) (T_J = 25 to 100°C, Gate Open)	V_{DRM}	200	Volts
RMS On-State Current (T_C = 70°C) (Full-Cycle Sine Wave 50 to 60 Hz)	$I_{T(RMS)}$	2.5	Amps
Peak Non-repetitive Surge Current (One Full Cycle, 60 Hz)	I_{TSM}	25	Amps
Circuit Fusing (t = 8.3 ms)	I^2t	2.6	A^2s
Peak Gate Power (1 μs)	P_{GM}	10	Watts
Average Gate Power (T_C = 60°C + 38.3 ms)	$P_{G(AV)}$	0.15	Watt
Peak Gate Current (1 μs)	I_{GM}	0.5	Amp
Operating Junction Temperature Range	T_J	–40 to +110	°C
Storage Temperature Range	T_{stg}	–40 to +150	°C
Mounting Torque (6-32 Screw)(2)	—	8	in. lb.

1. V_{DRM} for all types can be applied on a continuous basis. Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the devices are exceeded.
2. Torque rating applies with use of torque washer (Shakeproof WD19523 or equivalent). Mounting Torque in excess of 6 in. lb. does not appreciably lower case-to-sink thermal resistance. Main terminal 2 and heat-sink contact pad are common.
   For soldering purposes (either terminal connection or device mounting), soldering temperatures shall not exceed +200°C, for 10 seconds. Consult factory for lead bending options.

T2322B

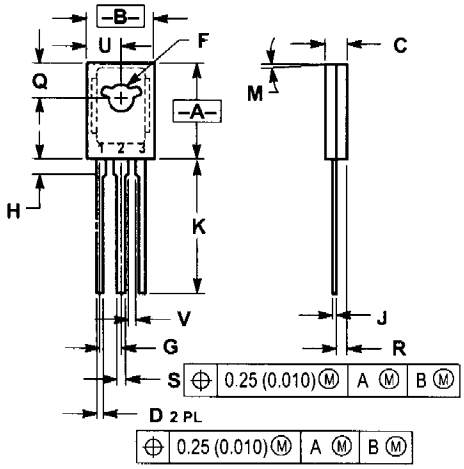
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.5	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	60	°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°C and either polarity of MT2 to MT1 voltage unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Peak Blocking Current (V_D = Rated V_{DRM}, Gate Open) T_J = 25°C T_J = 100°C	I_{DRM}	— —	— 0.2	10 0.75	µA mA
Peak On-State Voltage* (I_{TM} = 10 A) T2322 Series	V_{TM}	—	1.7	2.2	Volts
Gate Trigger Current (Continuous dc) (V_D = 12 V, R_L = 30 Ω) All Modes T2322 Series	I_{GT}	—	—	10	mA
Gate Trigger Voltage (Continuous dc) (V_D = 12 Vdc, R_L = 30 Ω, T_C = 25°C) (V_D = V_{DRM}, R_L = 125 Ω, T_C = 100°C)	V_{GT}	— 0.15	1 —	2.2 —	Volts
Holding Current (V_D = 12 V, I_{TM} = 150 mA, Gate Open)	I_H	—	15	30	mA
Gate Controlled Turn-On Time (V_D = Rated V_{DRM}, I_{TM} = 10 A pk, I_G = 60 mA)	t_{gt}	—	1.8	2.5	µs
Critical Rate-of-Rise of Off-State Voltage (V_D = Rated V_{DRM}, Exponential Waveform, T_C = 100°C)	dv/dt	10	100	—	V/µs
Critical Rate-of-Rise of Commutation Voltage (V_D = Rated V_{DRM}, I_{TM} = 3.5 A pk, Commutating di/dt = 1.26 A/ms, Gate Unenergized, T_C = 90°C)	dv/dt(c)	1	4	—	V/µs

*Pulse Test: Pulse Width ≤ 300 µs, Duty Cycle ≤ 2%.



STYLE 5:
PIN 1. MT 1
2. MT 2
3. GATE

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.425	0.435	10.80	11.04
B	0.295	0.305	7.50	7.74
C	0.095	0.105	2.42	2.66
D	0.020	0.026	0.51	0.66
F	0.115	0.130	2.93	3.30
G	0.094 BSC		2.39 BSC	
H	0.050	0.095	1.27	2.41
J	0.015	0.025	0.39	0.63
K	0.575	0.655	14.61	16.63
M	5° TYP		5° TYP	
Q	0.148	0.158	3.76	4.01
R	0.045	0.055	1.15	1.39
S	0.025	0.035	0.64	0.88
U	0.145	0.155	3.69	3.93
V	0.040	—	1.02	—