

Triacs

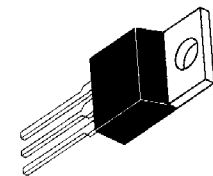
Silicon Bidirectional Thyristors

... designed primarily for full-wave ac control applications, such as light dimmers, motor controls, heating controls and power supplies.

- Blocking Voltage to 800 Volts
- All Diffused and Glass Passivated Junctions for Greater Parameter Uniformity and Stability
- Small, Rugged, Thermowatt Construction for Low Thermal Resistance, High Heat Dissipation and Durability

**T2500
Series**

**TRIACs
6 AMPERES RMS
200 thru 800 VOLTS**



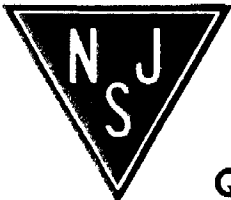
(TO-220AB)

MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$ unless otherwise noted.)

Rating	Symbol	Value	Unit
Repetitive Peak Off-State Voltage ⁽¹⁾ ($T_J = -40$ to $+100^\circ\text{C}$, Gate Open)	V_{DRM}		Volts
T2500 B		200	
D		400	
M		600	
N		800	
On-State Current RMS (Full Cycle Sine Wave 50 to 60 Hz)	$I_{T(RMS)}$	6	Amps
		($T_C = +80^\circ\text{C}$)	
Peak Non-repetitive Surge Current (One Full Cycle, 60 Hz, $T_C = +80^\circ\text{C}$)	I_{TSM}	60	Amps
Circuit Fusing Considerations ($t = 8.3$ ms)	I^2t	15	A^2s
Peak Gate Power ($T_C = +80^\circ\text{C}$, Pulse Width = 1 μs)	P_{GM}	16	Watts
Average Gate Power ($T_C = +80^\circ\text{C}$, $t = 8.3$ ms)	$P_{G(AV)}$	0.2	Watt
Peak Gate Trigger Current (Pulse Width = 10 μs)	I_{GTM}	4	Amps
Operating Junction Temperature Range	T_J	-40 to +100	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40 to +150	$^\circ\text{C}$

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.

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



T2500 Series

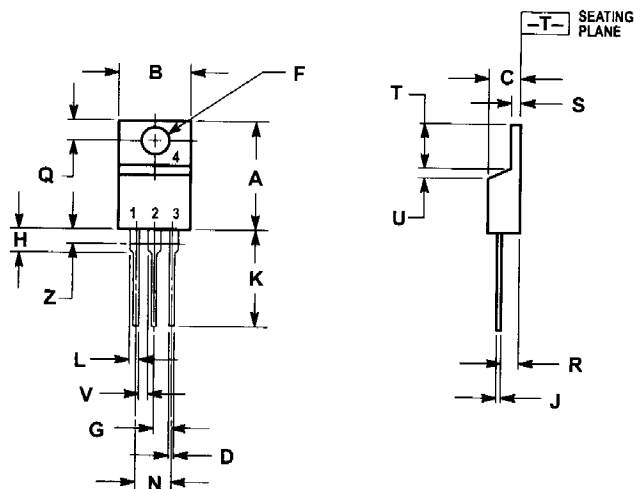
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.7	°C/W

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Peak Blocking Current (Rated V_{DRM} , Gate Open, $T_J = 100^\circ\text{C}$)	I_{DRM}	—	—	2	mA
Maximum On-State Voltage (Either Direction)* ($I_T = 30$ A Peak)	V_{TM}	—	—	2	Volts
Gate Trigger Current (Continuous dc) ($V_D = 12$ Vdc, $R_L = 12$ Ohms) MT2(+), G(+) MT2(+), G(-) MT2(-), G(-) MT2(-), G(+)	I_{GT}	— — — —	10 20 15 30	25 60 25 60	mA
Gate Trigger Voltage (Continuous dc) (All Quadrants) ($V_D = 12$ Vdc, $R_L = 12$ Ohms) ($V_D = V_{DROM}$, $R_L = 125$ Ohms, $T_C = 100^\circ\text{C}$)	V_{GT}	— 0.2	1.25 —	2.5 —	Volts
Holding Current (Either Direction) (Main Terminal Voltage = 12 Vdc, Gate Open, Initiating Current = 150 mA)	I_H	—	15	30	mA
Gate Controlled Turn-On Time (Rated V_{DRM} , $I_T = 10$ A, $I_{GT} = 160$ mA, Rise Time = 0.1 μs)	t_{gt}	—	1.6	—	μs
Critical Rate-of-Rise of Commutation Voltage (Rated V_{DRM} , $I_T(\text{RMS}) = 6$ A, Commutating $di/dt = 3.2$ A/ms, Gate Unenergized, $T_C = 80^\circ\text{C}$)	$dv/dt(c)$	—	10	—	V/ μs
Critical Rate-of-Rise of Off-State Voltage (Rated V_{DRM} , Exponential Voltage Rise, Gate Open, $T_C = 100^\circ\text{C}$) T2500B T2500D,M,N	dv/dt	— —	100 75	— —	V/ μs

*Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2\%$.



STYLE 4:
PIN 1. MAIN TERMINAL 1
2. MAIN TERMINAL 2
3. GATE
4. MAIN TERMINAL 2

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.147	3.61	3.73
G	0.095	0.105	2.42	2.66
H	0.110	0.155	2.80	3.93
J	0.014	0.022	0.36	0.55
K	0.500	0.562	12.70	14.27
L	0.045	0.055	1.15	1.39
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.090	0.050	0.00	1.27
V	0.045	—	1.15	—
Z	—	0.080	—	2.04