

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Repetitive peak off-stage voltage⁽¹⁾ ($T_j = -40$ to $+100^\circ\text{C}$, gate open)			
T2500B	V_{DRM}	200	Volts
T2500D		400	
T2500M		600	
T2500N		800	
RMS on-state current (full sine wave 50 to 60Hz, $T_C = 80^\circ\text{C}$)	$I_{\text{T(RMS)}}$	6	Amps
Peak non-repetitive surge current (One Cycle, 60Hz, $T_C = 80^\circ\text{C}$)	I_{TSM}	60	Amps
Circuit fusing considerations ($T_j = -40$ to $+100^\circ\text{C}$, $t = 1.25$ to 10ms)	I^2t	18	A^2s
Peak gate power ($T_C = 80^\circ\text{C}$, pulse width = $1.0\mu\text{s}$)	P_{GM}	16	Watts
Average gate power ($T_C = 80^\circ\text{C}$, $t = 8.3\text{ms}$)	$P_{\text{G(AV)}}$	0.2	Watts
Peak trigger current (pulse width = $10\mu\text{s}$)	I_{GM}	4	Amps
Operating junction temperature range	T_j	-40 to +100	$^\circ\text{C}$
Storage temperature range	T_{stg}	-40 to +150	$^\circ\text{C}$

Note 1: Ratings apply for open gate conditions. Thyristor devices shall not be tested with a constant current source for blocking capability such that the voltage applied exceeds the rated blocking voltage.

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal resistance, junction to case	$R_{\theta\text{JC}}$	2.7	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ and either polarity of MT2 to MT1 voltage unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Peak off state current (Rated V_{DRM} @ $T_j = 100^\circ\text{C}$, gate open)	I_{DRM}	-	-	2	mA
Peak on-state voltage ($I_{\text{TM}} = 30\text{A}$ peak)	V_{TM}	-	-	2	Volts
DC gate trigger current (continuous dc) ($V_D = 12\text{V}$, $R_L = 12\Omega$)					
MT2(+), G(+)	I_{GT}	-	10	25	mA
MT2(+), G(-)		-	20	60	
MT2(-), G(-)		-	15	25	
MT2(-), G(+)		-	30	60	
DC gate trigger voltage (continuous dc) all quadrants ($V_D = 12\text{V}$, $R_L = 12\Omega$) ($V_D = V_{\text{DRM}}$, $R_L = 125\Omega$, $T_C = 100^\circ\text{C}$)	V_{GT}	-	1.25	2.5	Volts
		0.2	-	-	
Holding current (either direction) ($V_D = 12\text{V}$, gate open, $I_T = 150\text{mA}$, $T_C = 25^\circ\text{C}$)	I_{H}	-	15	30	mA
Gate controlled turn on time ($V_D = \text{Rated } V_{\text{DRM}}$, $I_T = 10\text{A}$, $I_{\text{GT}} = 160\text{mA}$, rise time = $0.1\mu\text{s}$)	t_{gt}	-	1.6	-	μs

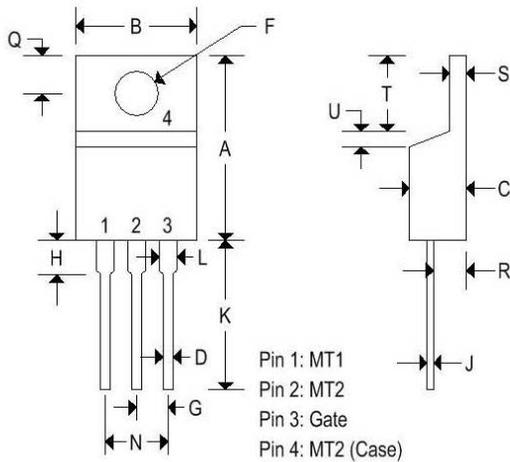
T2500 SERIES

SILICON BIDIRECTIONAL THYRISTORS

Critical rate of rise of commutating voltage (Rated V_{DRM} , $I_{T(RMS)} = 6A$, commutating $di/dt = 3.2A/ms$, gate unenergized, $T_C = 80^\circ C$)	dv/dt(c)	-	10	-	V/ μs
Critical rate of rise of off-state voltage (Rated V_{DRM} , exponential voltage rise, gate open, $T_C = 100^\circ C$) T2500B T2500D, M, N	dv/dt	100 75	- -	- -	V/ μs

MECHANICAL CHARACTERISTICS

Case	TO-220AB
Marking	Alpha-numeric
Pin out	See below



	TO-220AB			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.575	0.620	14.600	15.750
B	0.360	0.405	9.650	10.290
C	0.160	0.190	4.060	4.820
D	0.025	0.035	0.640	0.890
F	0.142	0.147	3.610	3.730
G	0.095	0.105	2.410	2.670
H	0.110	0.155	2.790	3.930
J	0.014	0.022	0.360	0.560
K	0.500	0.562	12.700	14.270
L	0.045	0.055	1.140	1.390
N	0.190	0.210	4.830	5.330
Q	0.100	0.120	2.540	3.040
R	0.080	0.110	2.040	2.790
S	0.045	0.055	1.140	1.390
T	0.235	0.255	5.970	6.480
U	-	0.050	-	1.270
V	0.045	-	1.140	-
Z	-	0.080	-	2.030