DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

T2322, T2323 SERIES

SILICON BIDIRECTIONAL THYRISTORS

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	Suffix	Symbol	Value	Unit
Peak Repetitive Off-State Voltage (Note 1) (T_J = 25 to 100°C, Gate Open) **T2322, T2323**	F A B C D E M	V_{DRM}	50 100 200 300 400 500 600	V
RMS On-State Current (T_C = 70°C) (Full Cycle Sine Wave 50 to 60 Hz)		$I_{T(RMS)}$	2.5	A
Peak Non-Repetitive Surge Current (One Full Cycle, 60 Hz)		I_{TSM}	25	A
Circuit Fusing (t ≤ 8.3ms)		I^2t	2.6	A^2s
Peak-Gate Power (1µs)		P_{GM}	10	W
Average Gate Power (T_C = 60°C)		$P_{G(AV)}$	0.15	W
Peak Gate Current (1µs)		I_{GM}	0.5	A
Operating Junction Temperature Range		T_J	-40 to +110	°C
Storage Temperature Range		T_{stg}	-40 to +150	°C
Mounting Torque (6-32 Screw) (Note 2)		-	8.0	In. lb.

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)

Characteristics		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 (Note 3) (I_{TM} = 10A)	T2323 Series T2322 Series	V_{TM}	- -	1.7 1.7	2.6 2.2	V
Gate Trigger Current (Continuous dc) (V_D = 12V, R_L = 30Ω) **All Modes** MT2(+), G(+); MT2(-), G(-) MT2(+), G(-); MT2(-), G (+)	 T2322 Series T2323 Series T2323 Series	I_{GT}	 - - -	 - - -	 10 25 40	 mA	
Gate Trigger Voltage (Continuous dc) (V_D = 12 Vdc, R_L = 30Ω, T_C = 25°C) (V_D = V_{DRM}, R_L = 125Ω, T_C = 100°C)		V_{GT}	- 0.15	1 -	2.2 -	V

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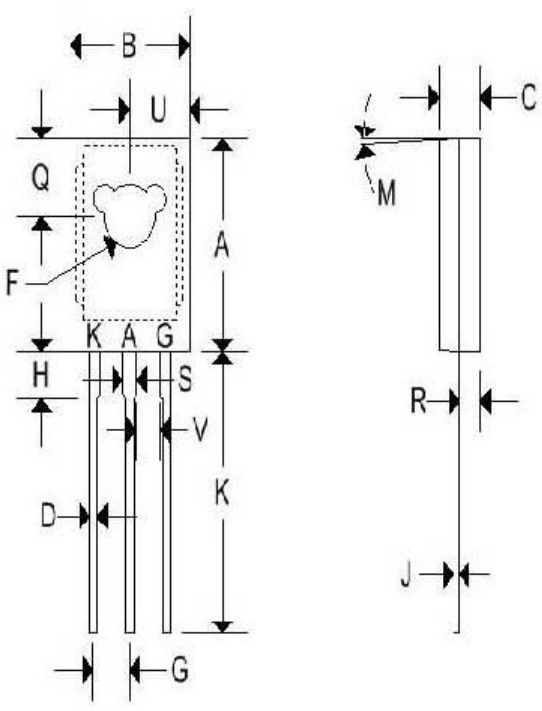
Holding Current (V_D = 12V, I_{TM} = 150mA, Gate Open)	I_H	-	15	30	mA
Gate Controlled Turn-On Time (V_D = Rated V_{DRM}, I_{TM} = 10A pk, I_G = 60mA)	t_{gt}	-	1.8	2.5	µs
Critical Rate of Rise of Off-State Voltage (V_D = Rated V_{DRM}, Exponential Waveform, T_C = 100°C)	dv/dt	10	100	-	V/µs
Critical Rate 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)	1.0	4.0	-	V/µs

Note 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.
Note 2: Torque rating applies with use of torque washer. 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.
Note 3: Pulse Test: Pulse Width ≤ 300ms, Duty Cycle ≤ 2%.

MECHANICAL CHARACTERISTICS

Case	TO-126
Marking	Alpha-numeric
Pin out	See below



	TO-126			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.425	0.435	10.80	11.050
B	0.295	0.305	7.490	7.750
C	0.095	0.105	2.410	2.670
D	0.020	0.026	0.510	0.660
F	0.115	0.125	2.920	3.180
G	0.091	0.097	2.310	2.460
H	0.050	0.095	1.270	2.410
J	0.015	0.025	0.380	0.640
K	0.595	0.655	15.110	16.640
M	3° TYP		3° TYP	
Q	0.148	0.158	3.760	4.010
R	0.045	0.055	1.140	1.400
S	0.025	0.035	0.640	0.890
U	0.145	0.155	3.680	3.940
V	0.040	-	1.020	-