## **Triacs**

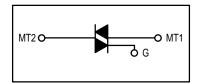
## **Bidirectional Triode Thyristors**

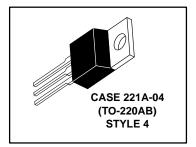
... designed primarily for full-wave ac control applications, such as light dimmers, motor controls, heating controls and power supplies.

- Blocking Voltage to 600 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
- T2800 Four Quadrant Gating

# T2800 SERIES

TRIACS 8 AMPERES RMS 200 thru 600 VOLTS





#### **MAXIMUM RATINGS** (T<sub>J</sub> = 25°C unless otherwise noted.)

Rating	Symbol	Value	Unit
Peak Repetitive Off-State Voltage <sup>(1)</sup> (T <sub>.1</sub> = -40 to +100°C, Gate Open)	V <sub>DRM</sub>		Volts
T2800 B D M		200 400 600	
RMS On-State Current $(T_C = +80^{\circ}C)$ (Conduction Angle = 360°)	lT(RMS)	8	Amps
Peak Non-repetitive Surge Current (One Full Cycle, 60 Hz, T <sub>J</sub> = +80°C)	ITSM	100	Amps
Circuit Fusing (t = 8.3 ms)	I <sup>2</sup> t	40	A <sup>2</sup> s
Peak Gate Power (Pulse Width = 1 μs)	P <sub>GM</sub>	16	Watts
Average Gate Power	P <sub>G(AV)</sub>	0.35	Watt
Peak Gate Trigger Current (Pulse Width = 1 μs)	I <sub>GTM</sub>	4	Amps
Operating Junction Temperature Range	TJ	-40 to +100	°C
Storage Temperature Range	T <sub>stg</sub>	-40 to +150	°C

#### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{ heta JC}$	2.2	°C/W

<sup>1.</sup> V<sub>DRM</sub> 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.

#### REV 1

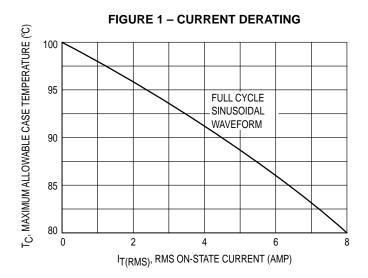


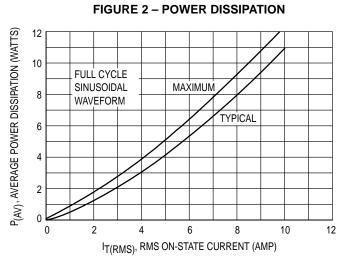
### **T2800 SERIES**

## **ELECTRICAL CHARACTERISTICS** ( $T_C = 25$ °C unless otherwise noted.)

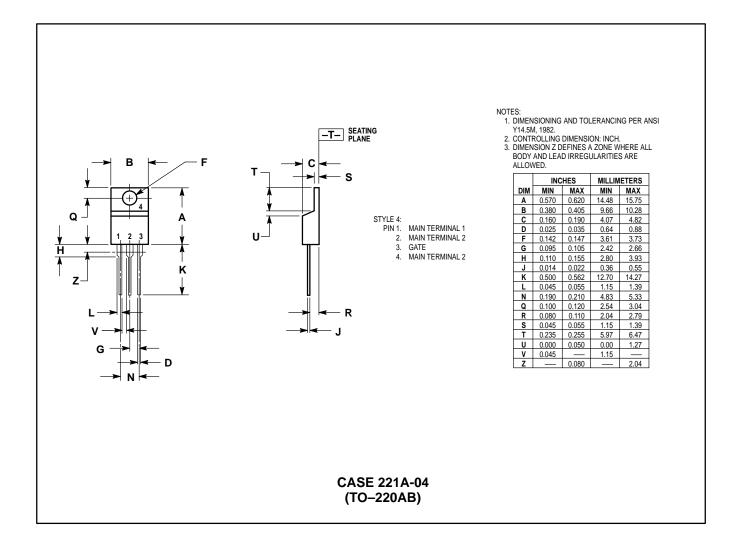
Characteristic	Symbol	Min	Тур	Max	Unit
Peak Blocking Current $(V_D = Rated V_{DRM}, Gate Open)$ $T_C = 25^{\circ}C$ $T_C = 100^{\circ}C$	IDRM		_	10 2	μA mA
Peak On-State Voltage (Either Direction)* (I <sub>T</sub> = 30 A Peak)	V <sub>TM</sub>	_	1.7	2	Volts
Gate Trigger Current (Continuous dc)  (V <sub>D</sub> = 12 Vdc, R <sub>L</sub> = 12 Ohms)  MT2(+), G(+) T2800  MT2(+), G(-) T2800  MT2(-), G(-) T2800  MT2(-), G(+) T2800	I <sub>GT</sub>	= = =	10 20 15 30	25 60 25 60	mA
Gate Trigger Voltage (Continuous dc) (All Polarities) ( $V_D = 12 \text{ Vdc}$ , $R_L = 100 \text{ Ohms}$ ) ( $R_L = 125 \text{ Ohms}$ , $V_D = V_{DRM}$ , $V_C = 100^{\circ}\text{C}$ )	VGТ	 0.2	1.25 —	2.5 —	Volts
Holding Current (Either Direction) (VD = 12 Vdc, Gate Open) T2800	Ιн	_	15	30	mA
Gate Controlled Turn-On Time ( $V_D$ = Rated $V_{DRM}$ , $I_T$ = 10 A, $I_{GT}$ = 80 mA, Rise Time = 0.1 $\mu$ s)	<sup>t</sup> gt	_	1.6	_	μs
Critical Rate-of-Rise of Commutation Voltage ( $V_D$ = Rated $V_{DRM}$ , $I_{T(RMS)}$ = 8 A, Commutating di/dt = 4.1 A/ms, Gate Unenergized, $I_C$ = 80°C)	dv/dt(c)	_	10	_	V/µs
Critical Rate-of-Rise of Off-State Voltage  (V <sub>D</sub> = Rated V <sub>DRM</sub> , Exponential Voltage Rise, Gate Open, T <sub>C</sub> = 100°C)  T2800 B D M	dv/dt	100 — 60	_ _ _	_ _ _ _	V/µs

<sup>\*</sup>Pulse Test: Pulse Width  $\leq$  300  $\mu$ s, Duty Cycle  $\leq$  2%.





### **PACKAGE DIMENSIONS**



#### **T2800 SERIES**

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