

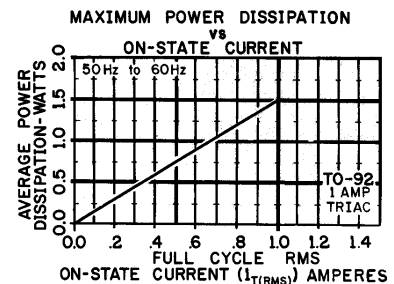
# HUTSON INDUSTRIES, INC.

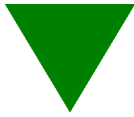
## TO-92 SENSITIVE GATE TRIAC

MAXIMUM RATINGS	SYMBOL	VDRM	DEVICE NUMBERS				UNITS
REPETITIVE PEAK OFF-STATE VOLTAGE (1) GATE OPEN, AND $T_J = 110^\circ\text{C}$	VDRM	200 400 600	TBS TDS TMS	TBD TDD TMD	TBG TDG TMG	TBH TDH TMH	VOLT
RMS ON-STATE CURRENT AT $T_C = 50^\circ\text{C}$ AND CONDUCTION, ANGLE OF $360^\circ$	IT(RMS)		1.0	1.0	1.0	1.0	AMP
PEAK SURGE (NON-REPETITIVE) ON-STATE CURRENT, ONE-CYCLE, AT 50HZ OR 60HZ	ITSM		20	20	20	20	AMP
PEAK GATE - TRIGGER CURRENT FOR $3\mu\text{SEC. MAX.}$	IGTM		1	1	1	1	AMP
PEAK GATE-POWER DISSIPATION AT IGT IGTM	PGM		10	10	10	10	WATT
AVERAGE GATE - POWER DISSIPATION	PG(AV)		0.2	0.2	0.2	0.2	WATT
STORAGE TEMPERATURE RANGE	TSTG		-40 TO +150				$^\circ\text{C}$
OPERATING TEMPERATURE RANGE, $T_J$	TOPER		-40 TO +110				$^\circ\text{C}$
<b>ELECTRICAL CHARACTERISTICS AT SPECIFIED CASE TEMPERATURE</b>							
PEAK OFF - STATE CURRENT (1) GATE OPEN $T_C = 110^\circ\text{C}$ VDRM = MAX. RATING	IDRM		0.1	0.1	0.1	0.1	MA MAX.
MAXIMUM ON - STATE VOLTAGE, (1) AT $T_C = 25^\circ\text{C}$ AND IT = RATED AMPS	VTM		1.6	1.6	1.6	1.6	VOLT MAX.
DC HOLDING CURRENT, (1) GATE OPEN AND $T_C = 25^\circ\text{C}$	IHO		5	10	15	25	MA MAX.
CRITICAL RATE-OF-RISE OF OFF-STATE VOLTAGE, (1) FOR $V_D = V_{DRM}$ GATE OPEN, $T_C = 110^\circ\text{C}$	CRITICAL dv/dt		10	10	20	25	V/ $\mu\text{SEC.}$
CRITICAL RATE-OF-RISE OF COMMUNICATION VOLTAGE, (1) AT $T_C = 80^\circ\text{C}$ , GATE UNENERGIZED, $V_D = V_{DRM}$ , IT = IT (RMS)	COMMUTATING dv/dt		1	1	1	1	V / $\mu\text{SEC.}$
DC GATE - TRIGGER CURRENT FOR $V_D = 12\text{VDC}$ . RL = 60 OHM AND AT $T_C = 25^\circ\text{C}$ (T2 + GATE + T2 - GATE-) Q 1 & 3 (T2 + GATE - T2 - GATE +) Q 2 & 4	IGT		3	5	10	25	MA MAX.
DC GATE - TRIGGER VOLTAGE FOR $V_D = 12\text{VDC}$ . RL = 60 OHM AND AT $T_C = 25^\circ\text{C}$	VGT		2.0	2.0	2.0	2.0	VOLT MAX.
GATE CONTROLLED TURN-ON TIME FOR $V_D = V_{DRM}$ IGT = 80MA TR = 0.1 $\mu\text{SEC.}$ IT = 10A (PEAK) AND $T_C = 25^\circ\text{C}$	TGT		3	3	3	3	$\mu\text{SEC.}$
THERMAL RESISTANCE, JUNCTION-TO-CASE	R $\theta$ -C		45	45	45	45	$^\circ\text{C} / \text{WATT}$ TYP
THERMAL RESISTANCE, JUNCTION-TO-AMBIENT	R $\theta$ -C		100	100	100	100	$^\circ\text{C} / \text{WATT}$ TYP

\*Notes:

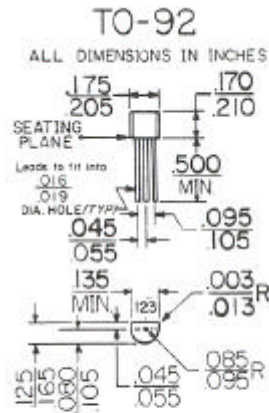
1. All values apply in either direction.
2. Quadrant II & IV gating may be deleted from any Hutson sensitive gate triac, as many applications do not require this capability. To order those devices suffix part number with "A".



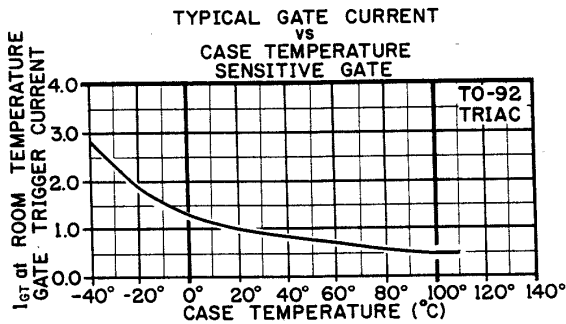


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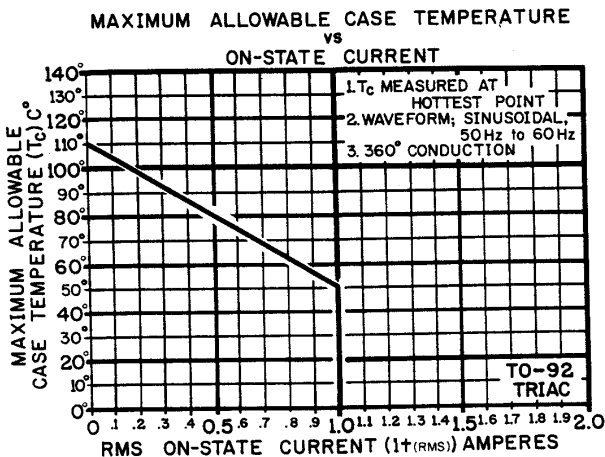
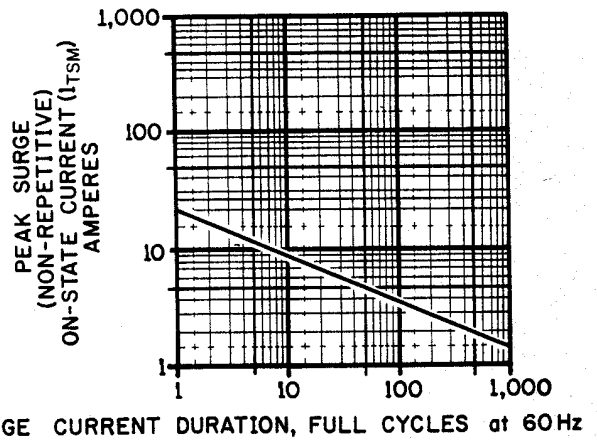
## TO-92 SENSITIVE GATE TRIAC



Pin 1. Main Terminal 1  
 Pin 2. Gate  
 Pin 3. Main Terminal 2



PEAK SURGE ON-STATE CURRENT vs. SURGE CURRENT DURATION



CURRENT WAVEFORM:  
 SINUSOIDAL, 60Hz  
 RESISTIVE LOAD  
 $I_t(\text{RMS}) = 1 \text{ AMPS AT } 50 T_c$   
 GATE CONTROL MAY BE LOST DURING AND AFTER SURGE.  
 GATE CONTROL WILL BE REGAINED AFTER  $T_j$  RETURNS TO STEADY-STATE VALUE.