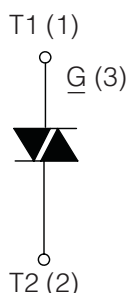
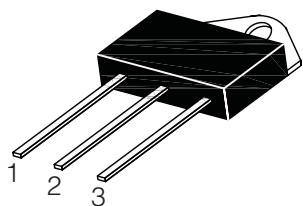


INSULATED STANDARD TRIAC

INSULATED TO3P


On-State Current

40 Amp

Gate Trigger Current
 $\leq 50 \text{ mA (18)}$
Off-State Voltage
 $600 \text{ V} \div 800 \text{ V}$

- * Standard current TRIAC
- * Low thermal resistance with clip bounding
- * Low thermal resistance isolation ceramic for FT....P

This series of TRIACs uses a high performance PNP technology.

These parts are intended for general purpose AC switching applications with highly inductive loads. The FT....P series provides an isolated tab (rated at 2500 Vrms).

Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Value	Unit
$I_{T(RMS)}$	RMS On-state Current (full sine wave)	All Conduction Angle, $T_c = 80^\circ\text{C}$	40	A
I_{TSM}	Non-repetitive On-State Current	Full Cycle, 60 Hz ($t = 16.7 \text{ ms}$)	420	A
I_{TSM}	Non-repetitive On-State Current	Full Cycle, 50 Hz ($t = 20 \text{ ms}$)	400	A
I^2t	Fusing Current	$t_p = 10 \text{ ms}$, Half Cycle	880	A^2s
I_{GM}	Peak Gate Current	$20 \mu\text{s max.}$ $T_j = 125^\circ\text{C}$	8	A
$P_{G(AV)}$	Average Gate Power Dissipation	$T_j = 125^\circ\text{C}$	1	W
di/dt	Critical rate of rise of on-state current	$I_G = 2x I_{GT}$, $t_r \leq 100\text{ns}$ $f = 120 \text{ Hz}$, $T_j = 125^\circ\text{C}$	50	$\text{A}/\mu\text{s}$
T_j	Operating Temperature		$(-40 + 125)$	$^\circ\text{C}$
T_{stg}	Storage Temperature		$(-40 + 150)$	$^\circ\text{C}$
T_{sld}	Soldering Temperature	10s max	260	$^\circ\text{C}$

SYMBOL	PARAMETER	VOLTAGE		Unit
		M	N	
V_{DRM}/V_{RRM}	Repetitive Peak Off State Voltage	600	800	V

INSULATED STANDARD TRIAC

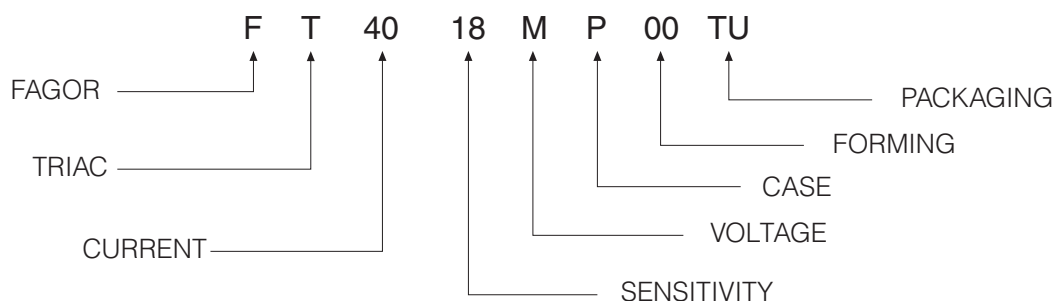
Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY	Unit
					18	
$I_{GT}^{(1)}$	Gate Trigger Current	$V_D = 12 V_{DC}, R_L = 33\Omega, T_j = 25^\circ C$	Q1÷Q3 Q4	MAX MAX	25 50	mA mA
V_{GT}	Gate Trigger Voltage	$V_D = 12 V_{DC}, R_L = 33\Omega, T_j = 25^\circ C$	Q1÷Q3	MAX	1.3	V
V_{GD}	Gate Non Trigger Voltage	$V_D = V_{DRM}, R_L = 3.3 K\Omega, T_j = 125^\circ C$	Q1÷Q3	MIN	0.2	V
$I_H^{(2)}$	Holding Current	$I_T = 100 \text{ mA}, \text{Gate open}, T_j = 25^\circ C$		MAX	35	mA
I_L	Latching Current	$I_G = 1.2 I_{GT}, T_j = 25^\circ C$	Q1,Q3,Q4 Q2	MAX MAX	40 50	mA mA
$dV/dt^{(2)}$	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}, \text{Gate open}$ $T_j = 125^\circ C$		MIN	200	V/ μs
$V_{TM}^{(2)}$	On-state Voltage	$I_T = 60 \text{ Amp}, t_p = 380 \mu s, T_j = 25^\circ C$		MAX	1.55	V
$V_{t(o)}^{(2)}$	Threshold Voltage	$T_j = 125^\circ C$		MAX	0.85	V
$r_d^{(2)}$	Dynamic resistance	$T_j = 125^\circ C$		MAX	10	m Ω
I_{DRM}/I_{RRM}	Off-State Leakage Current	$V_D = V_{DRM}, T_j = 125^\circ C$		MAX	5	mA
		$V_R = V_{RRM}, T_j = 25^\circ C$		MAX	20	μA
$R_{th(j-c)}$	Thermal Resistance Junction-Case	for AC 360° conduction angle			0.9	°C/W

(1) Minimum I_{GT} is guaranteed at 5% of I_{GT} max.

(2) For either polarity of electrode MT2 voltage with reference to electrode MT1.

PART NUMBER INFORMATION



INSULATED STANDARD TRIAC

Fig. 1: Maximum power dissipation versus RMS on-state current (full cycle).

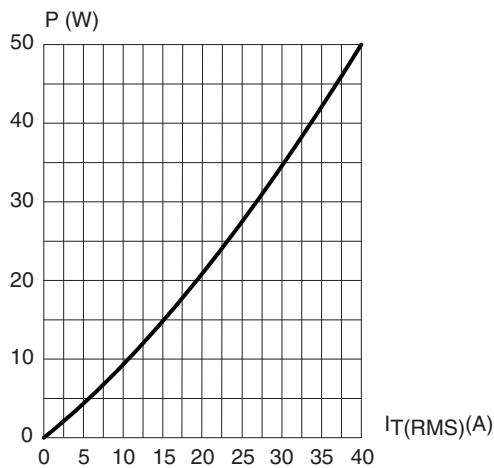


Fig. 2: RMS on-state current versus case temperature (full cycle).

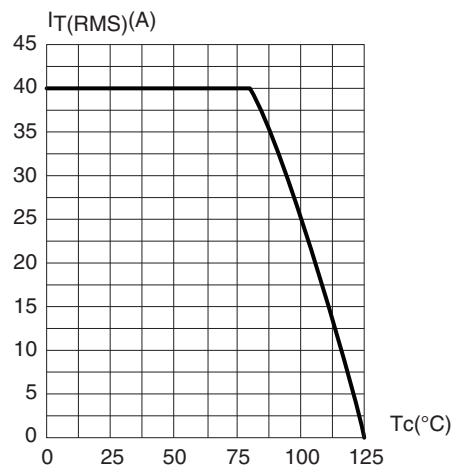


Fig. 3: On-state characteristics (maximum values)

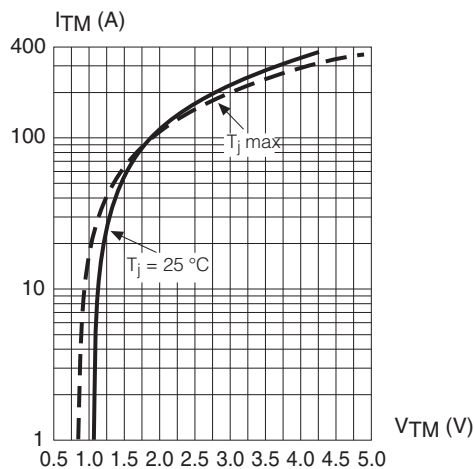


Fig. 5: Non repetitive surge peak on-state current for a sinusoidal pulse with width: $t_p < 10$ ms, and corresponding value of $I^2 t$.

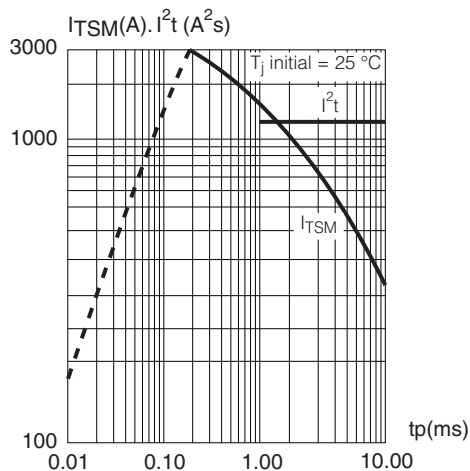


Fig. 4: Surge peak on-state current versus number of cycles

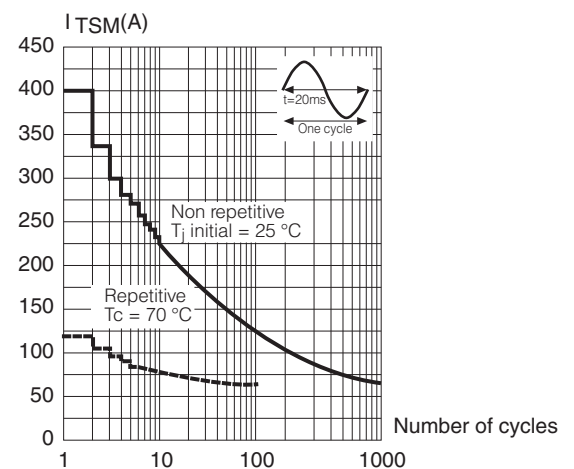
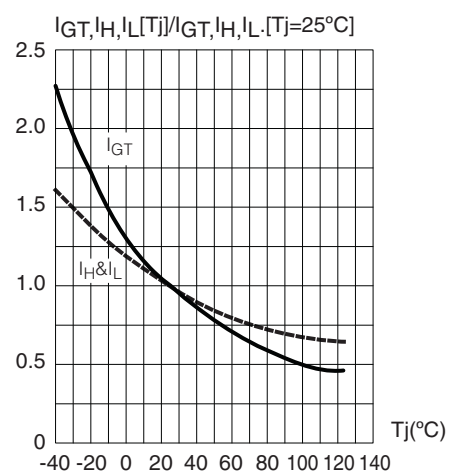
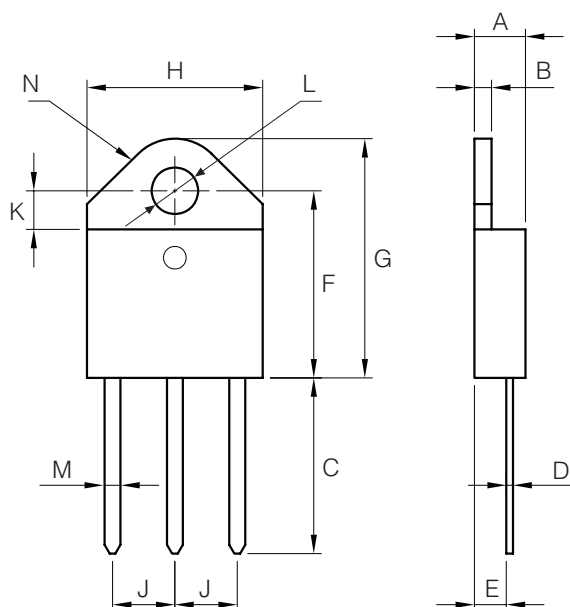


Fig. 7: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values)



INSULATED STANDARD TRIAC
PACKAGE MECHANICAL DATA: INSULATED TO3P

DIMENSIONS (mm)

	A	B	C	D	E	F	G	H	J	K	L	M	N
MAX	4.6	1.55	15.6	0.7	2.9	16.5	21.1	15.5	5.65	3.65	4.17	1.40	
TYP													4.60
MIN	4.4	1.45	14.35	0.5	2.7	15.8	20.4	15.1	5.4	3.4	4.08	1.20	

Mounting Torque
1 N.m

(*) Limiting values and life support applications, see Web page.