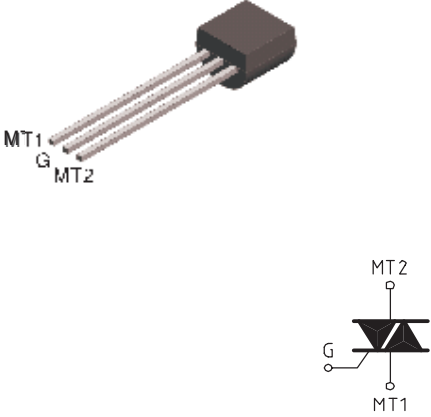


STANDARD TRIAC

<p style="text-align: center;">TO92 (Plastic)</p> 	<table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">On-State Current</td><td style="text-align: center;">Gate Trigger Current</td></tr> <tr> <td style="text-align: center;">1 Amp</td><td style="text-align: center;">$\leq 25 \text{ mA}$</td></tr> <tr> <td colspan="2" style="text-align: center;">Off-State Voltage</td></tr> <tr> <td colspan="2" style="text-align: center;">$200 \text{ V} \div 800 \text{ V}$</td></tr> </table> <p>This series of TRIACs uses a high performance PNP technology.</p> <p>These parts are intended for general purpose AC switching applications with highly inductive loads.</p>	On-State Current	Gate Trigger Current	1 Amp	$\leq 25 \text{ mA}$	Off-State Voltage		$200 \text{ V} \div 800 \text{ V}$	
On-State Current	Gate Trigger Current								
1 Amp	$\leq 25 \text{ mA}$								
Off-State Voltage									
$200 \text{ V} \div 800 \text{ V}$									

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, $T_C = 95^\circ\text{C}$	1	A
I_{TSM}	Non-repetitive On-State Current	Full Cycle, 60 Hz ($t = 16.7 \text{ ms}$)	8.5	A
I_{TSM}	Non-repetitive On-State Current	Full Cycle, 50 Hz ($t = 20 \text{ ms}$)	8	A
I^2t	Fusing Current	$t_p = 10 \text{ ms}$, Half Cycle	0.32	A ² s
I_{GM}	Peak Gate Current	$20 \mu\text{s max.}$ $T_j = 125^\circ\text{C}$	1	A
$P_{G(AV)}$	Average Gate Power Dissipation	$T_j = 125^\circ\text{C}$	0.1	W
di / dt	Critical rate of rise of on-state current	$I_G = 2 \times I_{GT}$, $t_r \leq 100\text{ns}$ $f = 120 \text{ Hz}$, $T_j = 125^\circ\text{C}$	20	A/ μs
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
		B	D	M	S	N	
V_{DRM} V_{RRM}	Repetitive Peak Off State Voltage	200	400	600	700	800	V

STANDARD TRIAC

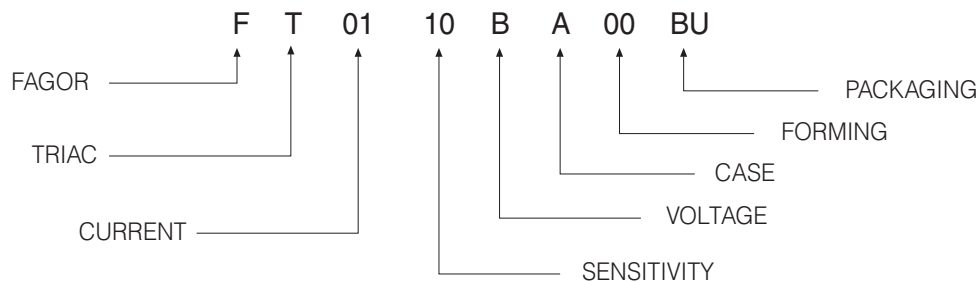
Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY	Unit
					10	
$I_{GT}^{(1)}$	Gate Trigger Current	$V_D = 12 V_{DC}$, $R_L = 33\Omega$, $T_j = 25^\circ C$	Q1÷Q3 Q4	MAX MAX	25 25	mA mA
V_{GT}	Gate Trigger Voltage	$V_D = 12 V_{DC}$, $R_L = 33\Omega$, $T_j = 25^\circ C$	Q1÷Q4	MAX	1.3	V
V_{GD}	Gate Non Trigger Voltage	$V_D = V_{DRM}$, $R_L = 3.3K\Omega$, $T_j = 125^\circ C$	Q1÷Q4	MIN	0.2	V
$I_H^{(2)}$	Holding Current	$I_T = 100$ mA, Gate open, $T_j = 25^\circ C$		MAX	25	mA
I_L	Latching Current	$I_G = 1.2 I_{GT}$, $T_j = 25^\circ C$	Q1,Q3,Q4 Q2	MAX MAX	25 50	mA
$dV/dt^{(2)}$	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}$, Gate open $T_j = 125^\circ C$		MIN	200	V/ μ s
$(dV/dt)_C^{(2)}$	Critical rise rate of Commutating off-state voltage	$(dI/dt)_C = 2.7$ A/ms $T_j = 125^\circ C$		MIN	4.4	V/ μ s
$V_{TM}^{(2)}$	On-state Voltage	$I_T = 1.1$ Amp, $t_p = 380 \mu$ s, $T_j = 25^\circ C$		MAX	1.5	V
$V_{t(o)}^{(2)}$	Threshold Voltage	$T_j = 125^\circ C$		MAX	0.95	V
$r_d^{(2)}$	Dynamic Resistance	$T_j = 125^\circ C$		MAX	1000	m Ω
I_{DRM}/I_{RRM}	Off-State Leakage Current	$V_D = V_{DRM}$, $T_j = 125^\circ C$ $V_R = V_{RRM}$, $T_j = 25^\circ C$		MAX MAX	0.5 5	mA μ A
$R_{th(j-c)}$	Thermal Resistance Junction-Case	for AC 360° conduction angle			80	°C/W
$R_{th(j-a)}$	Thermal Resistance Junction- Ambient				150	°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



STANDARD TRIAC

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

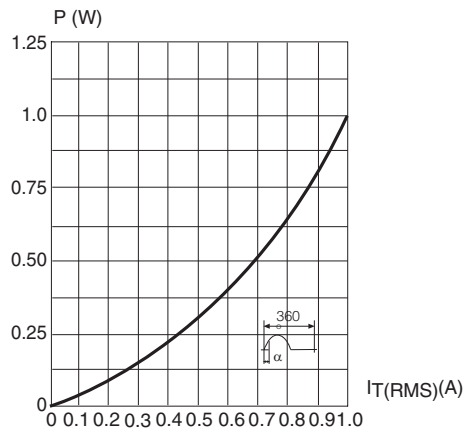


Fig. 2: RMS on-state current versus case temperature (full cycle).

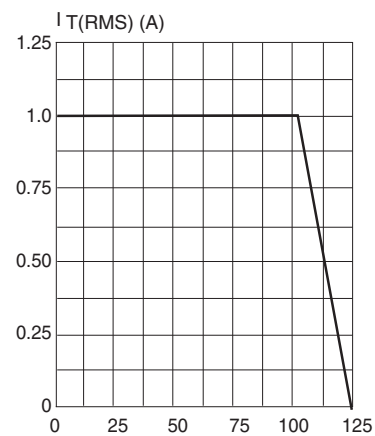


Fig. 3: Relative variation of thermal impedance versus pulse duration.

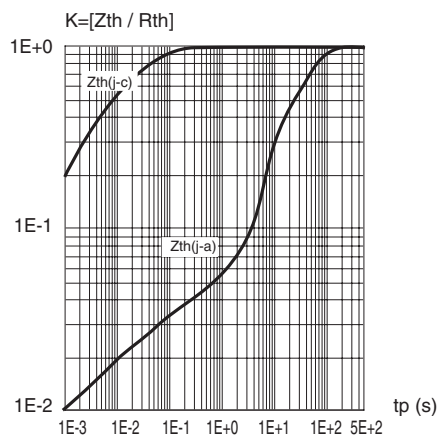


Fig. 4: On-state characteristics (maximum values)

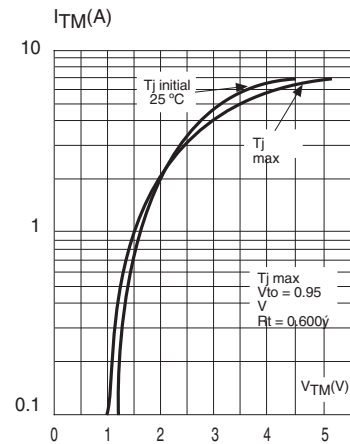


Fig. 5: Surge peak on-state current versus number of cycles

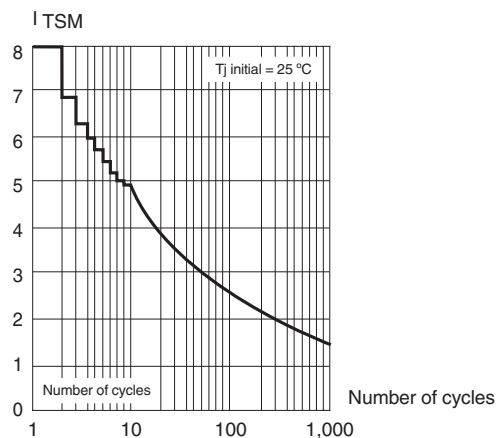
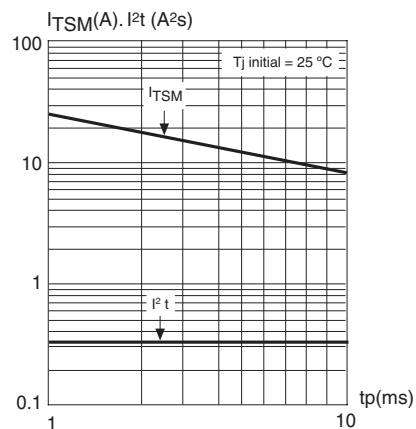


Fig. 6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I^2 t$.



STANDARD TRIAC

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

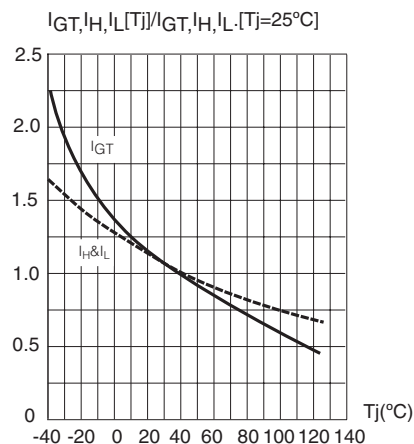


Fig. 8: Relative variation of critical rate of decrease of main current versus junction temperature

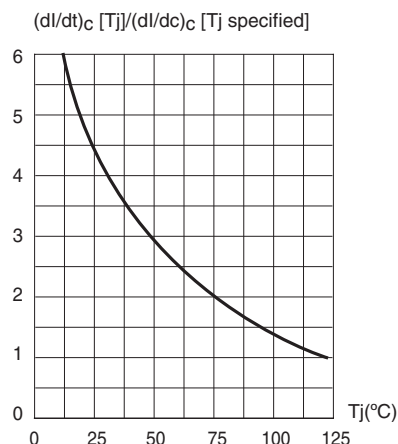
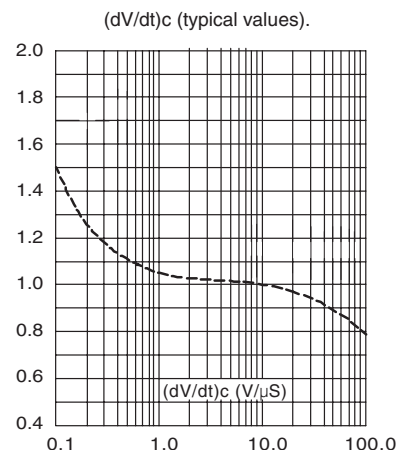


Fig. 9: Relative variation of critical rate of decrease of main current versus



PACKAGE MECHANICAL DATA

TO92

REF.	DIMENSIONS		
	Milimeters		
	Min.	Typ.	Max.
A	0.9	1.2	1.5
B	4.40	4.6	4.80
C	2.34	2.54	2.74
D	1.07	1.27	1.47
E	4.40	4.6	4.80
F	12.7	14.1	15.5
G	3.40	3.6	3.86
H	1.30	1.5	1.70
a	0.38	0.44	0.51
b	0.33	0.41	0.51

Marking: type number
Weight: 0.2 g

PACKAGE MECHANICAL DATA

TO92 (FORTAPE & REEL)

REF.	DIMENSIONS		
	Milimeters		
	Min.	Typ.	Max.
A	-	1.5	-
B	4.55	4.6	4.65
C	4.96	5.08	5.2
D	2.42	2.54	2.66
E	4.55	4.6	4.65
F	12.7	14.1	15.5
G	3.55	3.6	3.65
a	0.38	0.43	0.48
b	0.33	0.38	0.43

Marking: type number
Weight: 0.2 g