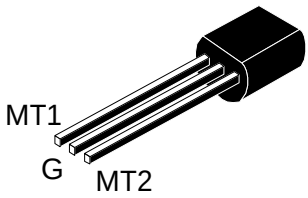
STANDARD TRIAC

TO92
(Plastic)



On-State Current	Gate Trigger Current
1.0 Amp	< 25 mA

Off-State Voltage

200 V ÷ 600 V

The **FT01** series of **TRIAC**s uses a high performance PNPN technology.

These part are intended for general purpose applications.

Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Min.	Max.	Unit
$I_{T(RMS)}$	RMS On-state Current	All Conduction Angle, T_L = 70 ºC		1.0	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 60 Hz		8.5	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 50 Hz		8	A
I^2t	Fusing Current	t_p = 10 ms, Half Cycle		0.35	A^2s
I_{GM}	Peak Gate Current	20 µs max.		1	A
P_{GM}	Peak Gate Dissipation	20 µs max.		2	W
$P_{G(AV)}$	Gate Dissipation	20 ms max.		0.1	W
di/dt	Critical rate of rise of on-state current	I_G = 2 x I_{GT} Tr ≤ 100 ns, F = 120 Hz T_j = 125 ºC		20	A/µs
T_j	Operating Temperature		-40	+125	ºC
T_{stg}	Storage Temperature		-40	+150	ºC
T_{sld}	Soldering Temperature	1.6 mm from case, 10s max.		260	ºC

SYMBOL	PARAMETER	VOLTAGE			Unit
		B	D	M	
V_{DRM} V_{RRM}	Repetitive Peak Off State Voltage	200	400	600	V

STANDARD TRIAC

Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY	Unit
					10	
I_{GT}	Gate Trigger Current	V_D = 12 V_{DC} , R_L = 30Ω, T_j = 25 ºC	Q1÷Q3	MAX	25	mA
			Q4	MAX	25	
I_{DRM} /I_{RRM}	Off-State Leakage Current	V_D = V_{DRM} , T_j = 125 ºC		MAX	0.5	mA
		V_R = V_{RRM} , T_j = 25 ºC		MAX	5	µA
V_{to}	Threshold Voltage	T_j = 125 ºC		MAX	0.95	V
R_d	Dynamic Resistance	T_j = 125 ºC		MAX	400	mΩ
V_{TM} *	On-state Voltage	I_T = 1.1 Amp, tp = 380 µs, T_j = 25 ºC		MAX	1.5	V
V_{GT}	Gate Trigger Voltage	V_D = 12 V_{DC} , R_L = 30Ω, T_j = 25 ºC	Q1÷Q4	MAX	1.3	V
V_{GD}	Gate Non Trigger Voltage	V_D = V_{DRM} , R_L = 3.3KΩ, T_j = 125 ºC	Q1÷Q4	MIN	0.2	V
I_H *	Holding Current	I_T = 50 mA T_j = 25 ºC		MAX	25	mA
I_L	Latching Current	I_G = 1.2 I_{GT}, T_j = 25 ºC	Q1,Q3,Q4	MAX	25	mA
			Q2	MAX	50	
dv / dt*	Critical Rate of Voltage Rise	V_D = 0.67 x V_{DRM} , Gate open T_j = 125 ºC		MIN	100	V/µs
(dv/dt)c*	Critical rise rate of commutating off-state Voltage	(di/dt)c= 0.44 A/ms T_j = 110 ºC		MIN	5	V/µs
$R_{th(j-l)}$	Thermal Resistance Junction-Leads for AC				60	ºC/W
$R_{th(j-a)}$	Thermal Resistance Junction-Ambient				150	ºC/W

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

PART NUMBER INFORMATION

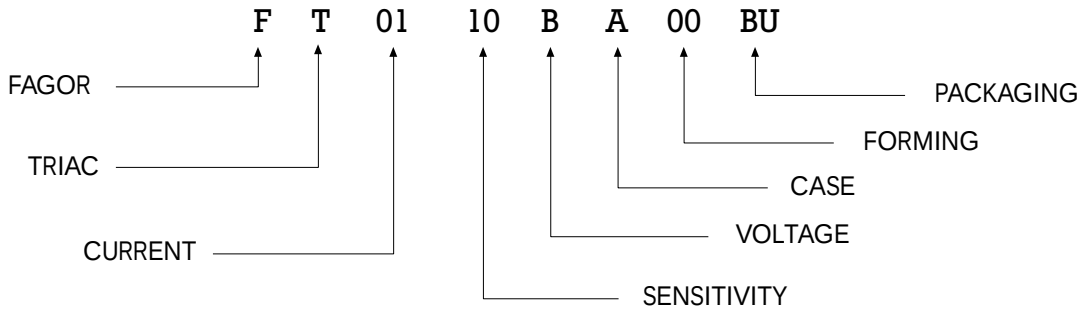


Fig. 1: Maximum power dissipation versus RMS on-state current (full cycle)

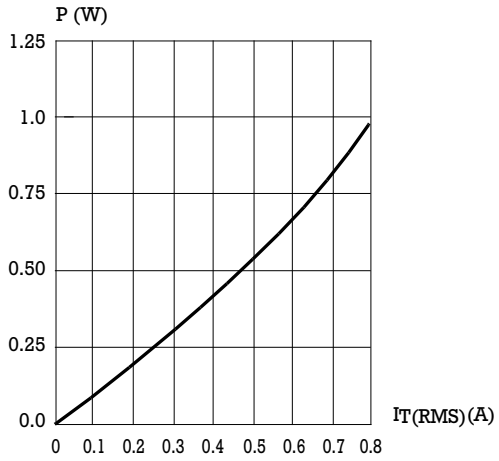


Fig. 2: RMS on-state current versus ambient temperature (full cycle)

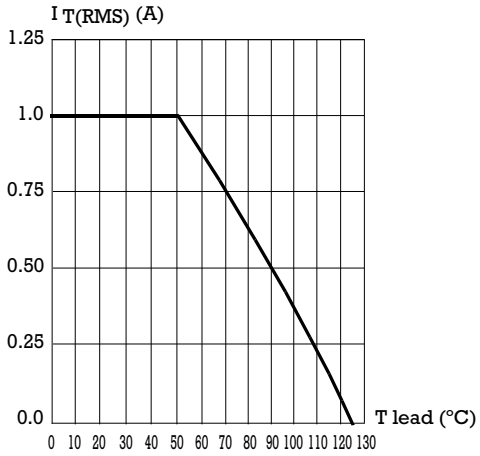


Fig. 3: RMS on-state current versus ambient temperature (full cycle)

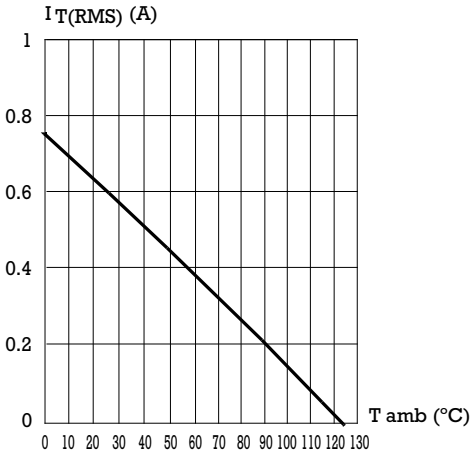


Fig. 4: Relative variation of thermal impedance junction to ambient versus pulse duration.

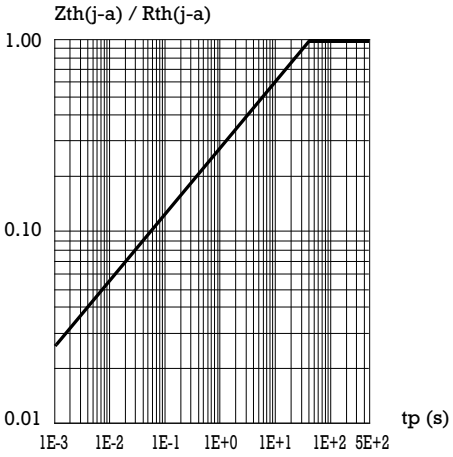


Fig. 5: Relative variation of gate trigger current , holding current and latching current versus junction temperature.

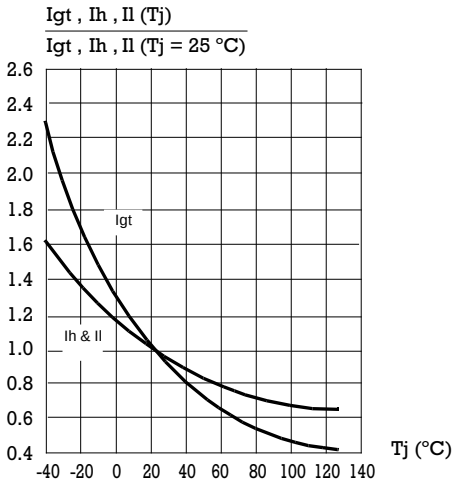


Fig. 6: Non repetitive surge peak on-state current versus number of cycles.

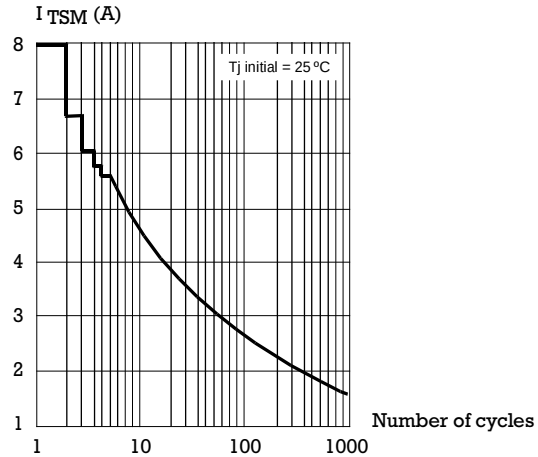


Fig. 7: Non repetitive surge peak on-state current for a sinusoidal pulse with width: tp ≤ 10 ms, and corresponding value of I^2t.

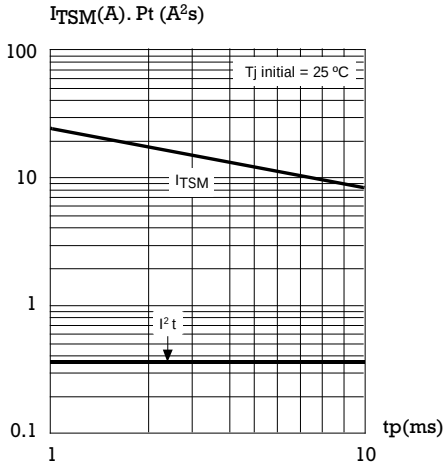
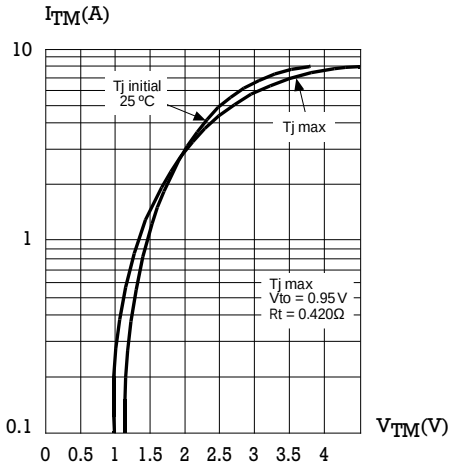
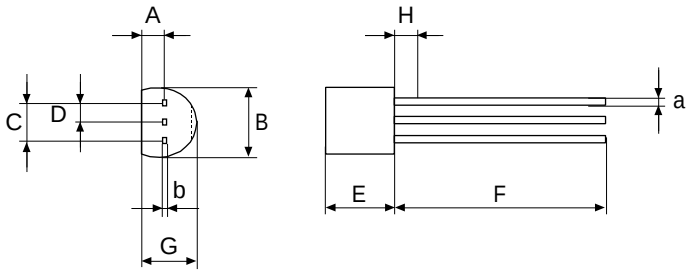


Fig. 8: On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA TO92 (Plastic)



REF.	DIMENSIONS Milimeters		
	Min.	Typ.	Max.
A	-	1.5	-
B	4.55	4.6	4.65
C	2.42	2.54	2.66
D	1.15	1.27	1.39
E	4.55	4.6	4.65
F	12.7	14.1	15.5
G	3.55	3.6	3.65
H	-	1.5	-
a	0.38	0.43	0.48
b	0.33	0.38	0.43

Marking: type number
Weight: 0.2 g