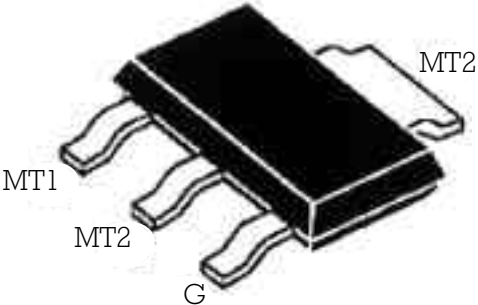


SURFACE MOUNT TRIAC

SOT223 (Plastic) 	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> On-State Current 1 Amp </td><td style="width: 50%; vertical-align: top;"> Gate Trigger Current < 3 mA to < 25 mA </td></tr> <tr> <td colspan="2" style="text-align: center;"> Off-State Voltage 200 V ÷ 400 V (02, 03) 200 V ÷ 600 V (04, 05, 07, 09, 10) </td></tr> </table> The FT01 series of TRIACs uses a high performance PNP technology. These parts are intended for general purpose applications where logic compatible gate sensitivity is required using surface mount technology.	On-State Current 1 Amp	Gate Trigger Current < 3 mA to < 25 mA	Off-State Voltage 200 V ÷ 400 V (02, 03) 200 V ÷ 600 V (04, 05, 07, 09, 10)	
On-State Current 1 Amp	Gate Trigger Current < 3 mA to < 25 mA				
Off-State Voltage 200 V ÷ 400 V (02, 03) 200 V ÷ 600 V (04, 05, 07, 09, 10)					

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, $T_{ab} = 90\text{ }^{\circ}\text{C}$		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	$t_p = 10\text{ ms}$, Half Cycle		0.35	A ² s
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	$I_G = 2 \times I_{GT}$ Tr $\leq 100\text{ ns}$, F = 120 Hz $T_j = 125\text{ }^{\circ}\text{C}$		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	1.6 mm from case, 10s max.		260	$^{\circ}\text{C}$

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

* 04, 05, 07, 09 & 10 sensitivities

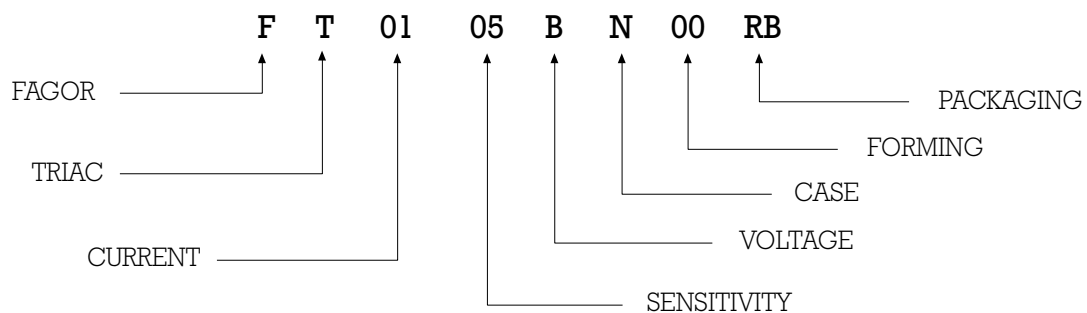
SURFACE MOUNT TRIAC

Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY								Unit
					02	03	04	05	07	09	10		
I _{GT}	Gate Trigger Current	V _D = 12 V _{DC} , R _L = 30W, T _j = 25 °C	Q1÷Q3 Q4	MAX MAX	3 3	3 5	5	5 5	5 7	10 10	25 25	mA	
I _{DRM} /I _{RRM}	Off-State Leakage Current	V _D = V _{DRM} , T _j = 125 °C V _R = V _{RRM} , T _j = 25 °C		MAX MAX	0.5 5							mA μA	
V _{to}	Threshold Voltage	T _j = 125 °C		MAX	0.95							V	
R _d	Dynamic Resistance	T _j = 125 °C		MAX	400							mW	
V _{TM} *	On-state Voltage	I _T = 1.1 Amp, tp = 380 μs, T _j = 25 °C		MAX	1.5							V	
V _{GT}	Gate Trigger Voltage	V _D = 12 V _{DC} , R _L = 30W, T _j = 25 °C	Q1÷Q4	MAX	1.3							V	
V _{GD}	Gate Non Trigger Voltage	V _D = V _{DRM} , R _L = 3.3KW, T _j = 125 °C	Q1÷Q4	MIN	0.2							V	
I _H *	Holding Current	I _T = 50 mA T _j = 25 °C		MAX	7	10					mA		
I _L	Latching Current	I _G = 1.2 I _{GT} , T _j = 25 °C	Q1,Q3,Q4 Q2	MAX MAX	7 14	10 20			25 25	25 50	mA		
dv / dt*	Critical Rate of Voltage Rise	V _D = 0.67 x V _{DRM} , Gate open T _j = 125 °C		MIN	10	20			50	200	V/μs		
(dv/dt)c*	Critical rise rate of commutating off-state Voltage	(di/dt)c= 0.44 A/ms T _j = 110 °C		MIN	0.5	1			2	4.4	V/μs		
R _{th(j-l)}	Thermal Resistance Junction-Leads for AC				60							°C/W	
R _{th(j-a)}	Thermal Resistance Junction-Ambient				150							°C/W	

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

PART NUMBER INFORMATION



SURFACE MOUNT TRIAC

Fig. 1: Maximum power dissipation versus RMS on-state current

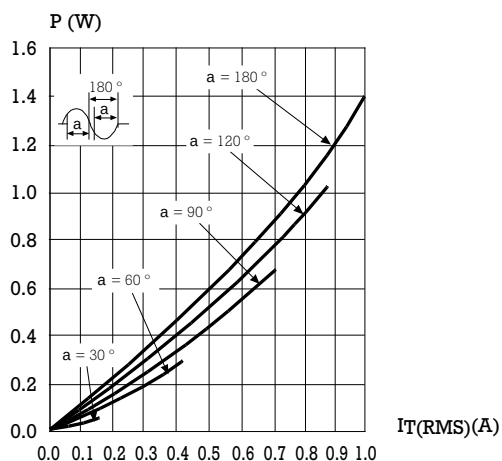


Fig. 3: RMS on-state current versus tab temperature

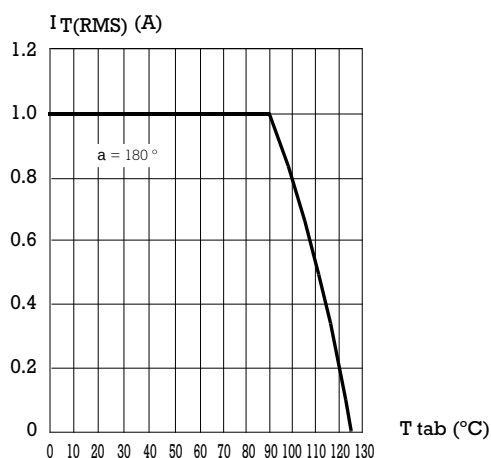


Fig. 5: Relative variation of gate trigger current and holding current versus junction temperature.

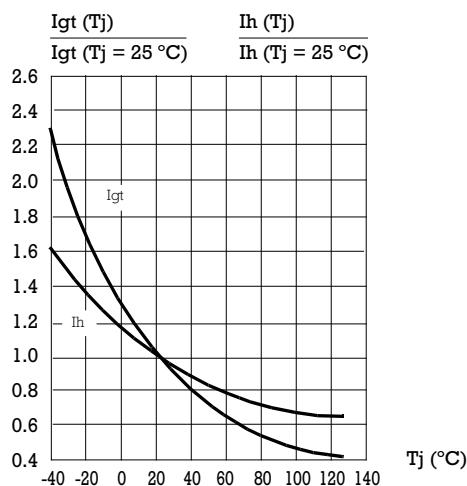


Fig. 2: Correlation between maximum power dissipation and maximum allowable temperature (T_{amb} and T_{tab}).

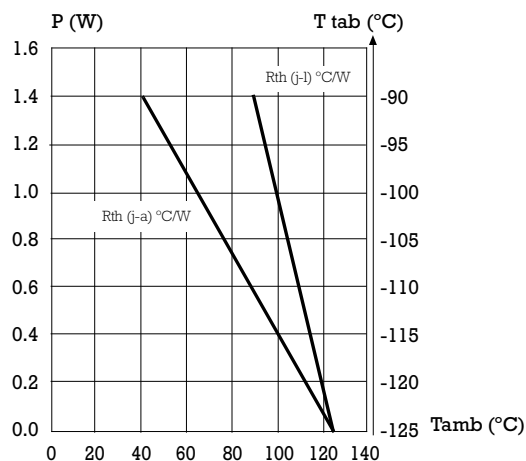


Fig. 4: Relative variation of thermal impedance junction to ambient versus pulse duration.

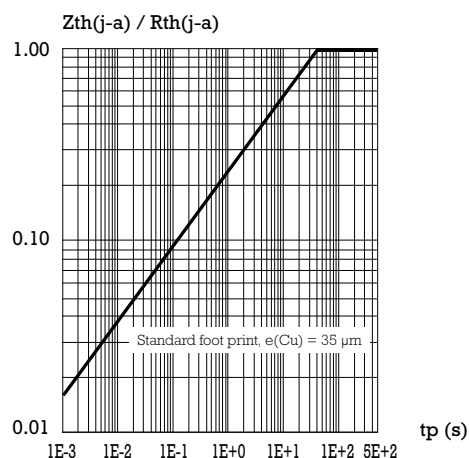
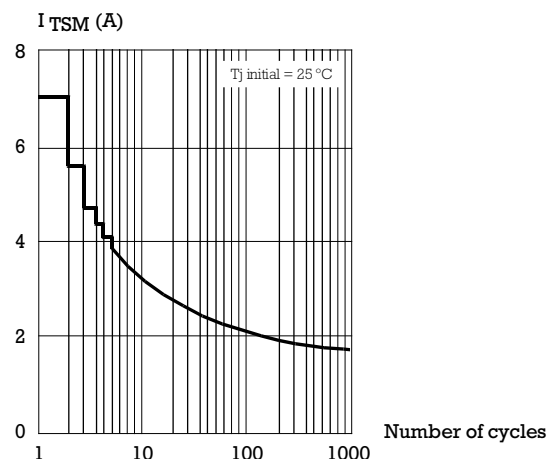


Fig. 6: Non repetitive surge peak on-state current versus number of cycles.



SURFACE MOUNT TRIAC

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

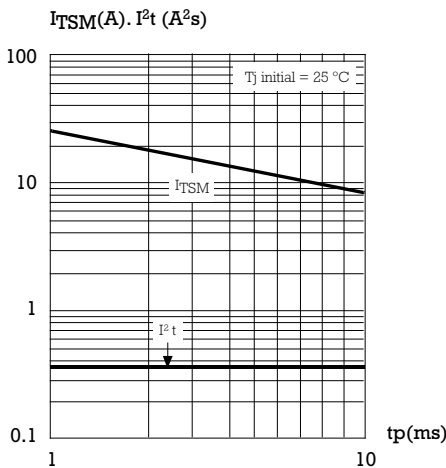
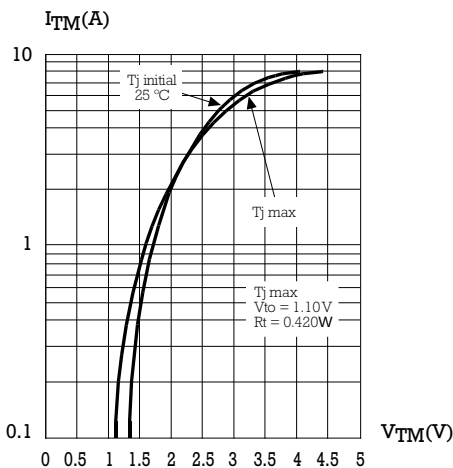
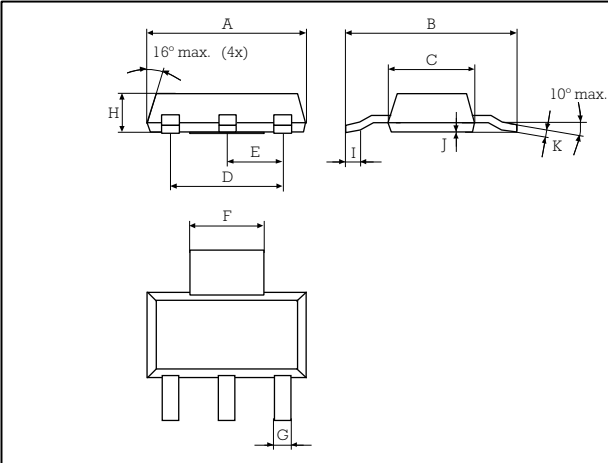


Fig. 8: On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA SOT223 (Plastic)



REF.	DIMENSIONS		
	Millimeters		
	Min.	Typ.	Max.
A	6.30	6.50	6.70
B	6.70	7.00	7.30
C	3.30	3.50	3.70
D	-	4.60	-
E	-	2.30	-
F	2.95	3.00	3.15
G	0.65	0.70	0.85
H	1.50	1.60	1.70
I	0.50	0.60	0.70
J	-	0.02	0.05
K	0.25	0.30	0.35

Weight: 0.11 g

FOOT PRINT

