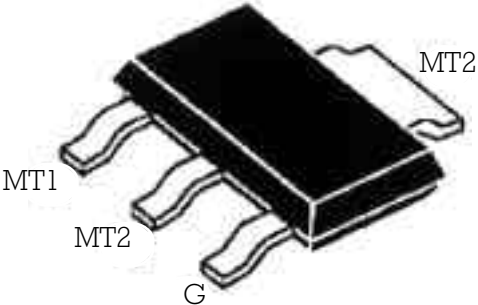


SURFACE MOUNT TRIAC

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, 05) 200 V ÷ 600 V (07, 09, 10) </td></tr> <tr> <td colspan="2"> 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. </td></tr> </table>	On-State Current 1 Amp	Gate Trigger Current < 3 mA to < 25 mA	Off-State Voltage 200 V ÷ 400 V (02, 03, 05) 200 V ÷ 600 V (07, 09, 10)		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.	
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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.							

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	$I_G = 2 \times I_{GT}$ $T_r \leq 100\text{ ns}$, $F = 120\text{ Hz}$ $T_j = 125\text{ }^{\circ}\text{C}$	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

* 07, 09 & 10 sensitivities

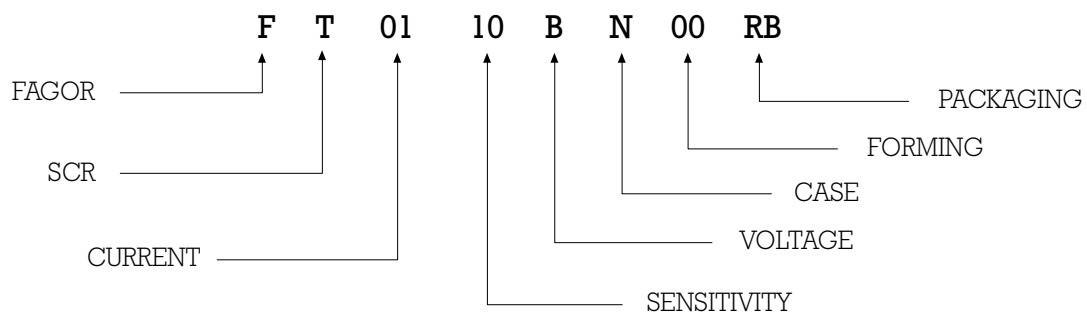
SURFACE MOUNT TRIAC

Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	Quadrant		SENSITIVITY						Unit
					02	03	05	07	09	10	
I_{GT}	Gate Trigger Current	$V_D = 12 V_{DC}$, $R_L = 30\Omega$, $T_j = 25^\circ C$	Q1÷Q3 Q4	MAX MAX	3 3	3 5	5 5	5 7	10 10	25 25	mA
I_{DRM}/I_{RRM}	Off-State Leakage Current	$V_D = V_{DRM}$, $T_j = 125^\circ C$ $V_R = V_{RRM}$, $T_j = 25^\circ C$		MAX MAX	0.5 5						μA
$V_{to}^{(2)}$		$T_j = 125^\circ C$		MAX	0.95						mA
$R_d^{(2)}$		$T_j = 125^\circ C$		MAX	400						m Ω
V_{TM}^*	On-state Voltage	$I_T = 1.4$ Amp, $t_p = 380 \mu s$, $T_j = 25^\circ C$		MAX	1.8						V
V_{GT}	Gate Trigger Voltage	$V_D = 12 V_{DC}$, $R_L = 30\Omega$, $T_j = 25^\circ C$	Q1÷Q4	MAX	1.3						V
V_{GD}		$V_D = V_{DRM}$, $R_L = 3.3K\Omega$, $T_j = 125^\circ C$	Q1÷Q4	MIN	0.2						V
I_H^*	Holding Current	$I_T = 50$ mA, $T_j = 25^\circ C$		MAX	7		10	10	25		mA
I_L	Latching Current	$I_G = 1.2 I_{GT}$, $T_j = 25^\circ C$	Q1, Q3, Q4 Q2	TYP TYP	7 14		10 20	15 25	25 50		mA
dv/dt^*	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}$, Gate open $T_j = 110^\circ C$		MIN	10		20	50	100		V/ μs
$(dv/dt)c^*$		$(di/dt)c = 0.44$ A/ms, $T_j = 110^\circ C$		MIN	0.5		1	2	5		V/ μs
$R_{th(j-t)}$	Thermal Resistance Junction-tab for DC				25						$^\circ C/W$
$R_{th(j-a)}$	Thermal Resistance Junction-Ambient				60						$^\circ C/W$

* 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

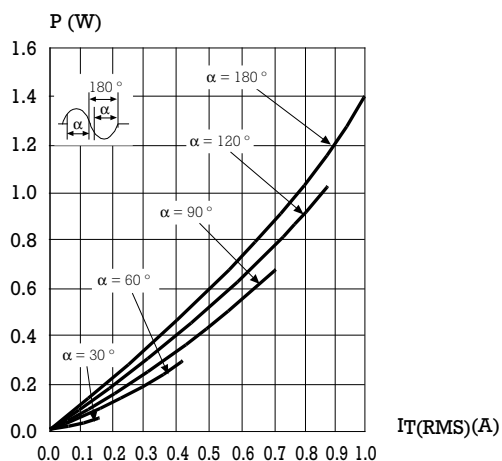


Fig. 3: RMS on-state current versus tab temperature

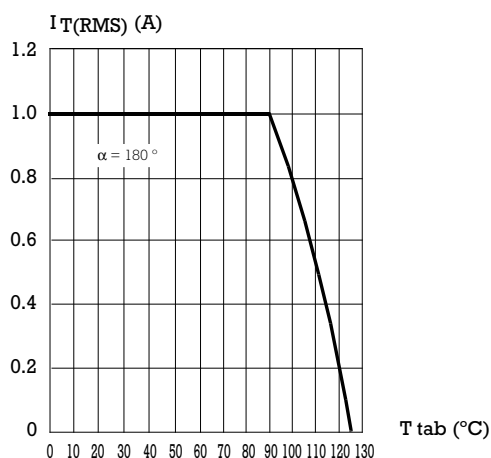


Fig. 5: Relative variation of gate trigger current and holding current versus junction temperature.

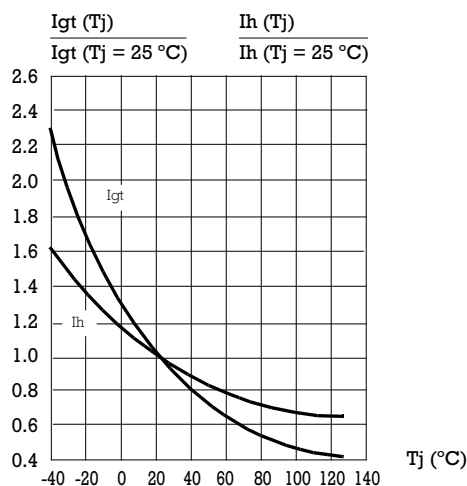


Fig. 2: Correlation between maximum power dissipation and maximum allowable temperature (T_{amb} and T_{tab}).

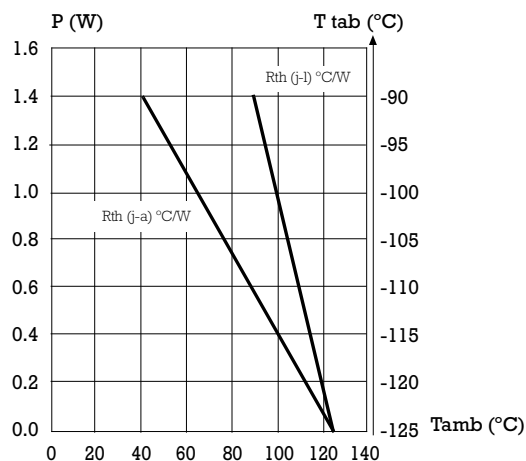


Fig. 4: Relative variation of thermal impedance junction to ambient versus pulse duration.

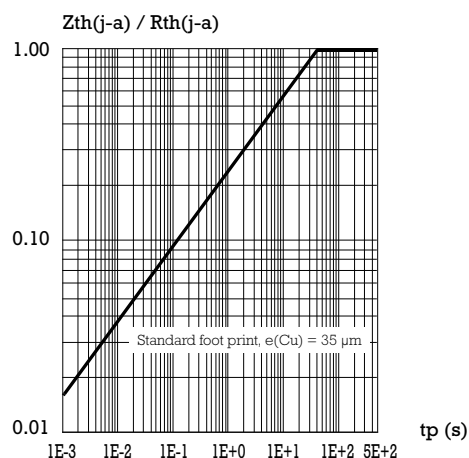
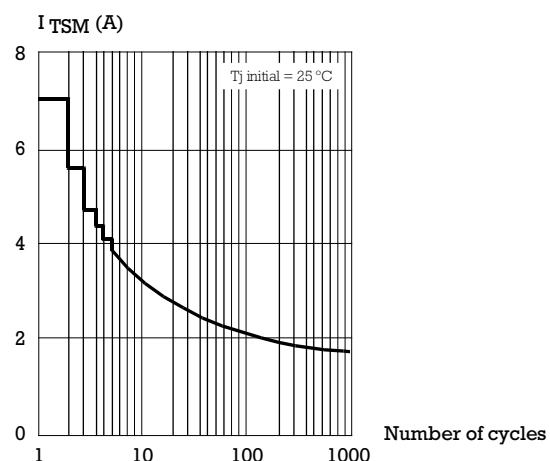


Fig. 6: Non repetitive surge peak on-state current versus number of cycles.



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 .

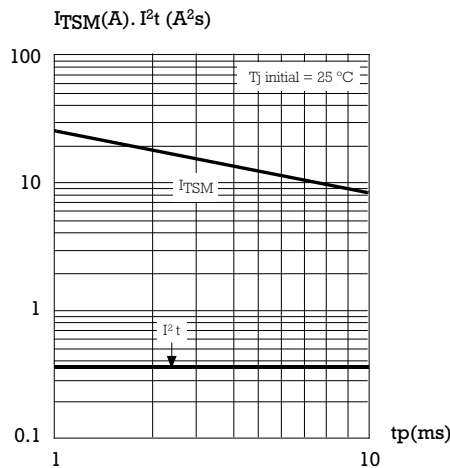
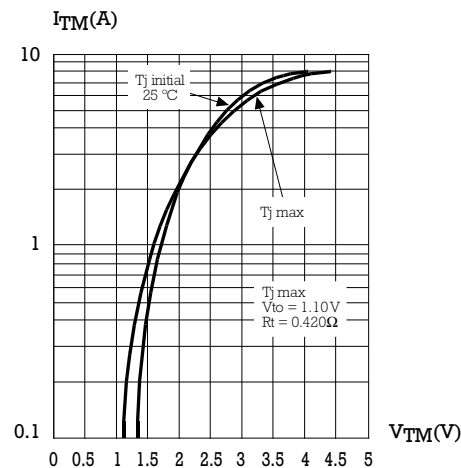
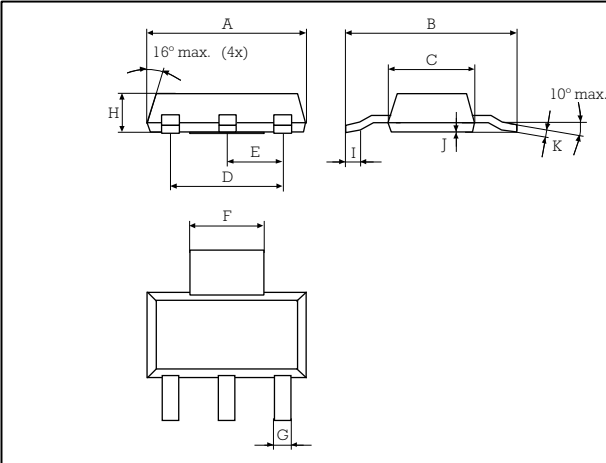


Fig. 8: On-state characteristics (maximum values).



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

