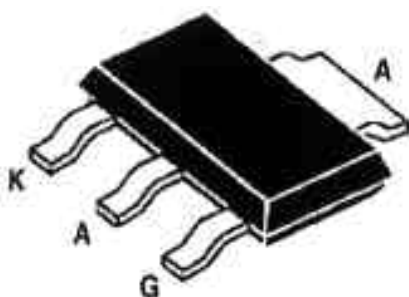


SURFACE MOUNT SCR

<p>SOT223 (Plastic)</p> 	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>On-State Current 1.25 Amp</p> </td> <td style="width: 50%; vertical-align: top;"> <p>Gate Trigger Current < 200 μA</p> </td> </tr> <tr> <td colspan="2" style="text-align: center; padding-top: 10px;"> <p>Off-State Voltage 200 V ÷ 800 V</p> </td> </tr> </table> <p style="margin-top: 20px;">These series of Silicon Controlled Rectifier use a high performance PNP technology.</p> <p>These parts are intended for general purpose applications where high gate sensitivity is required using surface mount technology.</p>	<p>On-State Current 1.25 Amp</p>	<p>Gate Trigger Current < 200 μA</p>	<p>Off-State Voltage 200 V ÷ 800 V</p>	
<p>On-State Current 1.25 Amp</p>	<p>Gate Trigger Current < 200 μA</p>				
<p>Off-State Voltage 200 V ÷ 800 V</p>					

Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Min.	Max.	Unit
$I_{T(RMS)}$	On-state Current*	Half Cycle, $\theta = 180^\circ$, $T_{tab} = 95^\circ\text{C}$	1.25		A
$I_{T(AV)}$	Average On-state Current*	Half Cycle, $\theta = 180^\circ$, $T_{tab} = 95^\circ\text{C}$	0.8		A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 60 Hz, $T_j = 25^\circ\text{C}$	25		A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 50 Hz, $T_j = 25^\circ\text{C}$	22.5		A
I^2t	Fusing Current	$t_p = 10\text{ms}$, Half Cycle	2.5		A^2s
V_{GRM}	Peak Reverse Gate Voltage	$I_{GR} = 10 \mu\text{A}$, $T_j = 25^\circ\text{C}$	8		V
I_{GM}	Peak Gate Current	20 μs max.		1.2	A
P_{GM}	Peak Gate Dissipation	20 μs max.		3	W
$P_{G(AV)}$	Gate Dissipation	20 ms max.		0.2	W
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	$^\circ\text{C}$

* with 5 cm² copper ($e = 35\mu\text{m}$) surface under tab.

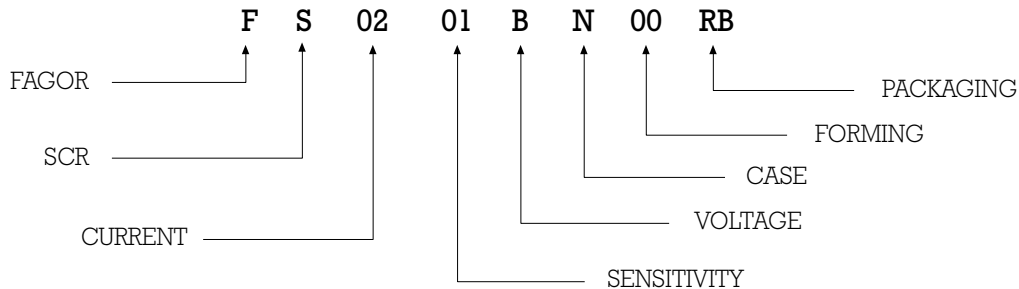
SYMBOL	PARAMETER	CONDITIONS	VOLTAGE				Unit
			B	D	M	N	
V_{DRM} V_{RRM}	Repetitive Peak Off State Voltage	$R_{GK} = 1 \text{ K}$	200	400	600	800	V

SURFACE MOUNT SCR

Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS	SENSITIVITY				Unit	
			01	04	02	03		
I_{GT}	Gate Trigger Current	$V_D = 12 V_{DC}, R_L = 140 \Omega, T_j = 25^\circ C$	MIN	1	15		20	μA
			MAX	20	50	200	200	
I_{DRM} / I_{RRM}	Off-State Leakage Current	$V_D = V_{DRM}, R_{GK} = 1K, T_j = 125^\circ C$	MAX	500				μA
		$V_R = V_{RRM}, T_j = 25^\circ C$	MAX	5				
V_{TM}	On-state Voltage	at $I_T = 1.6 \text{ Amp}, t_p = 380 \mu s, T_j = 25^\circ C$	MAX	1.45				V
$V_{T(O)}$	On-state Threshold Voltage	$T_j = 125^\circ C$	MAX	0.9				V
r_d	Dinamic Resistance	$T_j = 125^\circ C$	MAX	150				m
V_{GT}	Gate Trigger Voltage	$V_D = 12 V_{DC}, R_L = 140 \Omega, T_j = 25^\circ C$	MAX	0.8				V
V_{GD}	Gate Non Trigger Voltage	$V_D = V_{DRM}, R_L = 3.3K, R_{GK} = 1K, T_j = 125^\circ C$	MIN	0.1				V
I_H	Holding Current	$I_T = 50 \text{ mA}, R_{GK} = 1K, T_j = 25^\circ C$	MAX	5				mA
I_L	Latching Current	$I_G = 1 \text{ mA}, R_{GK} = 1K, T_j = 25^\circ C$	MAX	6				mA
dv / dt	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}, R_{GK} = 1K, T_j = 125^\circ C$	MIN	15	15	10	20	$V/\mu s$
di / dt	Critical Rate of Current Rise	$I_G = 2 \times I_{GT}, T_r = 100 \text{ ns}, F = 60 \text{ Hz}, T_j = 125^\circ C$	MIN	50				$A/\mu s$
$R_{th(j-l)}$	Thermal Resistance Junction-Leads for DC			25				$^\circ C/W$
$R_{th(j-a)}$	Thermal Resistance Junction-Ambient			60				$^\circ C/W$

PART NUMBER INFORMATION



SURFACE MOUNT SCR

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

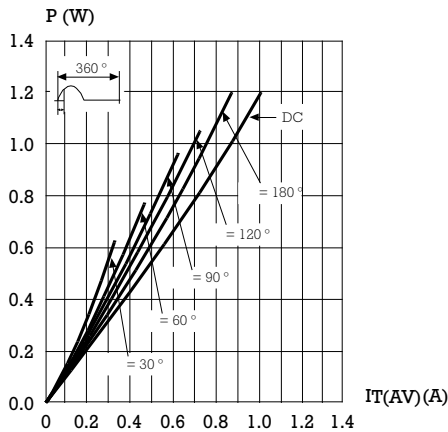


Fig. 2: Correlation between maximum average power dissipation and maximum allowable temperature (Tamb and Ttab).

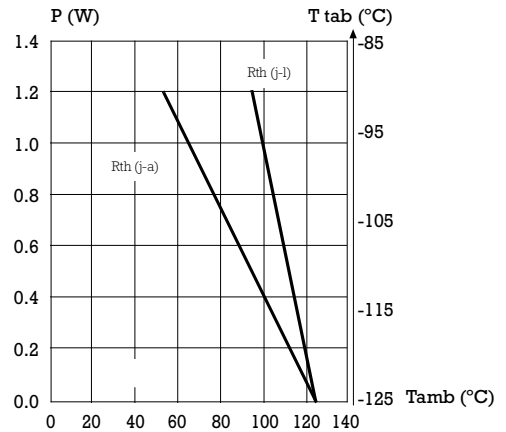


Fig. 3: Average on-state current versus tab temperature

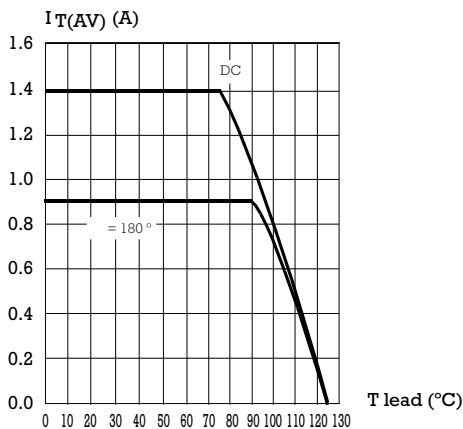


Fig. 4: Relative variation of thermal impedance junction to ambient versus pulse duration.

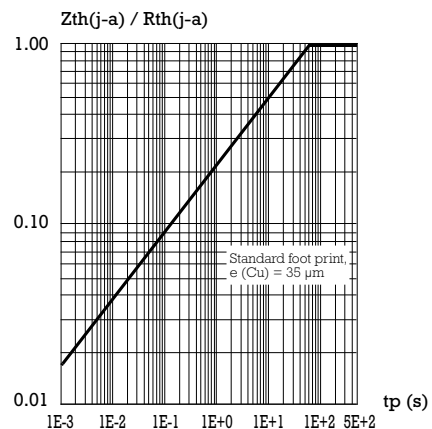


Fig. 5: Relative variation of gate trigger current and holding current versus junction temperature.

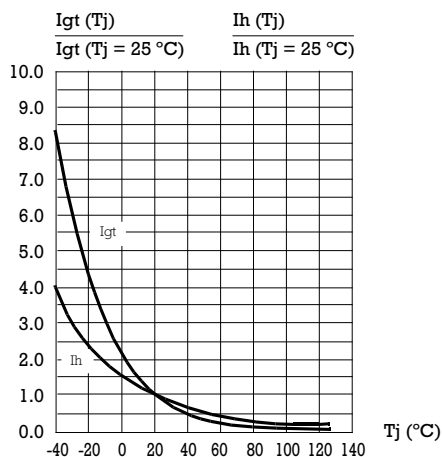
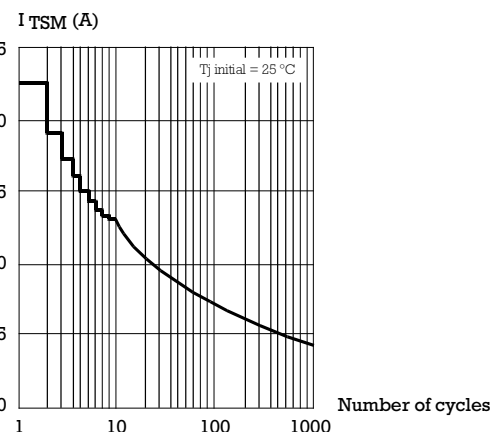


Fig. 6: Non repetitive surge peak on-state current versus number of cycles.



SURFACE MOUNT SCR

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

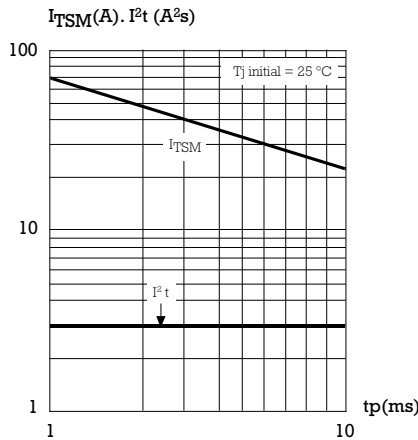
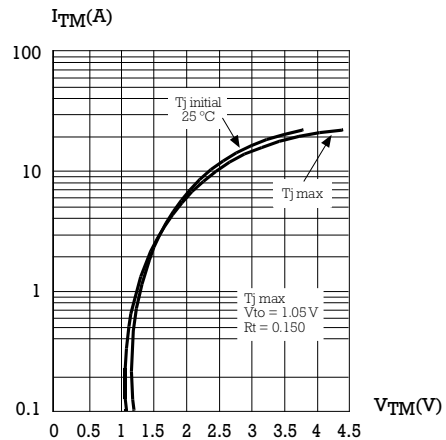
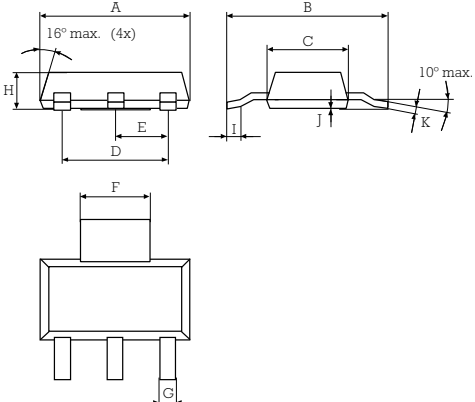


Fig. 8: On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA SOT223 (Plastic)



Dimensions: A, B, C, D, E, F, G, H, I, J, K. Angles: 16° max. (4x), 10° max.

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

