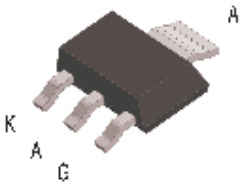
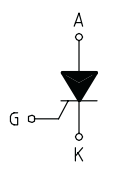


SENSITIVE GATE SCR

SOT223 (Plastic)  	<table> <tr> <td>On-State Current</td><td>Gate Trigger Current</td></tr> <tr> <td>0.8 Amp</td><td>< 200 μA</td></tr> <tr> <td colspan="2">Off-State Voltage</td></tr> <tr> <td colspan="2">200 V ÷ 600 V</td></tr> </table> This series of Silicon Controlled Rectifiers uses a high performance PNP technology. This part is intended for general purpose applications where high gate sensitivity is required.	On-State Current	Gate Trigger Current	0.8 Amp	< 200 μ A	Off-State Voltage		200 V ÷ 600 V	
On-State Current	Gate Trigger Current								
0.8 Amp	< 200 μ A								
Off-State Voltage									
200 V ÷ 600 V									

Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Value	Unit
$I_{T(RMS)}$	On-state Current	180° Conduction Angle, $T_c = 115\text{ }^{\circ}\text{C}$	0.8	A
$I_{T(AV)}$	Average On-state Current	Half Cycle, $\Theta = 180^{\circ}$, $T_c = 115\text{ }^{\circ}\text{C}$	0.5	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 60 Hz	8	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 50 Hz	7	A
I^2t	Fusing Current	$t_p = 10\text{ms}$, Half Cycle	0.24	A ² s
I_{GM}	Peak Gate Current	20 μ s max.	1	A
P_{GM}	Peak Gate Dissipation	20 μ s max.	2	W
$P_{G(AV)}$	Gate Dissipation	20ms max.	0.1	W
T_j	Operating Temperature		(-40 to +125)	$^{\circ}\text{C}$
T_{stg}	Storage Temperature		(-40 to +150)	$^{\circ}\text{C}$
T_{sld}	Soldering Temperature	10s max.	260	$^{\circ}\text{C}$

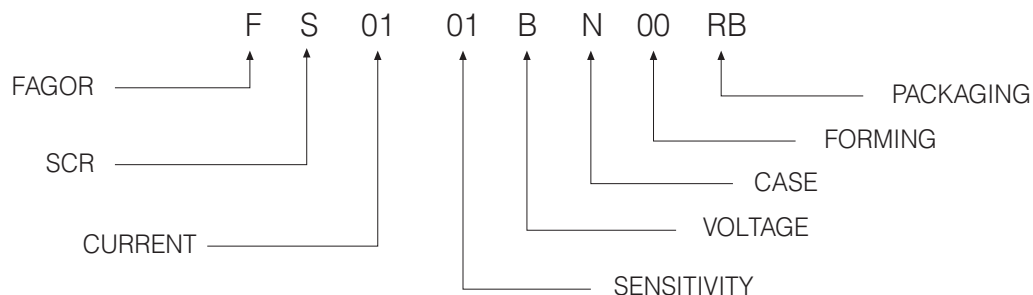
SYMBOL	PARAMETER	CONDITIONS	VOLTAGE			Unit
			B	D	M	
V_{DRM} V_{RRM}	Repetitive Peak Off State Voltage	$R_{GK} = 1\text{ k}\Omega$	200	400	600	V

SENSITIVE GATE SCR

Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS		SENSITIVITY						Uni
				01	02	03	04	18	11	
I_{GT}	Gate Trigger Current	$V_D = 12 V_{DC}$, $R_L = 140\Omega$, $T_j = 25^\circ C$	MIN MAX	1 20	200 200	20 200	15 50	0.5 5	4 25	μA
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	$V_D = V_{DRM}$, $R_L = 3.3k\Omega$, $R_{GK} = 220\Omega$, $T_j = 125^\circ C$	MIN	0.1						V
V_{RGM}	Reverse Gate Voltage	$I_{RG} = 10\mu A$,	MIN	8						V
I_H	Holding Current	$I_T = 50 mA$, $R_{GK} = 1k\Omega$, $T_j = 25^\circ C$	MAX	5						mA
I_L	Latching Current	$I_G = 1 mA$, $R_{GK} = 1k\Omega$	MAX	6						mA
dV / dt	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}$, $R_{GK} = 1k\Omega$, $T_j = 125^\circ C$	MIN	80	75	20	15	80	75	V/ μs
dI / dt	Critical Rate of Current Rise	$I_G = 2 \times I_{GT}$, $tr \leq 100 ns$, $f = 60 Hz$, $T_j = 125^\circ C$	MIN	50						A/ μs
V_{TM}	On-state Voltage	at $I_T = 1.6 Amp$, $tp = 380 \mu s$, $T_j = 25^\circ C$	MAX	1.95						V
V_{t0}	Threshold Voltage	$T_j = 125^\circ C$	MAX	0.95						V
r_d	Dynamic resistance	$T_j = 125^\circ C$	MAX	600						m Ω
I_{DRM} / I_{RRM}	Off-State Leakage Current	$V_D = V_{DRM}$, $R_{GK} = 1k\Omega$, $T_j = 125^\circ C$ $V_R = V_{RRM}$, $T_j = 25^\circ C$	MAX MAX	100 1						μA μA
$R_{th(j-c)}$	Thermal Resistance Junction-Case for DC	for AC 360° conduction angle		80						°C/W
$R_{th(j-a)}$	Thermal Resistance Junction-Amb for DC	$S = 1 cm^2$		150						°C/W

PART NUMBER INFORMATION



SENSITIVE GATE SCR

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

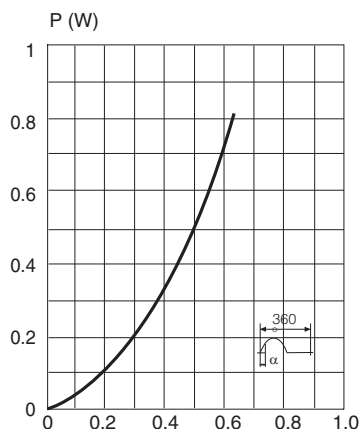


Fig. 2: Average and D.C. on-state current versus case temperature

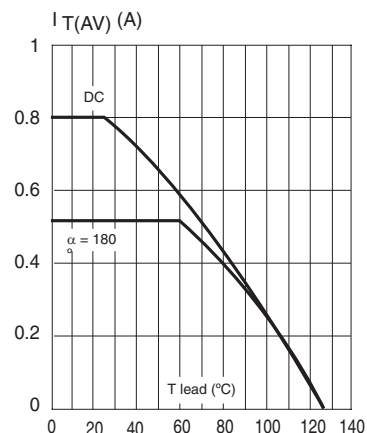


Fig. 3: Relative variation of thermal impedance junction to case versus pulse duration

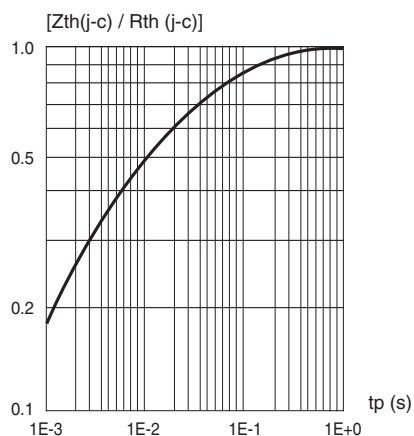


Fig. 4: Relative variation of gate trigger current, holding and latching current versus junction temperature

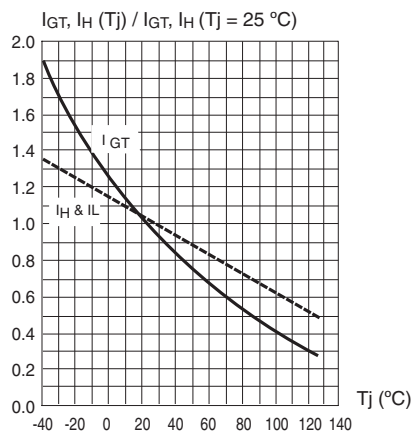


Fig. 5: Relative variation of holding current versus gate-cathode resistance (typical values).

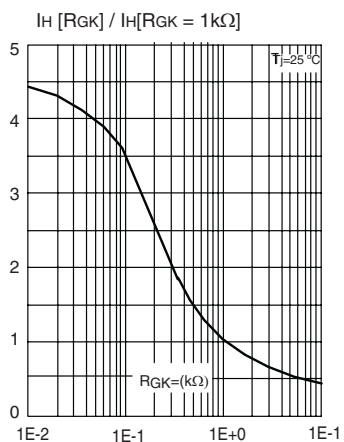
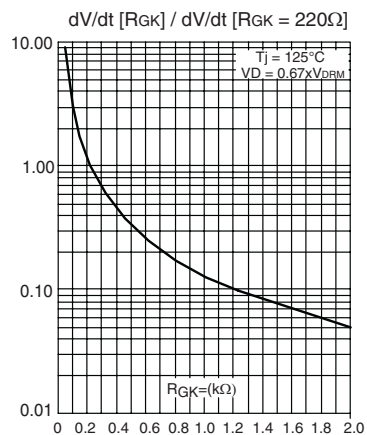


Fig. 6: Relative variation of dV/dt immunity versus gate-cathode resistance (typical values).



SENSITIVE GATE SCR

Fig. 7: Relative variation of dV/dt immunity versus gate-cathode resistance (typical values).

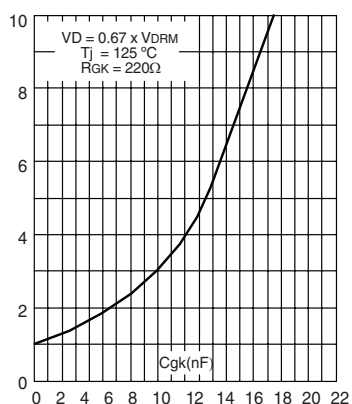


Fig. 8: Non repetitive surge peak on-state current versus number of cycles.

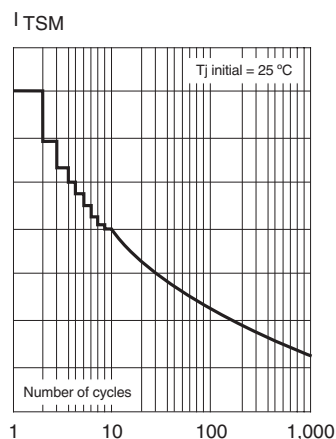


Fig. 9: Non repetitive surge peak on-state current for a sinusoidal pulse with width: $t_p < 10$ ms, and corresponding value of I^2t .

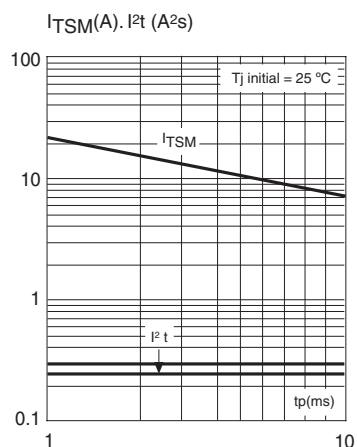
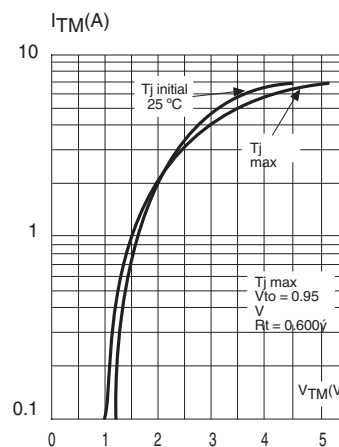


Fig. 10: On-state characteristics (maximum values)



SENSITIVE GATE SCR

PACKAGE MECHANICAL DATA

SOT223 (Plastic)

REF.	DIMENSIONS		
	Milimeters		
	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

