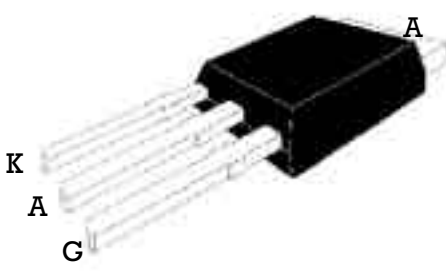


STANDARD SCR

<p>IPAK (Plastic)</p> 	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; text-align: center;">On-State Current</td> <td style="width: 50%; text-align: center;">Gate Trigger Current</td> </tr> <tr> <td style="text-align: center;">8 Amp</td> <td style="text-align: center;">>0.5 to <15 mA</td> </tr> <tr> <td colspan="2" style="text-align: center;">Off-State Voltage</td> </tr> <tr> <td colspan="2" style="text-align: center;">200 V ÷ 600 V</td> </tr> </table> <p>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.</p>	On-State Current	Gate Trigger Current	8 Amp	>0.5 to <15 mA	Off-State Voltage		200 V ÷ 600 V	
On-State Current	Gate Trigger Current								
8 Amp	>0.5 to <15 mA								
Off-State Voltage									
200 V ÷ 600 V									

Absolute Maximum Ratings, according to IEC publication No. 134

SYMBOL	PARAMETER	CONDITIONS	Min.	Max.	Unit
$I_{T(RMS)}$	On-state Current	180° Conduction Angle, $T_c = 110\text{ °C}$		8	A
$I_{T(AV)}$	Average On-state Current	Half Cycle, $\theta = 180\text{ °}$, $T_c = 110\text{ °C}$		5	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 60 Hz		73	A
I_{TSM}	Non-repetitive On-State Current	Half Cycle, 50 Hz		70	A
I^2t	Fusing Current	$t_p = 10\text{ms}$, Half Cycle		24.5	A ² s
V_{GRM}	Peak Reverse Gate Voltage	$I_{GR} = 10\text{ }\mu\text{A}$		5	V
I_{GM}	Peak Gate Current	20 μs max.		4	A
P_{GM}	Peak Gate Dissipation	20 μs max.		5	W
$P_{G(AV)}$	Gate Dissipation	20ms max.		1	W
T_j	Operating Temperature		-40	+125	°C
T_{stg}	Storage Temperature		-40	+150	°C
T_{sld}	Soldering Temperature	10s max.		260	°C

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

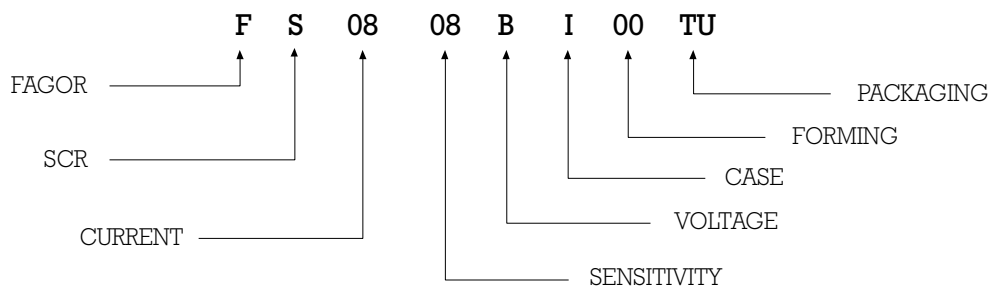


STANDARD SCR

Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS		SENSITIVITY		Unit
				08	09	
I_{GT}	Gate Trigger Current	$V_D = 12 V_{DC}, R_L = 33 \Omega, T_j = 25^\circ C$	MIN MAX	0.5 5	2 15	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	2 5		mA μA
V_{TM}	On-state Voltage	at $I_T = 16 \text{ Amp}, t_p = 380 \mu s, T_j = 25^\circ C$	MAX	1.6		V
V_{GT}	Gate Trigger Voltage	$V_D = 12 V_{DC}, R_L = 33 \Omega, T_j = 25^\circ C$	MAX	1.3		V
V_{GD}	Gate Non Trigger Voltage	$V_D = V_{DRM}, R_L = 3.3K \Omega, T_j = 125^\circ C$	MIN	0.2		V
I_H	Holding Current	$I_T = 100 \text{ mA}, \text{ Gate Open}$	MAX	25	40	mA
I_L	Latching Current	$I_G = 1.2 I_{GT}, R_{GK} = 220 \Omega$	MAX	30	50	mA
dv / dt	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}, \text{ Gate Open}$	MIN	50	150	V/ μs
di / dt	Critical Rate of Current Rise	$I_G = 2 \times I_{GT}, T_r = 100 \text{ ns}, T_j = 125^\circ C$	MIN	50		A/ μs
$R_{th(j-c)}$	Thermal Resistance Junction-Case for DC	$T_j = 125^\circ C$		20		$^\circ C/W$
$R_{th(j-a)}$	Thermal Resistance Junction-Amb	$T_j = 125^\circ C$		100		$^\circ C/W$
V_{t0}	Threshold Voltage	$T_j = 125^\circ C$	MAX	0.85		V
R_d	Dynamic resistance	$T_j = 125^\circ C$	MAX	46		m

PART NUMBER INFORMATION





STANDARD SCR

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

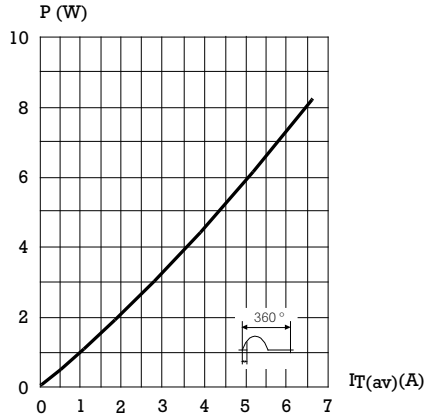


Fig. 3: Relative variation of thermal impedance junction to case versus pulse duration.

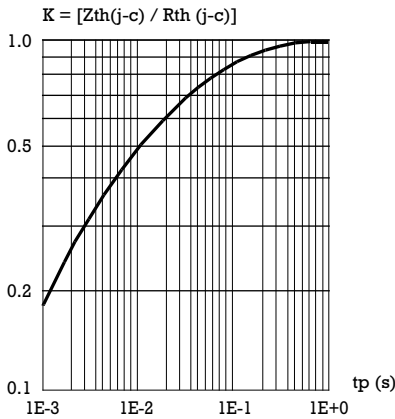


Fig. 5: Non repetitive surge peak on-state current versus number of cycles.

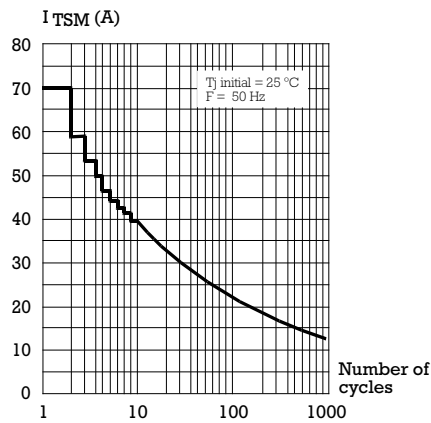


Fig. 2: Average and D.C. on-state current versus case temperature.

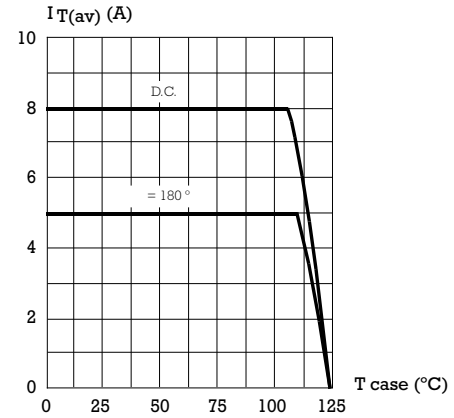


Fig. 4: Relative variation of gate trigger current, holding and latching current versus junction temperature.

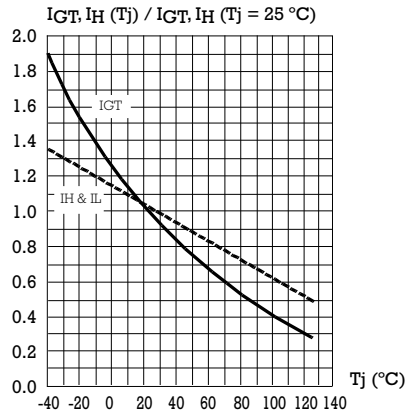
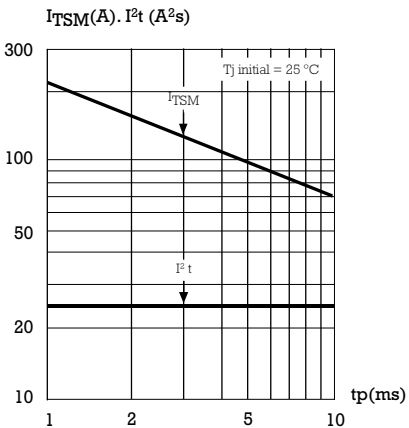
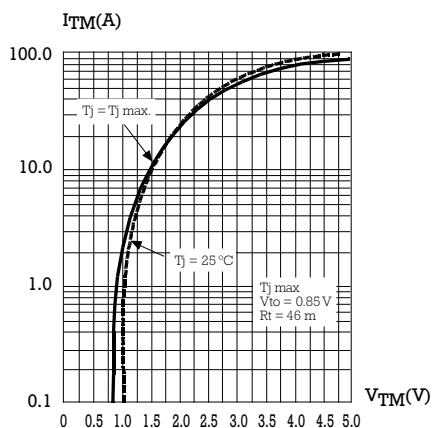


Fig. 6: Non repetitive surge peak on-state current for a sinusoidal pulse with width: tp < 10 ms, and corresponding value of I²t.



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Fig. 9: On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA IPAK TO 251-AA

REF.	DIMENSIONS		
	Millimeters		
	Min.	Nominal	Max.
A	2.19	2.3±0.08	2.38
A1	0.89	1.067±0.01	1.14
b	0.64	0.75±0.1	0.89
b1	0.76	0.95	1.14
c	0.46		0.58
c2		0.8±0.013	
D	5.97	6.1±0.1	6.22
D1	5.21		5.52
E	6.35	6.58±0.14	6.73
E1	5.21	5.36±0.1	5.46
e		2.28BSC	
L	8.89	9.2±0.2	9.65
L1	1.91	2±0.1	2.28
L3	0.89		1.27

Marking: type number
Weight: 0.2 g