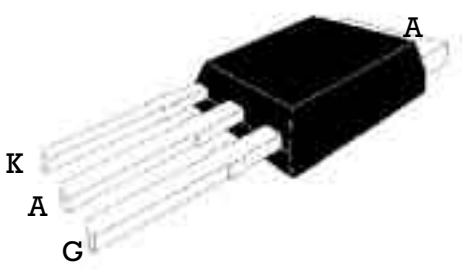


**SENSITIVE GATE SCR**

<p style="text-align: center;"><b>IPAK</b> (Plastic)</p> 	<table> <tr> <td><b>On-State Current</b> 8 Amp</td><td><b>Gate Trigger Current</b> &lt; 200 <math>\mu</math>A</td></tr> <tr> <td colspan="2"><b>Off-State Voltage</b> 200 V ÷ 600 V</td></tr> </table> <p>These series of <b>Silicon Controlled Rectifier</b> use a high performance PNP technology.</p> <p>These parts are intended for general purpose applications where high gate sensitivity is required.</p>	<b>On-State Current</b> 8 Amp	<b>Gate Trigger Current</b> < 200 $\mu$ A	<b>Off-State Voltage</b> 200 V ÷ 600 V	
<b>On-State Current</b> 8 Amp	<b>Gate Trigger Current</b> < 200 $\mu$ A				
<b>Off-State Voltage</b> 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, $T_c = 110^\circ\text{C}$		8	A
$I_{T(AV)}$	Average On-state Current	Half Cycle, $= 180^\circ$ , $T_c = 110^\circ\text{C}$		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 <sup>2</sup> s
$V_{GRM}$	Peak Reverse Gate Voltage	$I_{GR} = 10 \mu\text{A}$		8	V
$I_{GM}$	Peak Gate Current	20 $\mu\text{s}$ max.		4	A
$P_{GM}$	Peak Gate Dissipation	20 $\mu\text{s}$ 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

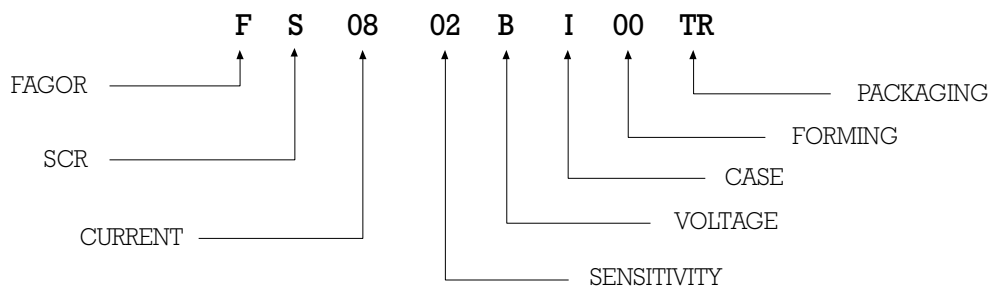
SYMBOL	PARAMETER	CONDITIONS	VOLTAGE			Unit
			B	D	M	
$V_{DRM}$ $V_{RRM}$	Repetitive Peak Off State Voltage	$R_{CK} = 1 \text{ K}$	200	400	600	V

## SENSITIVE GATE SCR

### Electrical Characteristics

SYMBOL	PARAMETER	CONDITIONS		SENSITIVITY	Unit
				02	
$I_{GT}$	Gate Trigger Current	$V_D = 12 V_{DC}$ , $R_L = 140 \Omega$ , $T_j = 25^\circ C$	MIN MAX	200	$\mu A$
$I_{DRM} / I_{RRM}$	Off-State Leakage Current	$V_D = V_{DRM}$ , $R_{GK} = 220 \Omega$ , $T_j = 125^\circ C$ $V_R = V_{RRM}$ , $T_j = 25^\circ C$	MAX MAX	1 5	$mA$ $\mu A$
$V_{TM}$	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	$V_D = 12 V_{DC}$ , $R_L = 140 \Omega$ , $T_j = 25^\circ C$	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
$I_H$	Holding Current	$I_T = 50 \text{ mA}$ , $R_{GK} = 1K \Omega$ , $T_j = 25^\circ C$	MAX	5	$mA$
$I_L$	Latching Current	$I_G = 1 \text{ mA}$ , $R_{GK} = 1K \Omega$	MAX	6	$mA$
$dv / dt$	Critical Rate of Voltage Rise	$V_D = 0.67 \times V_{DRM}$ , $R_{GK} = 220 \Omega$ , $T_j = 125^\circ C$	MIN	5	$V/\mu s$
$di / dt$	Critical Rate of Current Rise	$I_G = 2 \times I_{GT}$ , $T_r = 100 \text{ ns}$ , $T_j = 125^\circ C$	MIN	50	$A/\mu s$
$R_{th(j-c)}$	Thermal Resistance Junction-Case for DC			20	$^\circ C/W$
$R_{th(j-a)}$	Thermal Resistance Junction-Amb for DC			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



## SENSITIVE GATE SCR

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

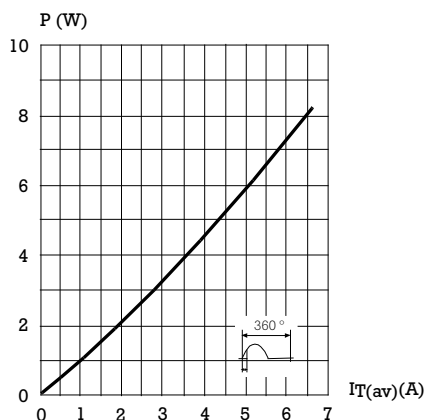


Fig. 3: Relative variation of thermal impedance junction to case versus pulse duration.

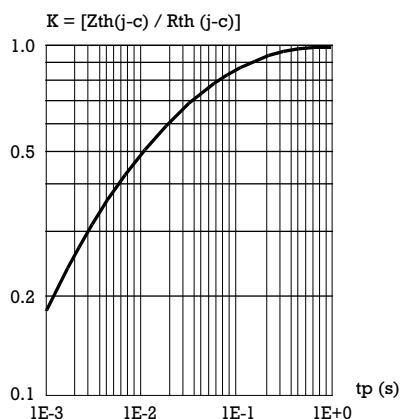


Fig. 5: Non repetitive surge peak on-state current versus number of cycles.

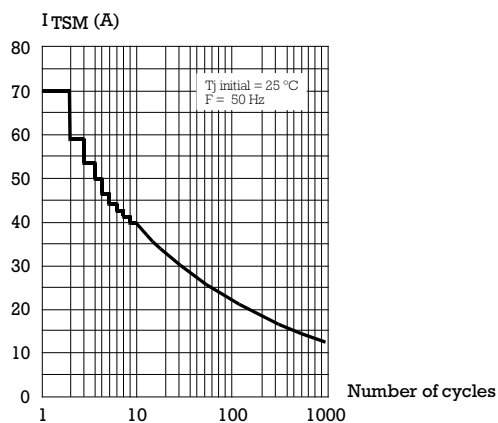


Fig. 2: Average and D.C. on-state current versus case temperature.

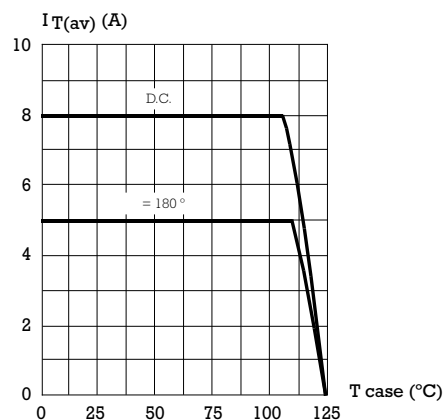


Fig. 4: Relative variation of gate trigger current, holding and latching current versus junction temperature.

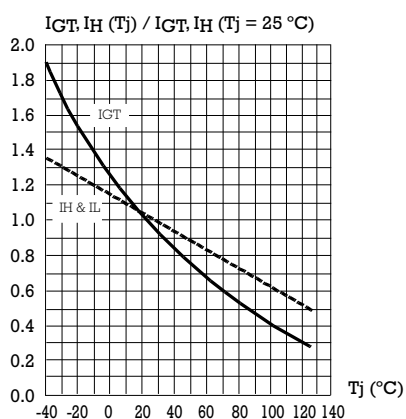
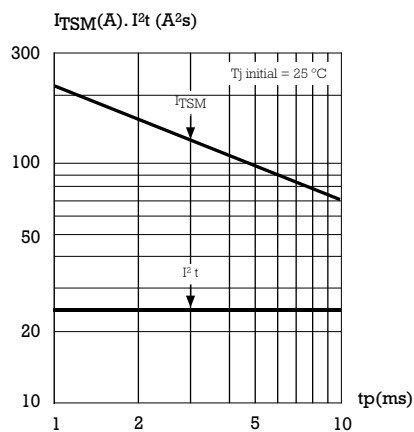
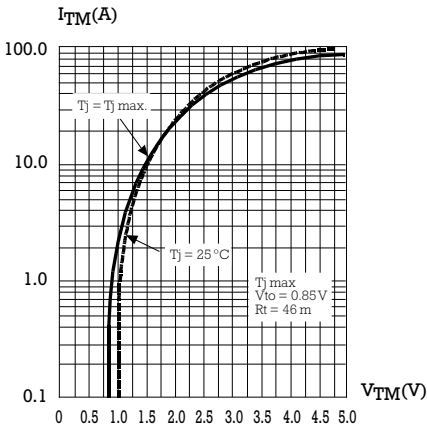


Fig. 6: Non repetitive surge peak on-state current for a sinusoidal pulse with width:  $t_p < 10$  ms, and corresponding value of  $I^2t$ .

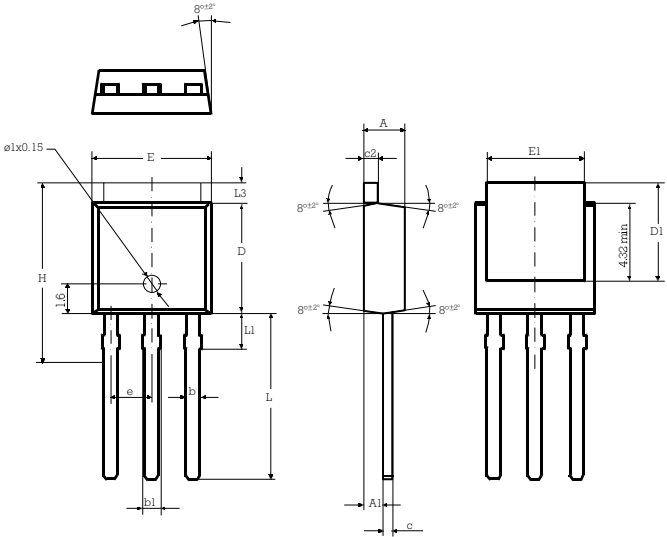


SENSITIVE GATE SCR

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



PACKAGE MECHANICAL DATA IPAK TO 251-AA



REF.	DIMENSIONS		
	Milimeters		
	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