

## SURFACE MOUNT SCR

<b>DPAK (Plastic)</b>	<b>On-State Current</b> 8 Amp	<b>Gate Trigger Current</b> < 200 $\mu$ A
	<b>Off-State Voltage</b> 200 V ÷ 600 V	
	These series of <b>Silicon C</b> ontrolled <b>R</b> ectifier use a high performance PNP technology.  These parts are intended for general purpose applications where high gate sensitivity is required using surface mount technology.	

## Absolute Maximum Ratings, according to IEC publication No. 134

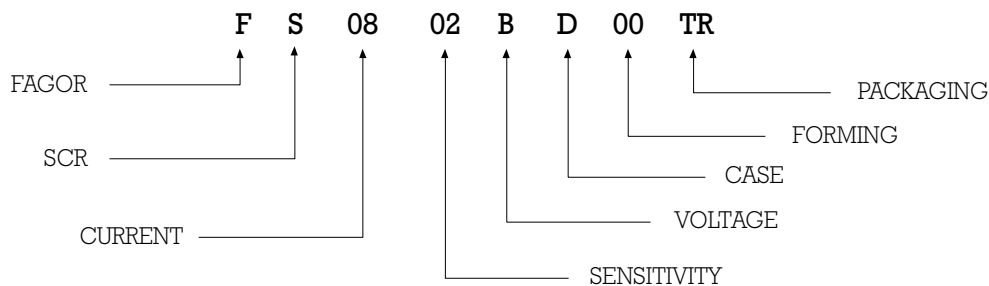
SYMBOL	PARAMETER	CONDITIONS	Min.	Max.	Unit
$I_{T(RMS)}$	On-state Current	180° Conduction Angle, $T_c = 110\text{ }^\circ\text{C}$		8	A
$I_{T(AV)}$	Average On-state Current	Half Cycle, $= 180^\circ$ , $T_c = 110\text{ }^\circ\text{C}$		5	A
$I_{TSM}$	Non-repetitive On-State Current	Half Cycle, 60 Hz		73	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	$A^2s$
$V_{GRM}$	Peak Reverse Gate Voltage	$I_{GR} = 10\text{ }\mu\text{A}$		8	V
$I_{GM}$	Peak Gate Current	20 $\mu$ s max.		4	A
$P_{GM}$	Peak Gate Dissipation	20 $\mu$ s max.		5	W
$P_{G(AV)}$	Gate Dissipation	20ms max.		1	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	$^\circ\text{C}$

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

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## 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	$V_D = V_{DRM}, R_{GK} = 220 \Omega, T_j = 125^\circ C$		MAX	1	mA
		$V_R = V_{RRM}, T_j = 25^\circ C$		MAX	5	$\mu A$
$V_{TM}$	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	$I_G = 2 \times I_{GT}, T_r = 100 \text{ ns}, F = 60 \text{ Hz}, T_j = 125^\circ C$		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				70	$^\circ C/W$
$V_{t0}$	Threshold Voltage	$T_j = 125^\circ C$		MAX	0.85	V
$R_d$	Dynamic resistance	$T_j = 125^\circ C$		MAX	46	m



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

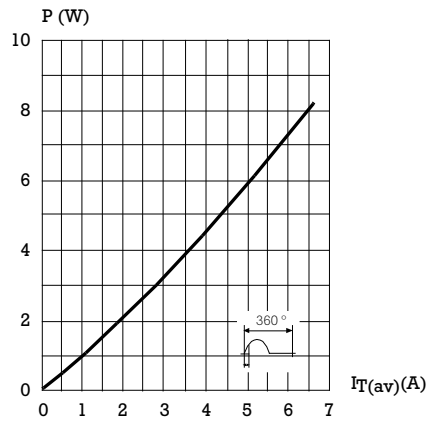


Fig. 3: Relative variation of thermal impedance junction to case versus pulse duration.

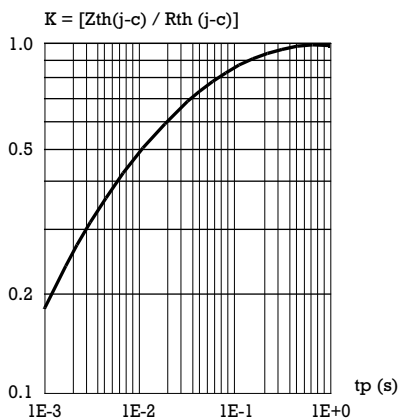


Fig. 5: Non repetitive surge peak on-state current versus number of cycles.

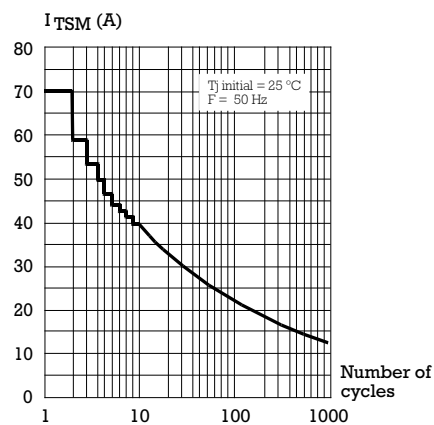


Fig. 2: Average and D.C. on-state current versus case temperature.

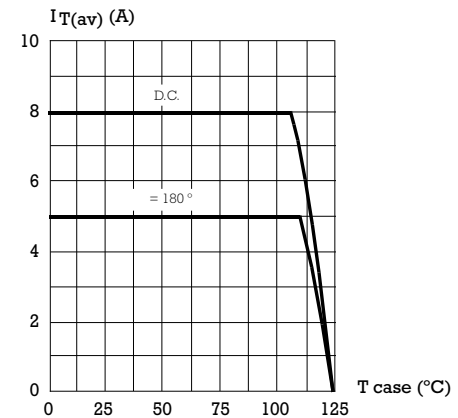
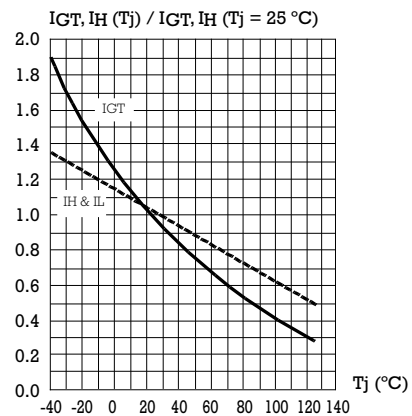
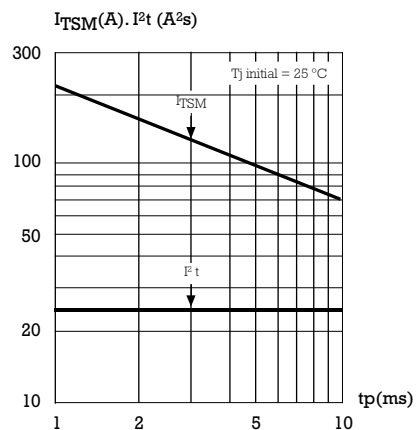
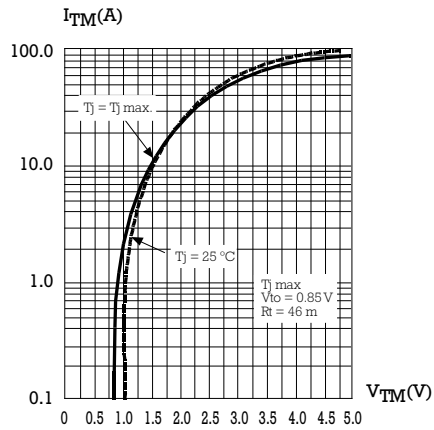


Fig. 4: Relative variation of gate trigger current, holding and latching current versus junction temperature.

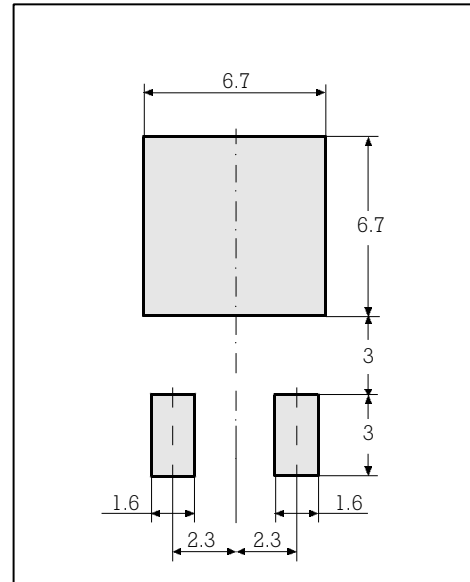

 Fig. 6: Non repetitive surge peak on-state current for a sinusoidal pulse with width:  $t_p < 10$  ms, and corresponding value of  $I^2t$ .


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



## FOOT PRINT



## PACKAGE MECHANICAL DATA DPAK TO 252-AA

REF.	DIMENSIONS		
	Millimeters		
	Min.	Nominal	Max.
A	2.18	2.3±0.18	2.39
A1	0	0.12	0.127
b	0.64	0.75±0.1	0.89
c	0.46		0.61
c1	0.46		0.56
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	5.20	5.36±0.1	5.46
e		2.28BSC	
H	9.40	9.90±0.15	10.41
L	1.40		1.78
L1	2.55	2.6±0.05	2.74
L2	0.46	0.5±0.013	0.58
L3	0.89	1.20±0.05	1.27
L4	0.64	0.83±0.1	1.02

Marking: type number  
Weight: 0.2 g