

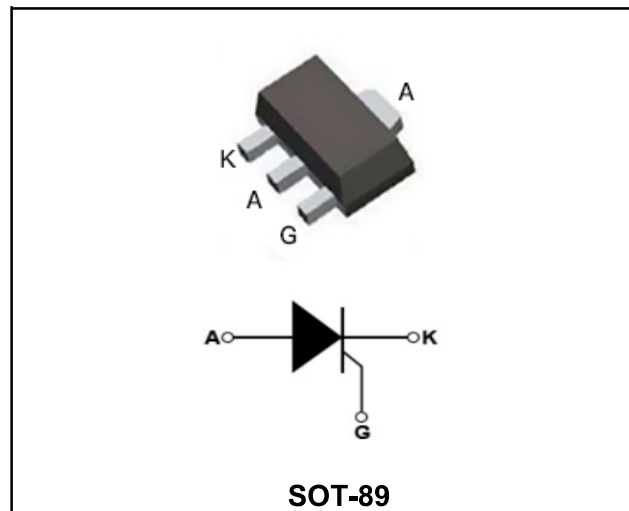
2.0A Sensitive Gate SCRs

Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	2.0	A
$V_{DRM} V_{RRM}$	600	V
I_{GT}	200	uA

Features

With high ability to withstand the shock loading of large current,
Provide high dv/dt rate with strong resistance to electromagnetic interference.



Application

Power charger, T-tools, massager, solid state relay, AC Motor speed regulation and so on.

Absolute maximum ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	V_{DRM}	600	V
Repetitive peak reverse voltage	V_{RRM}	600	V
RMS on-state current	$I_{T(RMS)}$	2	A
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)	I_{TSM}	20	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	2	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di_T/dt	50	A/ps
Peak gate current	I_{GM}	0.2	A
Average gate power dissipation	$P_G (AV)$	0.1	W
Junction Temperature	T_J	-40 ~+110	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-40 ~+150	$^{\circ}\text{C}$

Electrical characteristics (TA=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Value		Unit
			Min	Max	
Gate trigger current	I_{GT}	$V_D=12V I_T=10mA T_j=25^{\circ}C$	10	200	μA
Gate trigger voltage	V_{GT}		-	0.8	V
Gate non-trigger voltage	V_{GD}	$V_D=1/2V_{DRM} T_j=110^{\circ}C$	0.2	-	V
latching current	I_L	$V_D=12V I_G=0.5mA$ $R_{GK}=1k\Omega T_j=25^{\circ}C$	-	3	mA
Holding current	I_H		-	4	mA
Critical-rate of rise of commutation voltage	dV_D/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=110^{\circ}C$	10	-	V/ps

STATIC CHARACTERISTICS

Forward "on" voltage	V_{TM}	$I_{TM}=4A t_p=380ps$		-	1.55	V
Repetitive Peak Off-State Current	I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}C$	-	5	μA
Repetitive Peak Reverse Current	I_{RRM}		$T_j=110^{\circ}C$	-	0.1	mA

THERMAL RESISTANCES

Thermal resistance	$R_{th(j-c)}$	Junction to case	TYP.	20	$^{\circ}C/W$
	$R_{th(j-a)}$	Junction to ambient	TYP.	60	$^{\circ}C/W$

Typical Characteristics

FIG.1: Maximum power dissipation versus RMS on-state current (full cycle)

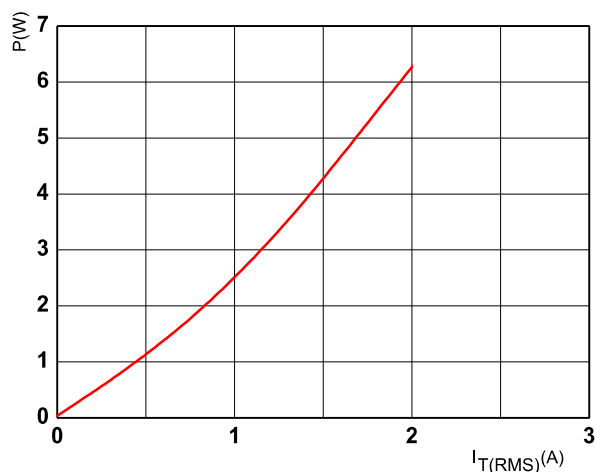


FIG.2: RMS on-state current versus case temperature (full cycle)

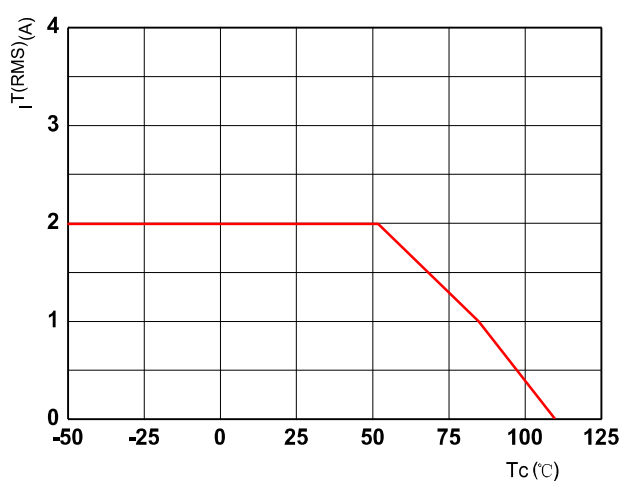


FIG.3: Surge peak on-state current versus number of cycles

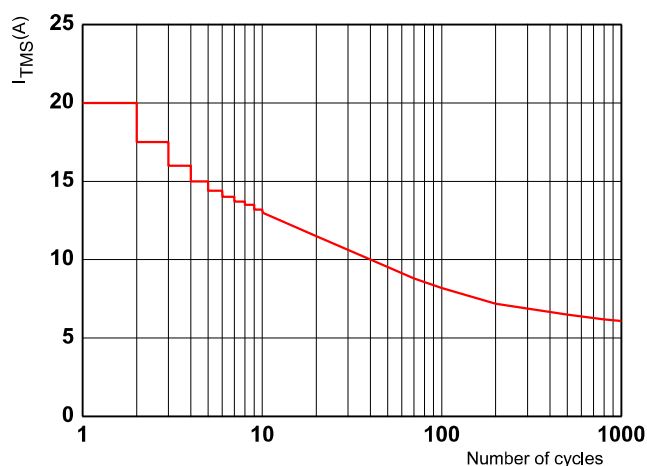


FIG.4: On-state characteristics (maximum values)

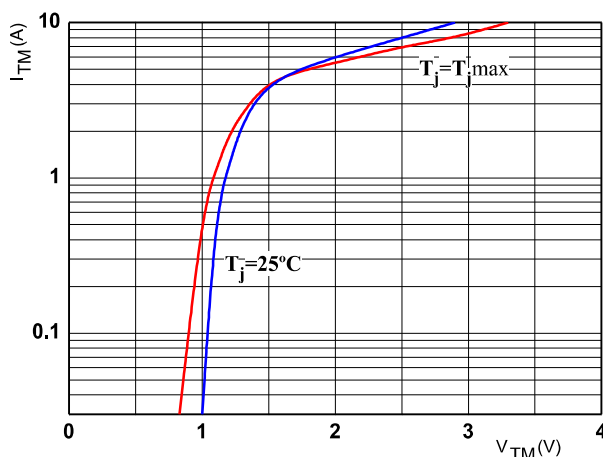


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$

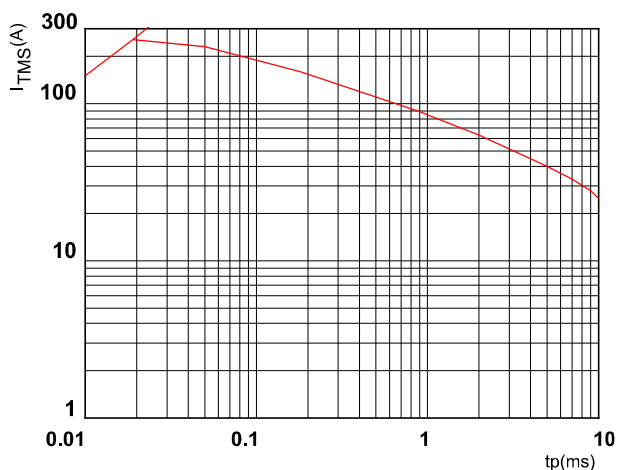
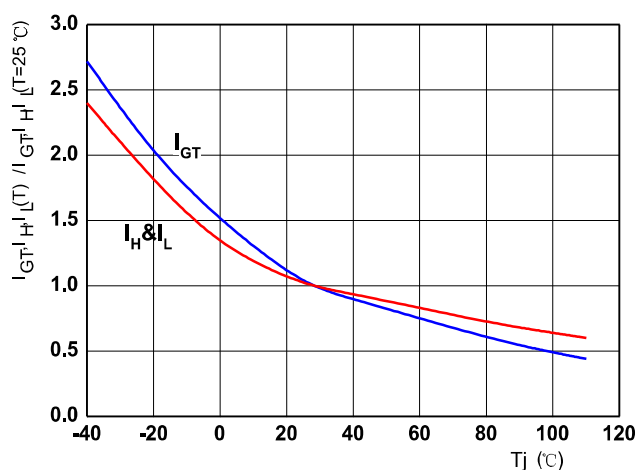


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Ordering information

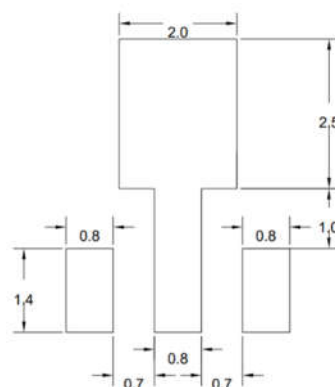
Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

Package Dimensions

SOT-89

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

The recommended mounting pad size



UNIT:MM

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