

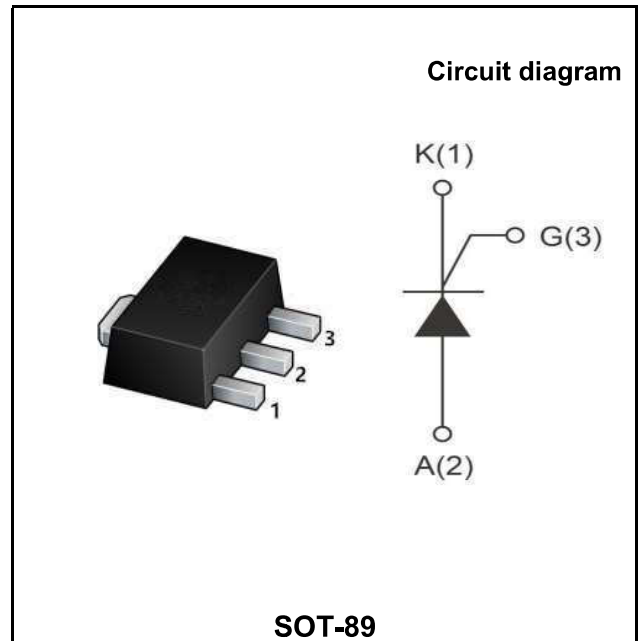
**2.0A Sensitive Gate SCRs**

**Product Summary**

Symbol	Value	Unit
$I_{T(AV)}$	2.0	A
$V_{DRM} V_{RRM}$	600	V
$I_{GT}$	200	$\mu A$

**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.

**Order Information**

Part Number	Package	Marking	Delivery Form	Delivery Quantity
2P4M	SOT-89	2P4M	7" T&R	1000PCS/Tape

**Absolute maximum ratings (Ta=25°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	$I_{T(RMS)}$	3	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	20	A
$I^2t$ value for fusing (tp=10ms)	$I^2t$	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	°C
Storage Temperature	$T_{STG}$	-40 ~+150	°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	$\mu A$	
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	
<b>STATIC CHARACTERISTICS</b>						
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	$\mu A$
Repetitive Peak Reverse Current	$I_{RRM}$		$T_j=110^\circ C$	-	0.1	mA
<b>THERMAL RESISTANCES</b>						
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)

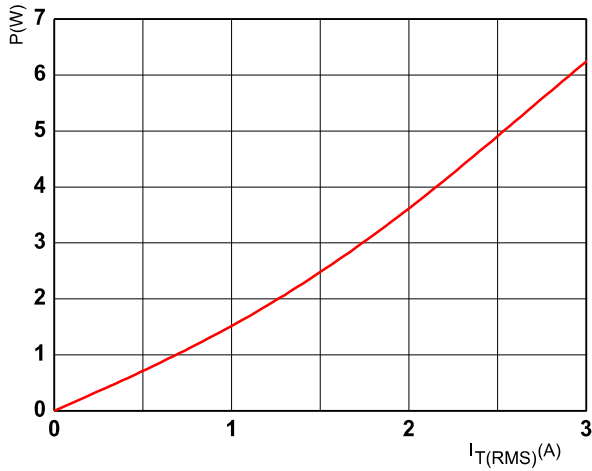


FIG.2: RMS on-state current versus case temperature (full cycle)

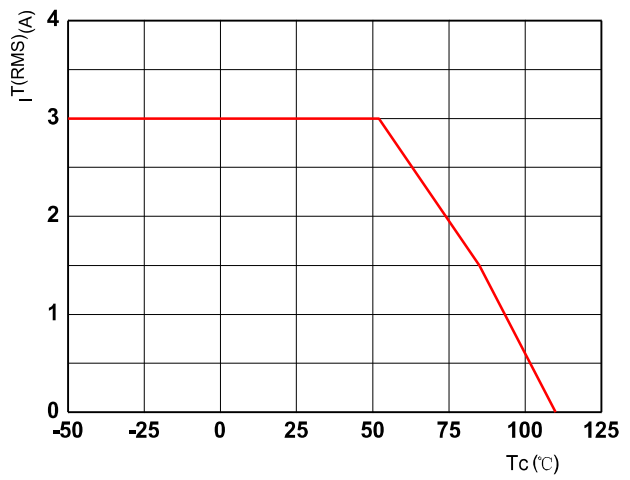


FIG.3: Surge peak on-state current versus number of cycles

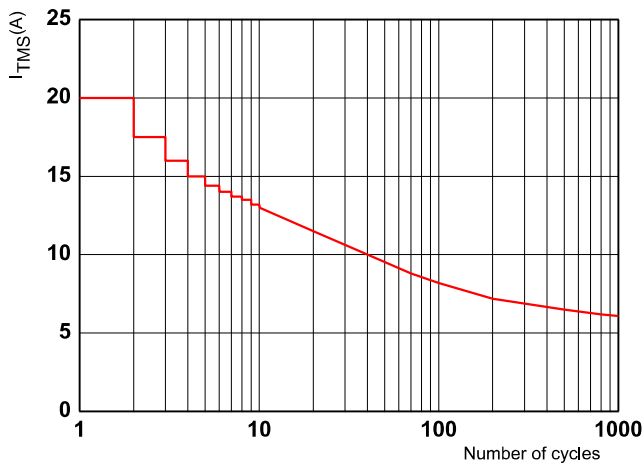


FIG.4: On-state characteristics (maximum values)

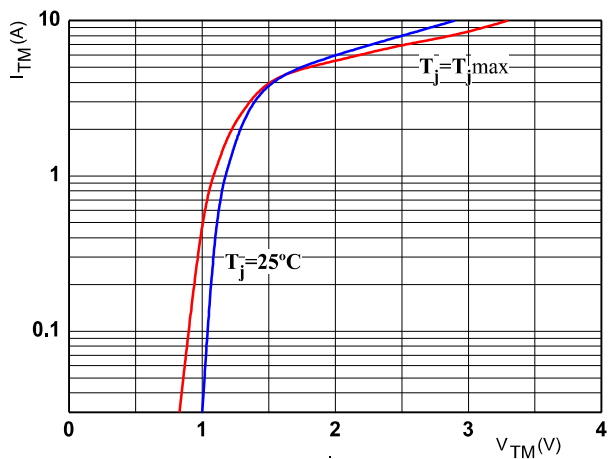


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$

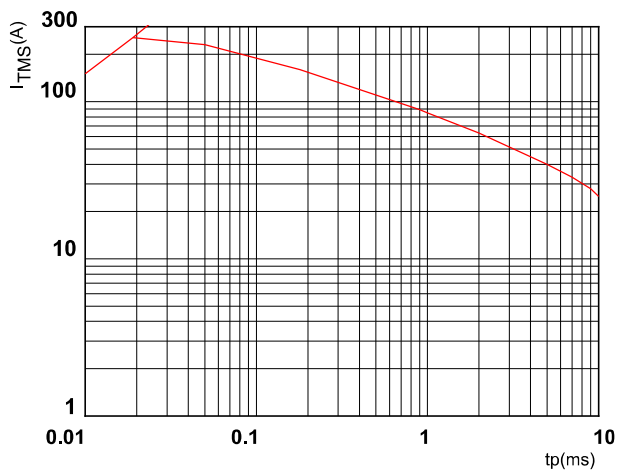
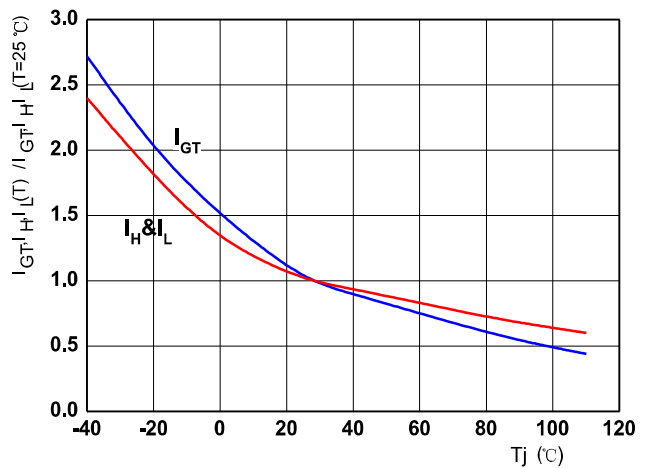
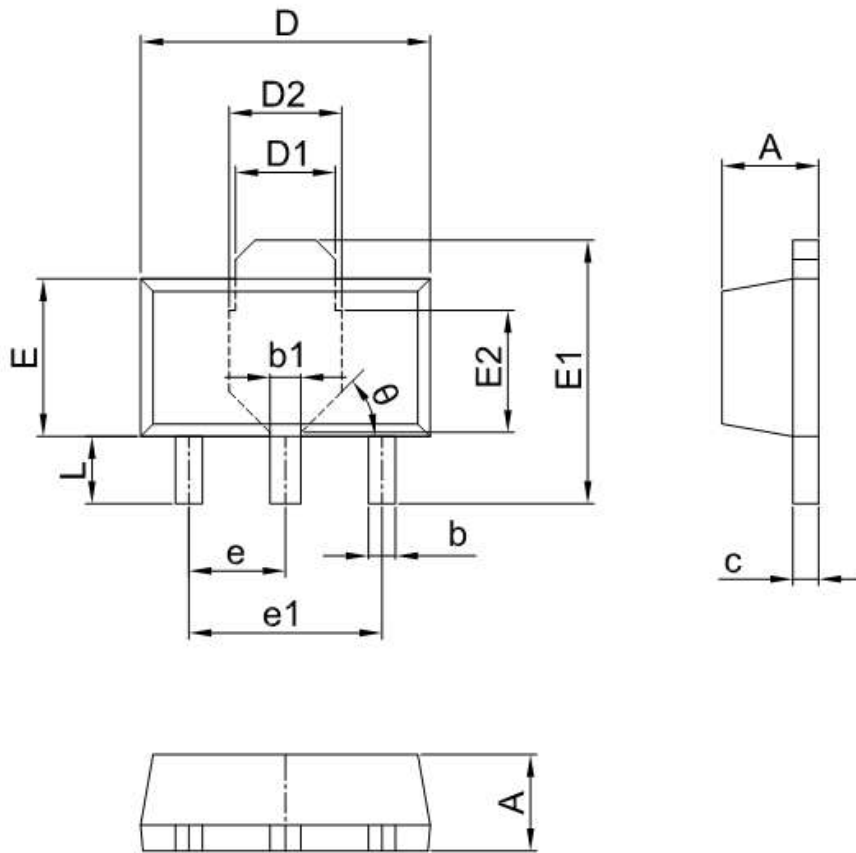


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)





SOT-89

Symbol	SOT-89		
	Min.	Typ	Max.
A	1.40	1.50	1.60
b	0.32	0.42	0.52
b1	0.38	0.48	0.58
c	0.35	0.40	0.45
c1	0.40	0.50	0.60
D	4.40	4.50	4.60
D1	1.45	1.55	1.65
D2	1.70	1.75	1.80
E	2.30	2.45	2.60
E1	3.95	4.10	4.25
E2	1.80	1.90	2.00
e	1.40	1.50	1.60
e1	2.80	3.00	3.20
L	0.90	1.05	1.20
$\theta$		45°	