



JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD
SOT-23-3LK Plastic-Encapsulate Thyristors

CS008L Sensitive Gate SCRs

MAIN CHARACTERISTICS

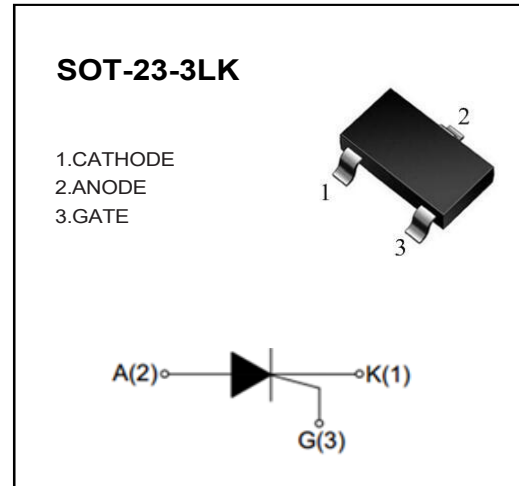
$I_{T(AV)}$	0.5A
V_{DRM}/V_{RRM}	600V
I_{GT}	200μA

FEATURES

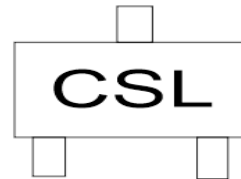
- PNP 4-layer Structure SCRs
- Mesa Glass Passivated Technology
- Multi Layers Metal Electrodes
- Sensitive gate trigger

APPLICATIONS

- Pulse Igniter
- Leakage Protector
- Logic Circuit Driver



MARKING



ABSOLUTE RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Test condition	Value	Unit
V_{DRM}/V_{RRM}	Repetitive peak off-state voltage	$T_j=25^{\circ}C$	600	V
$I_{T(AV)}$	Average on-state current	SOT-23-3LK($T_c \leq 60^{\circ}C$)	0.5	A
$I_{T(RMS)}$	RMS on-state current	SOT-23-3LK($T_c \leq 60^{\circ}C$), Fig. 1,2	0.8	A
I_{TSM}	Non repetitive surge peak on-state current	Full sine wave, $T_j(\text{init})=25^{\circ}C$, $t_p=20\text{ms}$; Fig. 3,5	8	A
I^2t	I^2t value	$t_p=10\text{ms}$	0.32	A^2s
di_T/dt	Critical rate of rise of on-state current	$I_G=2 \cdot I_{GT}$, $t_r \leq 10\text{ns}$, $F=120\text{Hz}$, $T_j=110^{\circ}C$	50	$A/\mu s$
I_{GM}	Peak gate current	$t_p=20\mu s$, $T_j=110^{\circ}C$	0.2	A
$P_{G(AV)}$	Average gate power	$T_j=110^{\circ}C$	0.1	W
T_{STG}	Storage temperature		-40~+150	$^{\circ}C$
T_j	Operating junction temperature		-40~+110	

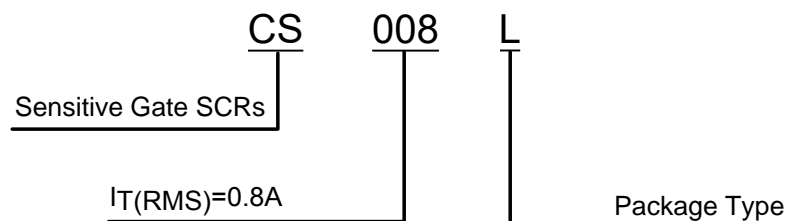
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Symbol	Parameter	Test condition	Value			Unit
			Min	Nom	Max	
I _{GT}	Gate trigger current	V _D =12V, I _T =10mA, T _j =25°C, Fig. 6	10	-	200	μA
V _{GT}	Gate trigger voltage	V _D =12V, I _T =10mA, T _j =25°C	-	-	0.8	V
V _{GD}	Non-triggering gate voltage	V _D =V _{DRM} , T _j =125°C	0.2	-	-	V
I _H	Holding current	V _D =12V, I _G =0.5mA, R _{GK} =1kΩ, T _j =25°C,	-	-	3	mA
I _L	Latching current	Fig. 6	-	-	4	mA
dV _D /dt	Critical rate of rise of off-state	V _D =67%V _{DRM} , R _{GK} =1kΩ, T _j =110°C	10	-	-	V/μs
V _{TM}	On-state Voltage	I _{TM} =1.2A, , Fig. 4	-	-	1.5	V
I _{DRM} / I _{RPM}	Repetitive peak off-state current	V _D =V _{DRM} /V _{RPM} , T _j =25°C	-	-	5	μA
		V _D =V _{DRM} /V _{RPM} , T _j =110°C	-	-	100	μA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
R _{th} (j-c)	Junction to case (AC)	SOT-23-3LK	23 °C/W
R _{th} (j-a)	Junction to ambient	SOT-23-3LK	400 °C/W

PART NUMBER



CHARACTERISTICS CURVES

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

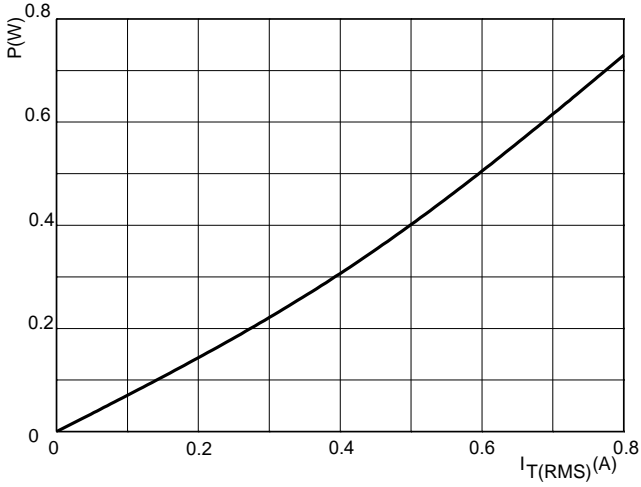


FIG.2: RMS on-state current versus case temperature (full cycle)

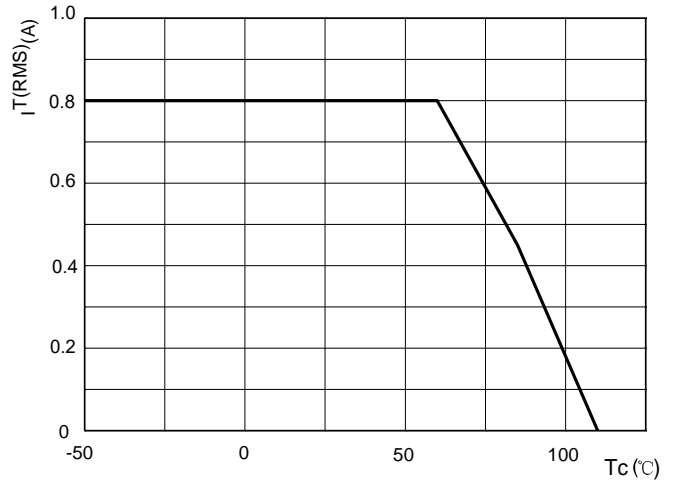


FIG.3: Surge peak on-state current versus number of cycles

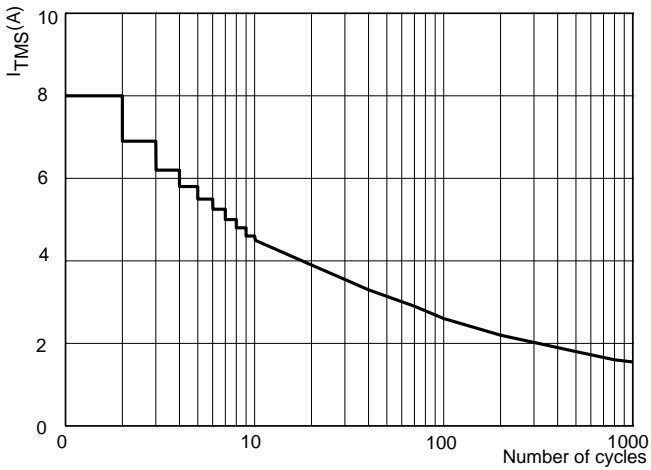


FIG.4: On-state characteristics (maximum values)

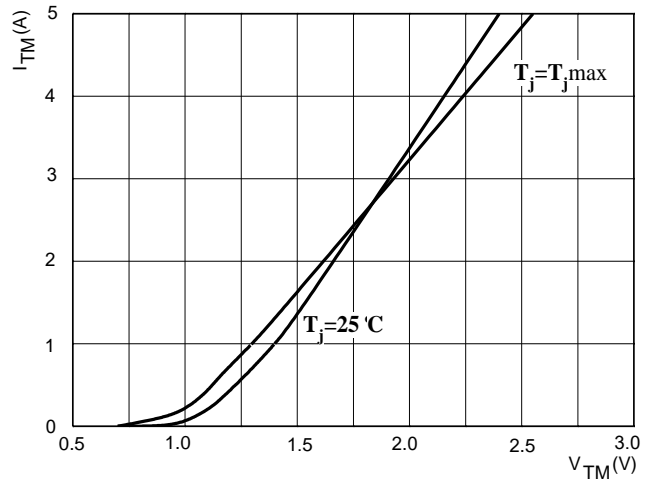


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$

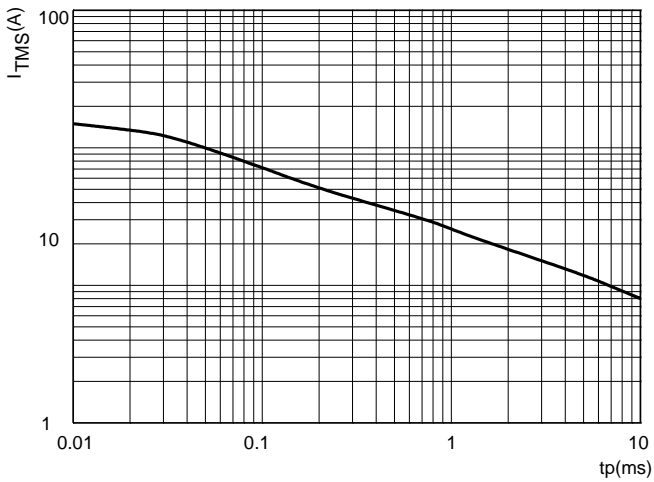
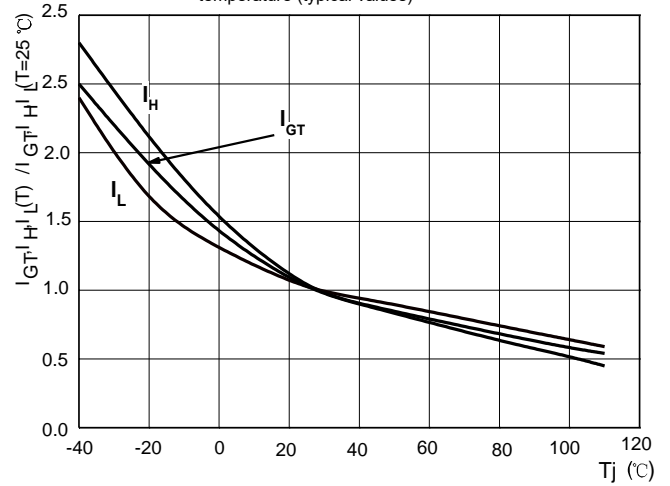
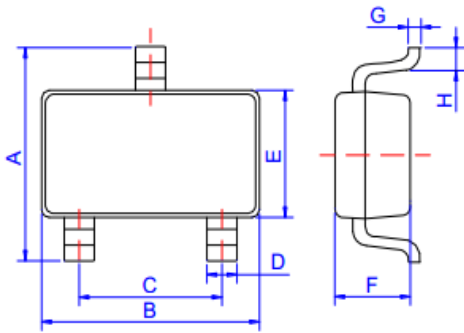


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



SOT-23-3LK PACKAGE OUTLINE DIMENSIONS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.65		2.95	0.104		0.116
B		2.92			0.115	
C		1.90			0.075	
D	0.34		0.36	0.013		0.014
E		1.60			0.063	
F		1.17			0.046	
G		0.15			0.006	
H	0.25		0.55	0.010		0.022