JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

TO-92K Plastic-Encapsulate Thyristors

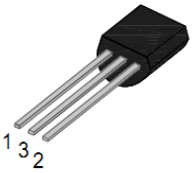
CS008G Sensitive Gate SCRs

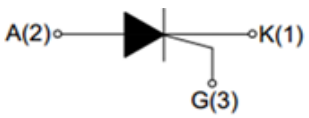
MAIN CHARACTERISTICS

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

TO-92K

1.CATHODE
2.ANODE
3.GATE





FEATURES

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

APPLICATIONS

- Pulse Igniter
- Leakage Protector
- Logic Circuit Driver

MARKING

CS008G:Part Number
XXX:Internal Code

ABSOLUTE RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Test condition	Value	Unit
V_{DRM}/ V_{RRM}	Repetitive peak off-state voltage	T_j=25℃	600	V
$I_{T(AV)}$	Average on-state current	TO-92K(T_C≤63℃)	0.5	A
$I_{T(RMS)}$	RMS on-state current	TO-92K(T_C≤63℃),Fig. 1,2	0.8	A
I_{TSM}	Non repetitive surge peak on-state current	Full sine wave， T_j(init)=25℃, tp=20ms; Fig. 3,5	8	A
I^2t	I^2t value	tp=10ms	0.32	A^2s
dI_T/dt	Critical rate of rise of on-state current	I_G=2*I_{GT}, tr≤10ns, F=120Hz, T_j=110℃	50	A/μs
I_{GM}	Peak gate current	tp=20μs, T_j=110℃	0.2	A
$P_{G(AV)}$	Average gate power	T_j=110℃	0.1	W
T_{STG}	Storage temperature		-40~+150	℃
T_j	Operating junction temperature		-40~+110	

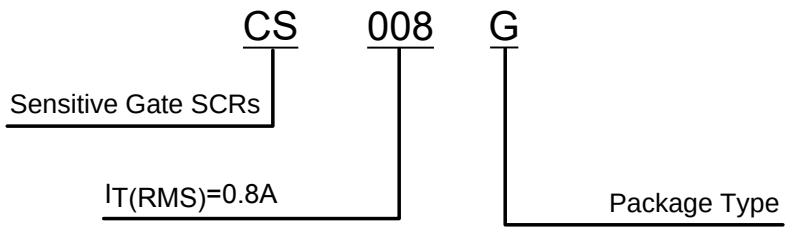
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Symbol	Parameter	Test condition	Value			Unit
			Min	Nom	Max	
I_{GT}	Gate trigger current	V_D=12V, I_T =10mA, T_j=25℃, Fig. 6	10	-	200	μA
V_{GT}	Gate trigger voltage	V_D=12V, I_T =10mA, T_j=25℃	-	-	0.8	V
V_{GD}	Non-triggering gate voltage	VD=VDRM, T_j=125℃	0.2	-	-	V
I_H	Holding current	V_D=12V, I_G=0.5mA, R_{GK}=1kΩ, T_j=25℃, Fig. 6	-	-	3	mA
I_L	Latching current		-	-	4	mA
dV_D/dt	Critical rate of rise of off-state	V_D=67%V_{DRM}, RGK=1kΩ,Tj=110℃	10	-	-	V/μs
V_{TM}	On-state Voltage	I_{TM}=1.2A, , Fig. 4	-	-	1.5	V
I_{DRM} / I_{RRM}	Repetitive peak off-state current	V_D=V_{DRM}/V_{RRM}, T_j=25℃	-	-	5	μA
		V_D=V_{DRM}/V_{RRM},T_j=110℃	-	-	100	μA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
Rth (j-c)	Junction to case (AC)	TO-92K	75	℃/W
Rth (j-a)	Junction to ambient	TO-92K	150	℃/W

PART NUMBER



CHARACTERISTICS CURVES

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

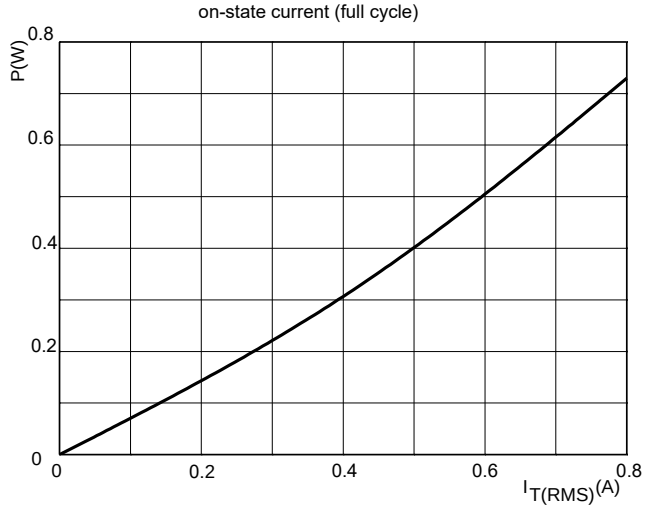


FIG.2: RMS on-state current versus case temperature (full cycle)

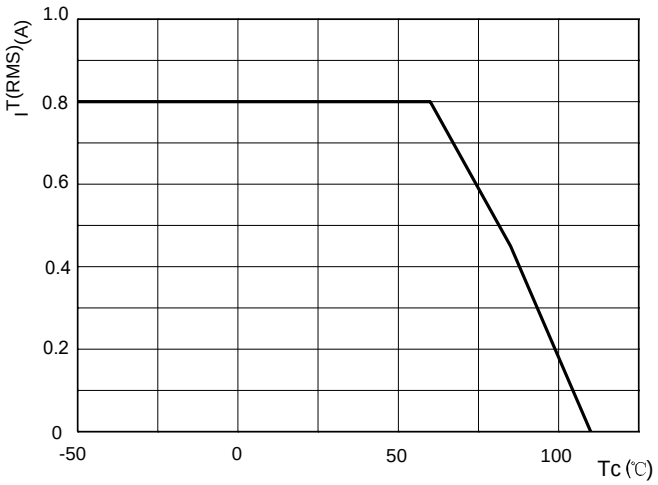


FIG.3: Surge peak on-state current versus number of cycles

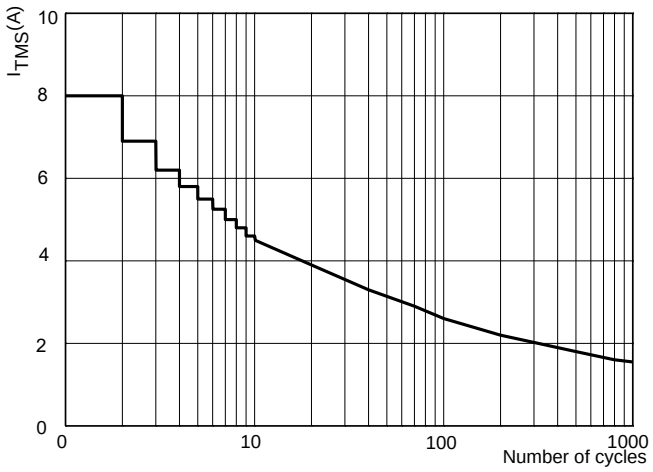


FIG.4: On-state characteristics (maximum values)

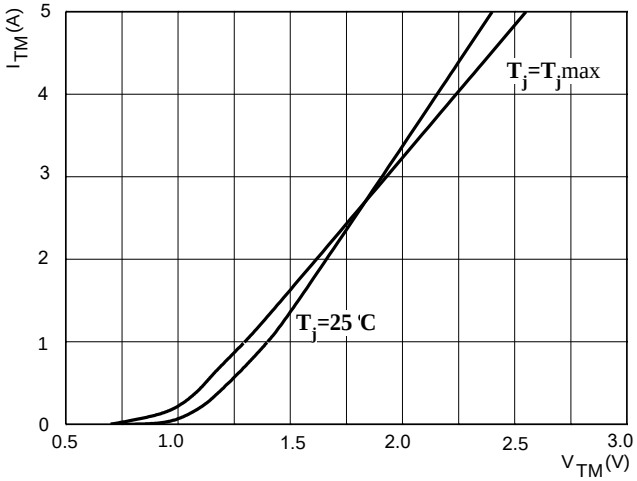


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10ms

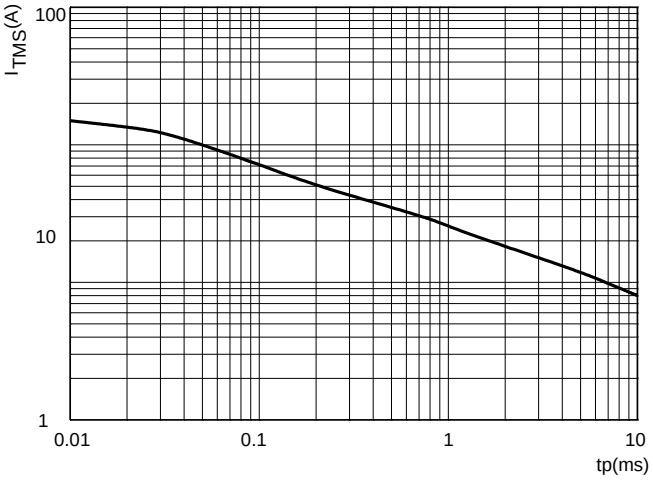
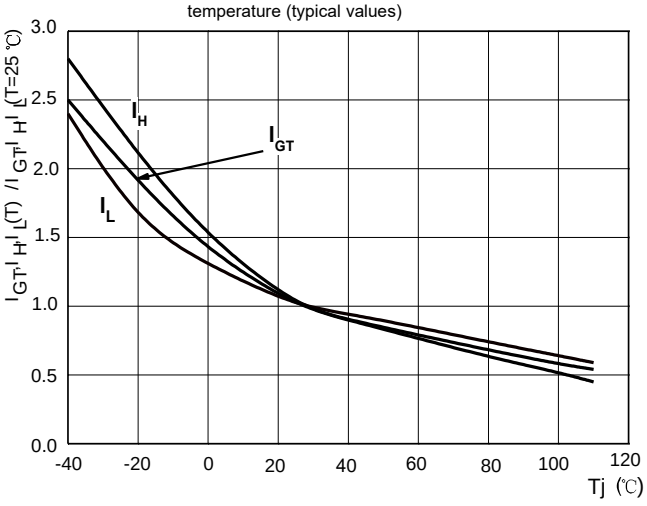
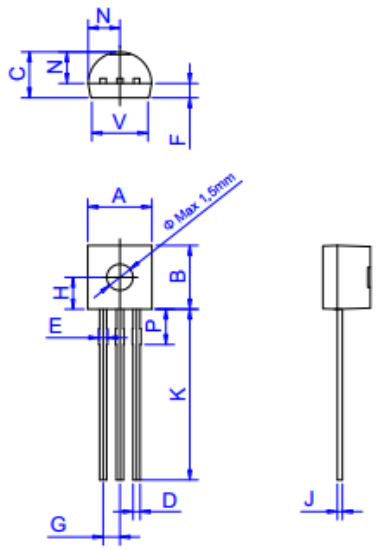


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



TO-92K PACKAGE OUTLINE DIMENSIONS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.407		0.533	0.016		0.021
E	0.60		0.80	0.024		0.031
F	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
J	0.36		0.50	0.014		0.020
K	12.70		15.0	0.500		0.591
N	2.04		2.66	0.080		0.105
P	1.86		2.06	0.073		0.081
V	-		4.3	-		0.169