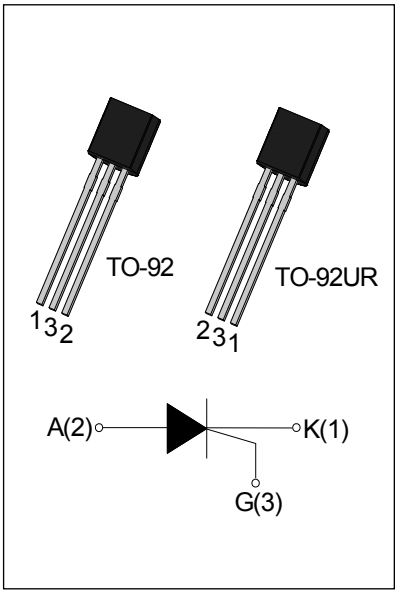
JX008 Series 0.8A Sensitive SCRs

Rev.10.0

DESCRIPTION:

The JX008 series SCR provide high dv/dt rate with strong resistance to electromagnetic interface. They are especially recommended for use on residual current circuit breaker, straight hair, igniter etc. Package TO-92 & TO-92UR are RoHS compliant. (2011/65/EU)



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	0.8	A
I_{GT}	≤200	μA
V_{DRM} /V_{RRM}	600	V

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T_{stg}	-40-150	℃
Operating junction temperature range		T_j	-40-125①	℃
Repetitive peak off-state voltage		V_{DRM}	600	V
Repetitive peak reverse voltage		V_{RRM}	600	V
RMS on-state current	TO-92/TO-92UR (T_C=65℃)	$I_{T(RMS)}$	0.8	A
Non repetitive surge peak on-state current (F=50Hz tp=10ms)		I_{TSM}	8	A
Non repetitive surge peak on-state current (F=60Hz tp=8.3ms)		I_{TSM}	9	A
I^2t value for fusing (tp=10ms)		I^2t	0.32	A^2s
Critical rate of rise of on-state current		dI/dt	50	A/μs
Peak gate current (tp=20μs, T_j=125℃)		I_{GM}	0.2	A
Peak gate power (tp=20μs, T_j=125℃)		P_{GM}	0.5	W
Average gate power dissipation(T_j=125℃)		$P_{G(AV)}$	0.1	W

NOTE 1: When we parallel connect a ≤1KΩ resistor between Gate and Cathode, the Tj can reach 125℃; if without this resistor, the Tj only can reach 110℃.

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	V_D=12V R_L=33Ω	20	50	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	V_D=V_{DRM} T_j=125℃	0.2	-	-	V
I_L	I_G=1.2 I_{GT}	-	-	4	mA
I_H	I_T=0.05A	-	-	3	mA
dV/dt	V_D=400V T_j=125℃ R_{GK}=1KΩ	600	-	-	V/μs
dV/dt	V_D=400V T_j=125℃ R_{GK}=220Ω	1000	-	-	V/μs
t_{on}	I_G=10mA I_A=4mA I_R=0.4mA T_j=25℃	-	2	-	μs
t_{off}		-	50	-	μs
R_d	Dynamic Resistance T_j=125℃	-	-	35	mΩ

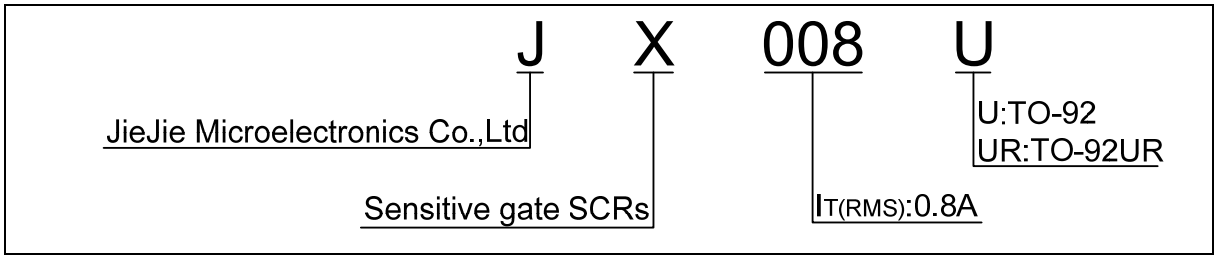
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	I_T=1.1A tp=380μs	T_j=25℃	1.5	V
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25℃	5	μA
I_{RRM}		T_j=125℃	100	μA

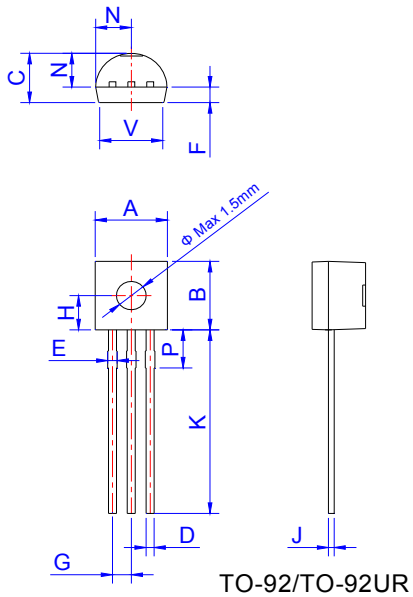
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case	TO-92/TO-92UR	75	℃/W

ORDERING INFORMATION



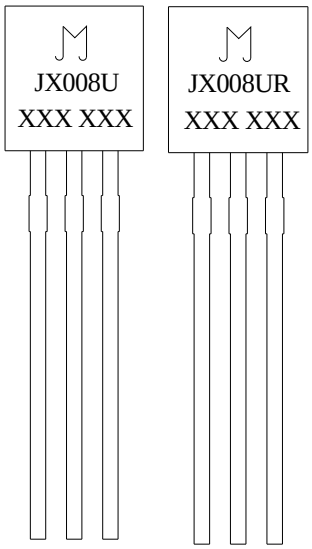
PACKAGE MECHANICAL DATA

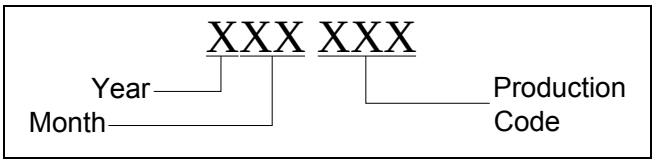


TO-92/TO-92UR

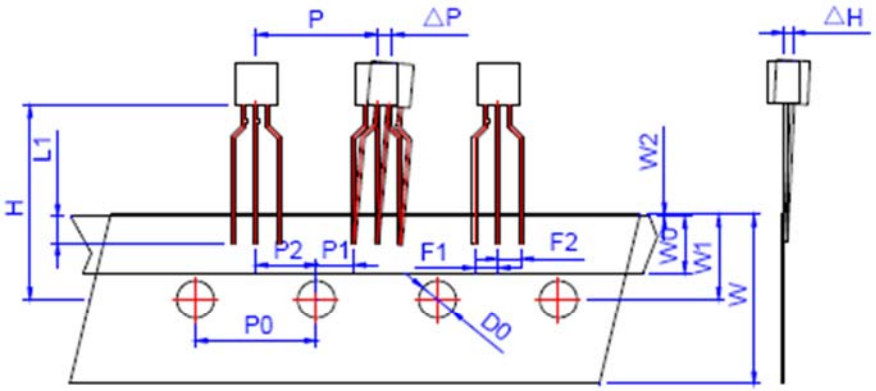
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.407		0.533	0.016		0.021
E	0.50		0.70	0.020		0.028
F	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
J	0.36		0.50	0.014		0.020
K	12.70		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

MARKING





PACKAGE INFORMATION



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
P	12.40	12.70	13.00	0.488	0.500	0.512
P0	12.40	12.70	13.00	0.488	0.500	0.512
P1	3.55	3.85	4.15	0.140	0.152	0.163
P2	6.05	6.35	6.65	0.238	0.250	0.262
△P	-1.0	0	1.0	-0.039	0	0.039
F1、F2	2.20	2.50	2.80	0.087	0.098	0.110
F1-F2	-0.3	0	0.3	-0.012	0	0.012
W	17.50	18.00	19.00	0.689	0.709	0.748
W0	5.50	6.00	6.50	0.217	0.236	0.256
W1	8.50	9.00	9.50	0.335	0.354	0.374
W2			1.0			0.039
D0	3.80	4.0	4.20	0.150	0.157	0.165
△H	-1.0	0	1.0	-0.039	0	0.039
L1	2.5			0.098		
H	18.0	19.0	20.0	0.709	0.748	0.787

Packaging Information	Reel	Inner Box	Outer Box
Net Weight (g)	140	80	600
Quantity (pcs)	/	2000	20000
N. W. Per Unit (mg/pcs)	189		

FIG.1 Maximum power dissipation versus RMS on-state current

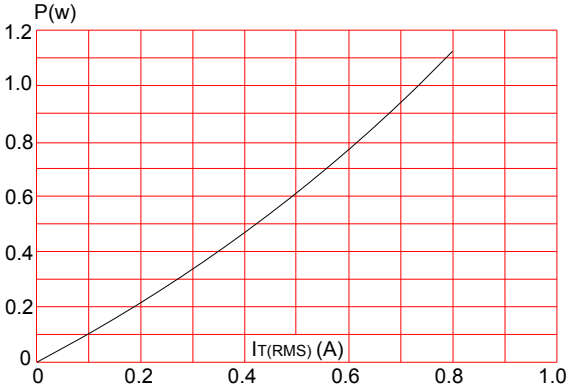


FIG.2: RMS on-state current versus case temperature

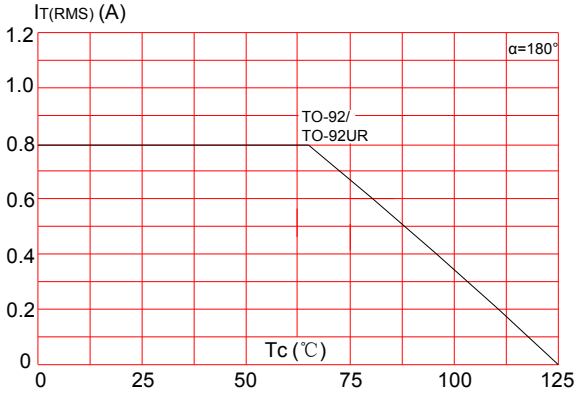


FIG.3: Surge peak on-state current versus number of cycles

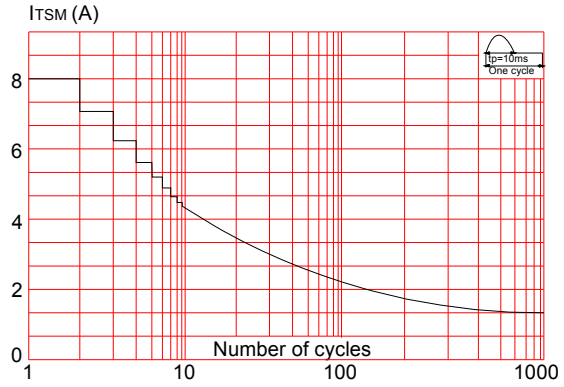


FIG.4: On-state characteristics (maximum values)

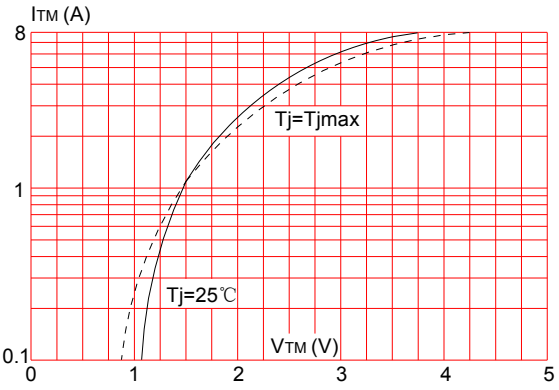


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponging value of I^2t (dI/dt < 50A/μs)

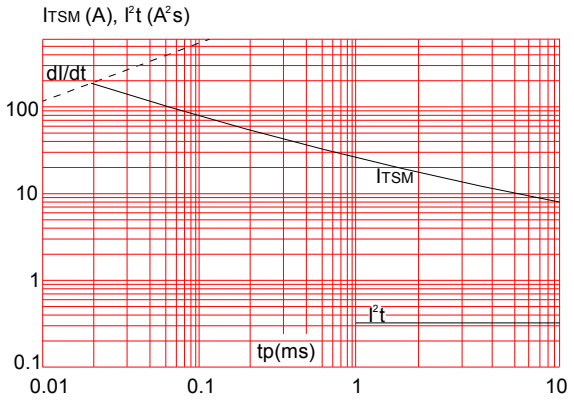
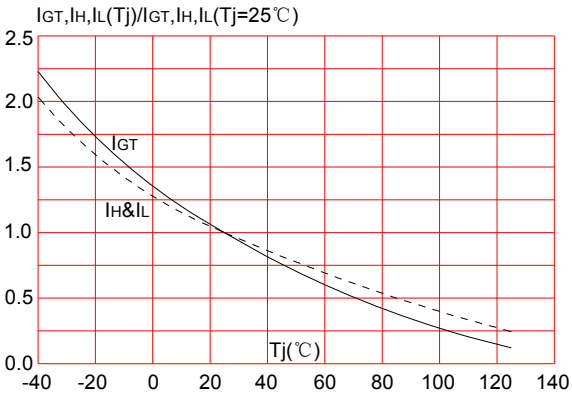


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co.,Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it. Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement. Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.
This document is the tenth version which is made in 26-Nov.-2019. This document supersedes and replaces all information previously supplied.

is a registered trademark of Jiangsu JieJie Microelectronics Co.,Ltd.