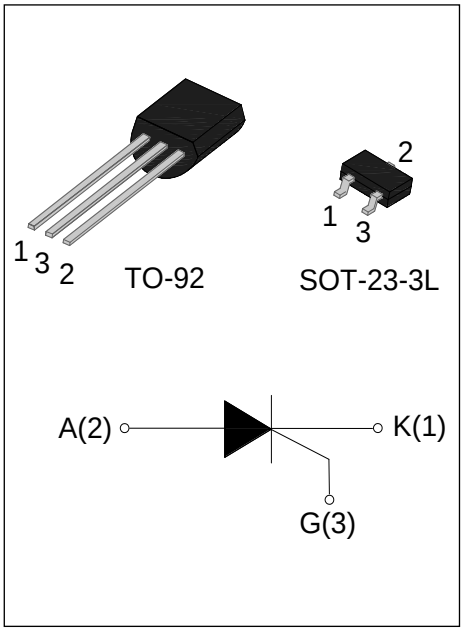
JX007 Series 0.8A Sensitive SCRs

Rev.2.0

DESCRIPTION:

The JX007 SCR series 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.



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	-40-110	℃
Repetitive peak off-state voltage		V_{DRM}	600	V
Repetitive peak reverse voltage		V_{RRM}	600	V
RMS on-state current	TO-92/ SOT-23-3L (T_C=60℃)	$I_{T(RMS)}$	0.8	A
Non repetitive surge peak on-state current (tp=10ms)		I_{TSM}	8	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, Tj=110℃)		I_{GM}	0.2	A
Peak gate power (tp=20μs, Tj=110℃)		P_{GM}	0.5	W
Average gate power dissipation(T_j=110℃)		$P_{G(AV)}$	0.1	W

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	V_D=12V R_L=33Ω	-	30	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	V_D=V_{DRM} T_j=110℃	0.2	-	-	V
I_L	I_G=1.2 I_{GT}	-	-	5	mA
I_H	I_T=0.05A	-	-	3	mA
dV/dt	V_D=2/3V_{DRM} T_j=110℃ R_{GK}=1KΩ	10	-	-	V/μs

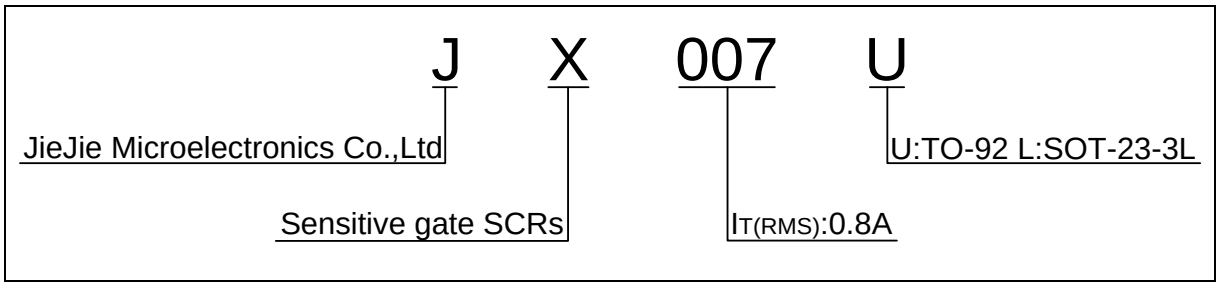
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	I_T=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=110℃	100	μA

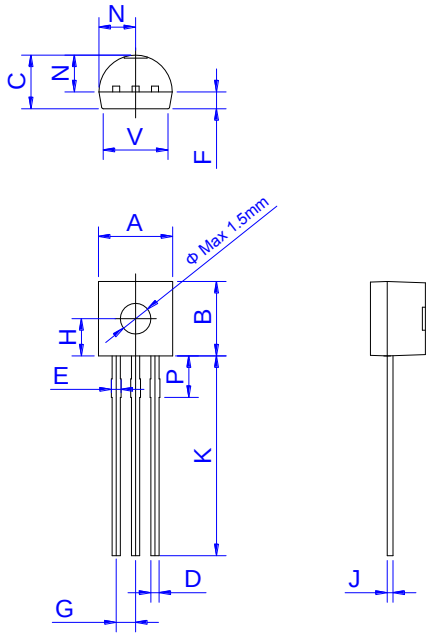
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case	TO-92/ SOT-23-3L	75	℃/W

ORDERING INFORMATION

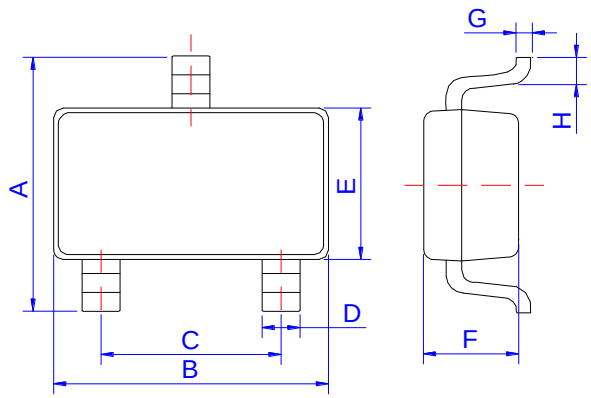


PACKAGE MECHANICAL DATA



TO-92

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



SOT-23-3L

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

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

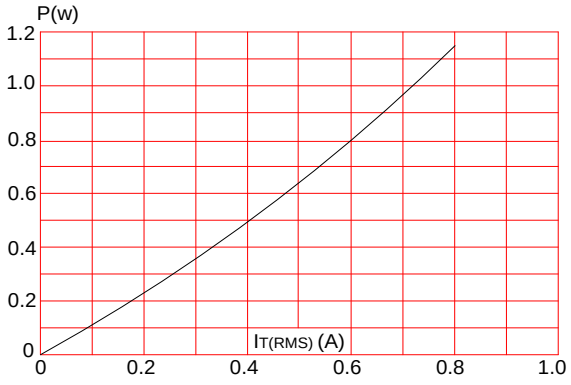


FIG.2: RMS on-state current versus case temperature

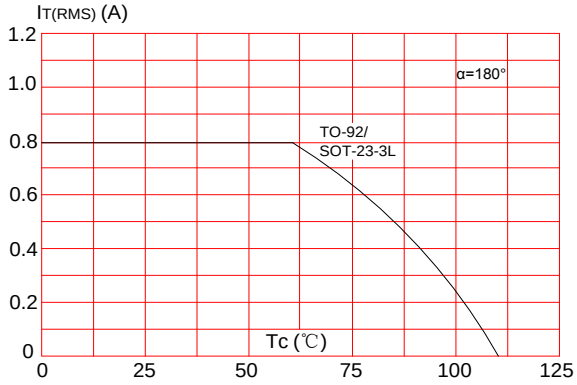


FIG.3: Surge peak on-state current versus number of cycles

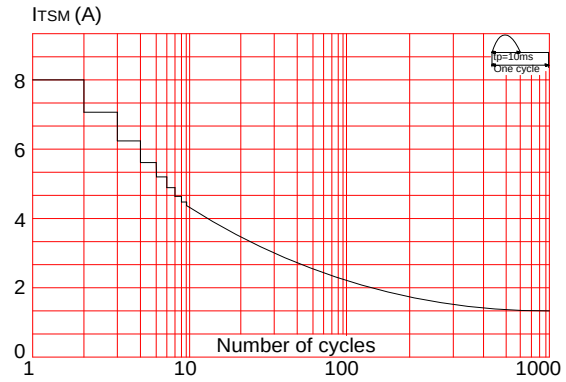


FIG.4: On-state characteristics (maximum values)

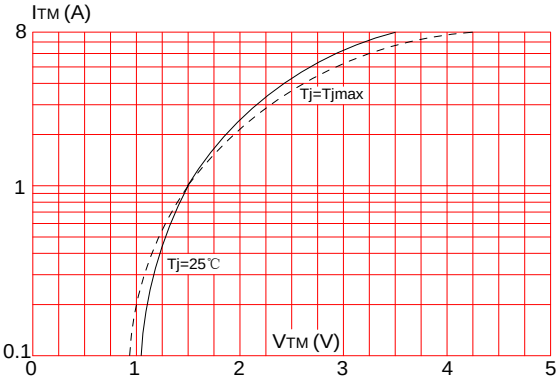


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponging value of I^2t

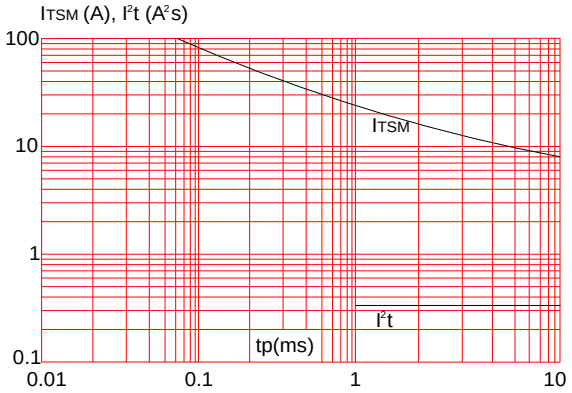
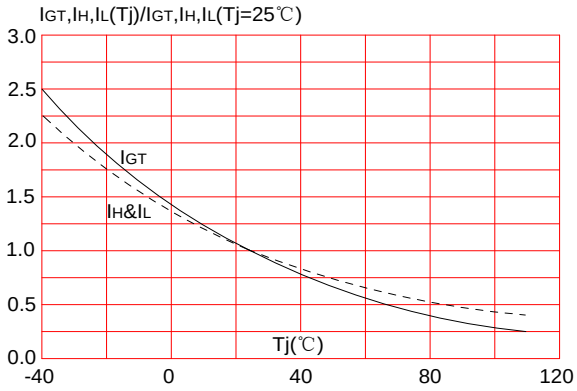


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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