

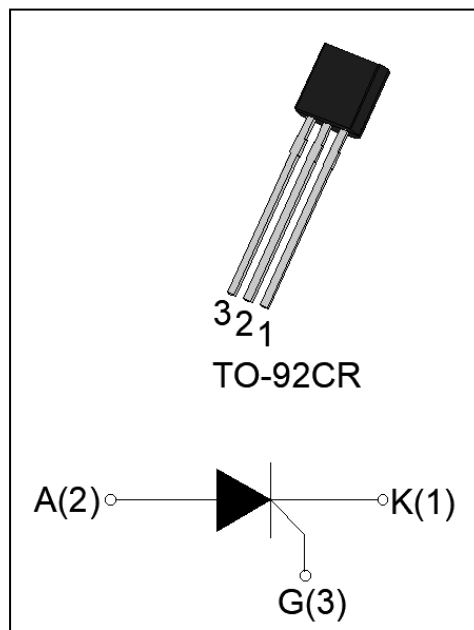


## DESCRIPTION:

The JX012CR SCR provides high  $dV/dt$  rate with strong resistance to electromagnetic interface. It is especially recommended for use on residual current circuit breaker, straight hair, igniter etc. Package TO-92CR is RoHS compliant.

## MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1.25	A
$V_{DRM} / V_{RRM}$	1200	V
$I_{GT}$	200	$\mu A$



## ABSOLUTE MAXIMUM RATINGS

Storage junction temperature range	$T_{stg}$	-40-150	
Operating junction temperature range	$T_j$	-40-110	
Repetitive peak off-state voltage ( $T_j=25^\circ C$ )	$V_{DRM}$	1200	V
Repetitive peak reverse voltage ( $T_j=25^\circ C$ )	$V_{RRM}$	1200	V
Average on-state current ( $T_c = 40^\circ C$ )	$I_{T(AV)}$	0.8	A
RMS on-state current ( $T_c = 40^\circ C$ )	$I_{T(RMS)}$	1.25	A
Non repetitive surge peak on-state current ( $t_p=10ms, T_j=25^\circ C$ )	$I_{TSM}$	20	A
Non repetitive surge peak on-state current ( $t_p=8.3ms, T_j=25^\circ C$ )		22	
$I^2t$ value for fusing ( $t_p=10ms, T_j=25^\circ C$ )	$I^2t$	2	$A^2s$
Critical rate of rise of on-state current ( $I_G=2y I_{GT}, f=100Hz, T_j=110^\circ C$ )	$di/dt$	100	$A/\mu s$
Peak gate current ( $t_p=20\mu s, T_j=110^\circ C$ )	$I_{GM}$	1	A
Average gate power dissipation ( $T_j=110^\circ C$ )	$P_{G(AV)}$	0.1	W



Peak gate power	$P_{GM}$	2	W
Peak pulse voltage ( $T_j=25$ ; non-repetitive, off-state; FIG.7)	$V_{pp}$	1	kV

### ELECTRICAL CHARACTERISTICS ( $T_j=25$ unless otherwise specified)

$I_{GT}$	$V_D=12V R_L=33$	-	50	200	$\mu A$
$V_{GT}$		-	0.6	0.8	V
$V_{GD}$	$V_D=V_{DRM} T_j=110$	0.2	-	-	V
$I_L$	$I_G=1.2 I_{GT}$	-	-	4	mA
$I_H$	$I_T=0.05A$	-	-	3	mA
dV/dt	$V_D=800V T_j=110 \quad R_{GK}=1K$	1000	-	-	V/ $\mu s$
	$V_D=800V T_j=110 \quad R_{GK}=220$	1500	-	-	
$t_{on}$	$I_G=10mA I_A=20mA I_R=2mA$	-	2	-	$\mu s$
$t_{off}$	$T_j=25$	-	50	-	$\mu s$

### STATIC CHARACTERISTICS

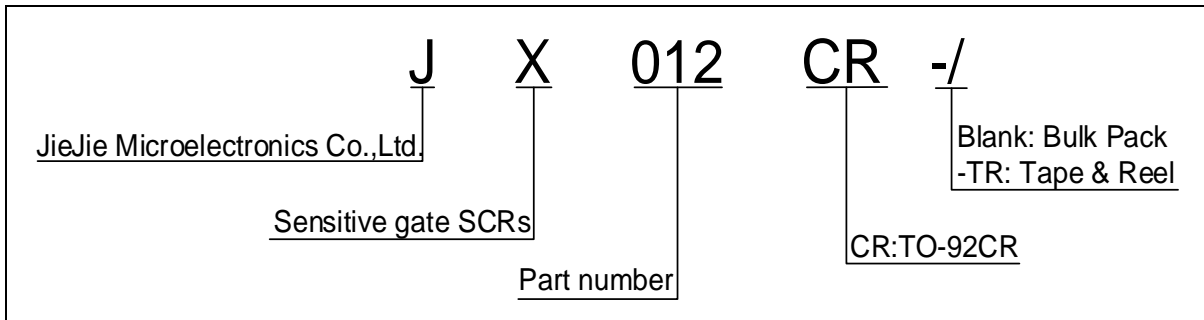
$V_{TM}$	$I_T=1.5A t_p=380\mu s$	$T_j=25$	1.45	V
$V_{TO}$	Threshold voltage	$T_j=110$	0.85	V
$R_D$	Dynamic Resistance	$T_j=110$	0.16	
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	$\mu A$
$I_{RRM}$		$T_j=110$	0.15	mA

### THERMAL RESISTANCES

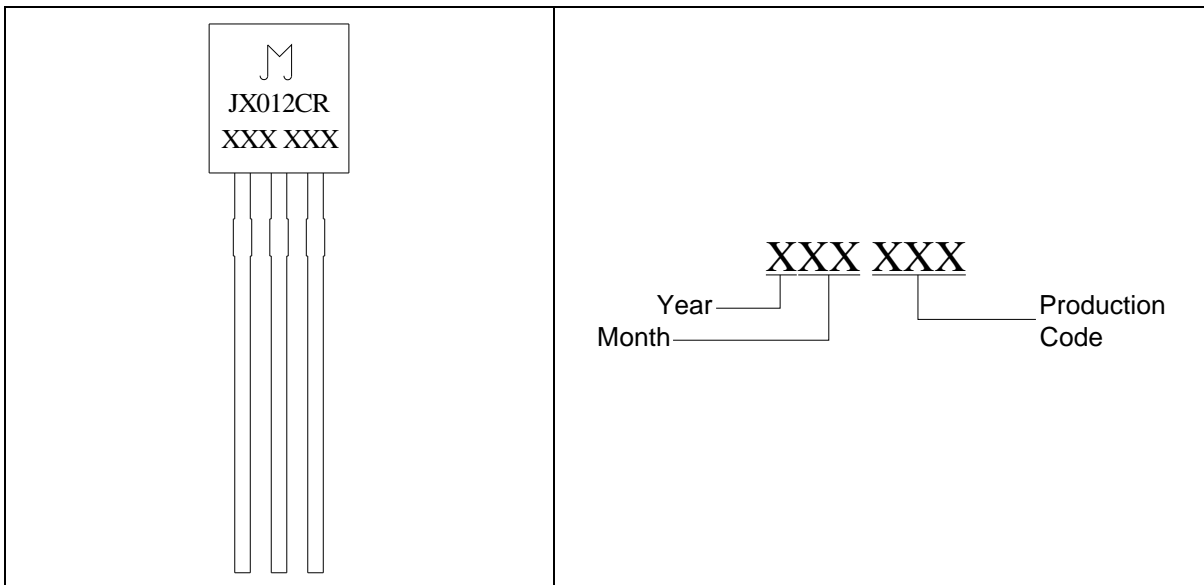
$R_{th(j-c)}$	junction to case (DC)	40	/W
$R_{th(j-a)}$	junction to ambient (DC)	140	/W



## ORDERING INFORMATION

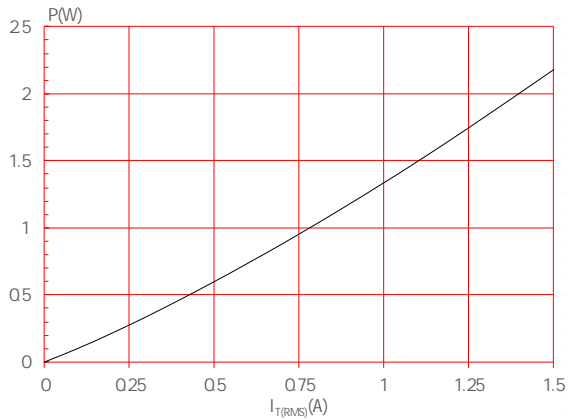


## MARKING

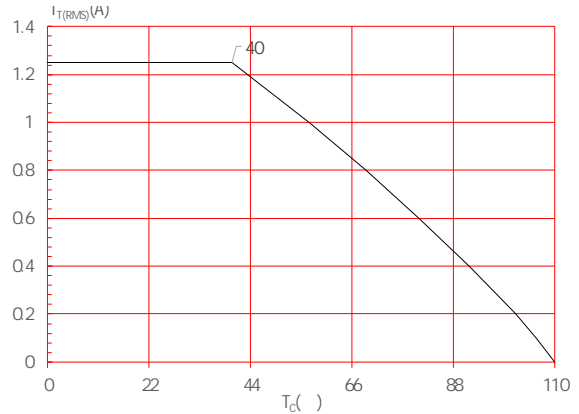




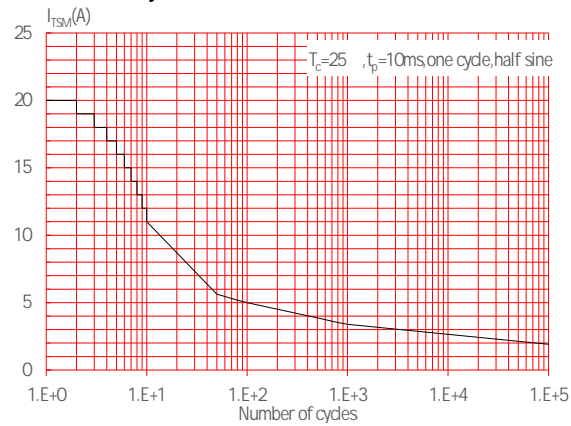
Maximum power dissipation versus RMS on-state current



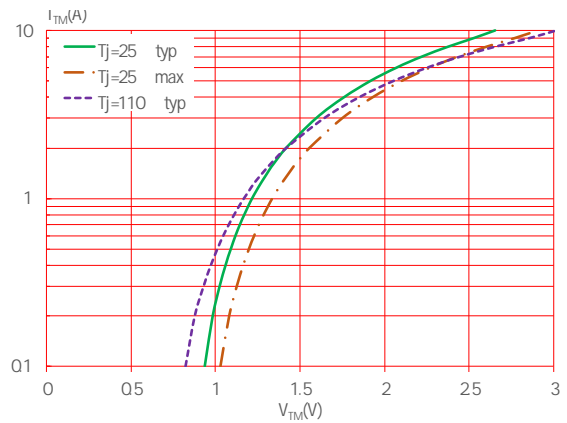
RMS on-state current versus case temperature



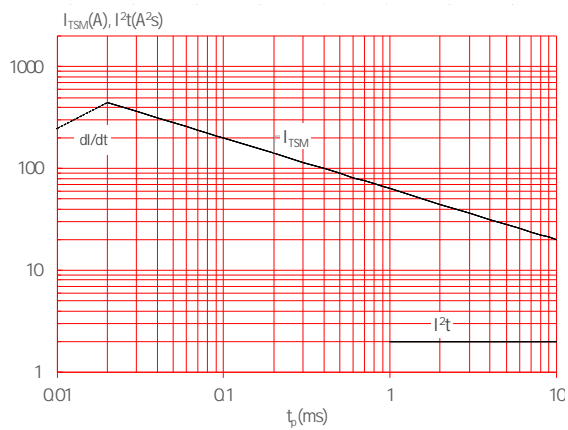
Surge peak on-state current versus number of cycles



On-state characteristics



Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$ , and corresponding value of  $I^2t$  ( $di/dt < 100\text{A}/\mu\text{s}$ )



Relative variations of gate trigger current, holding current and latching current versus junction temperature

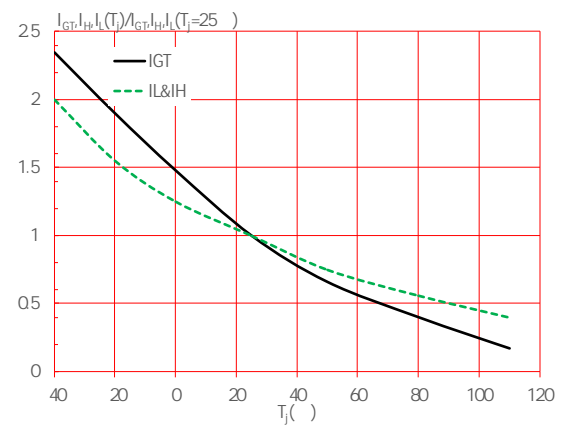
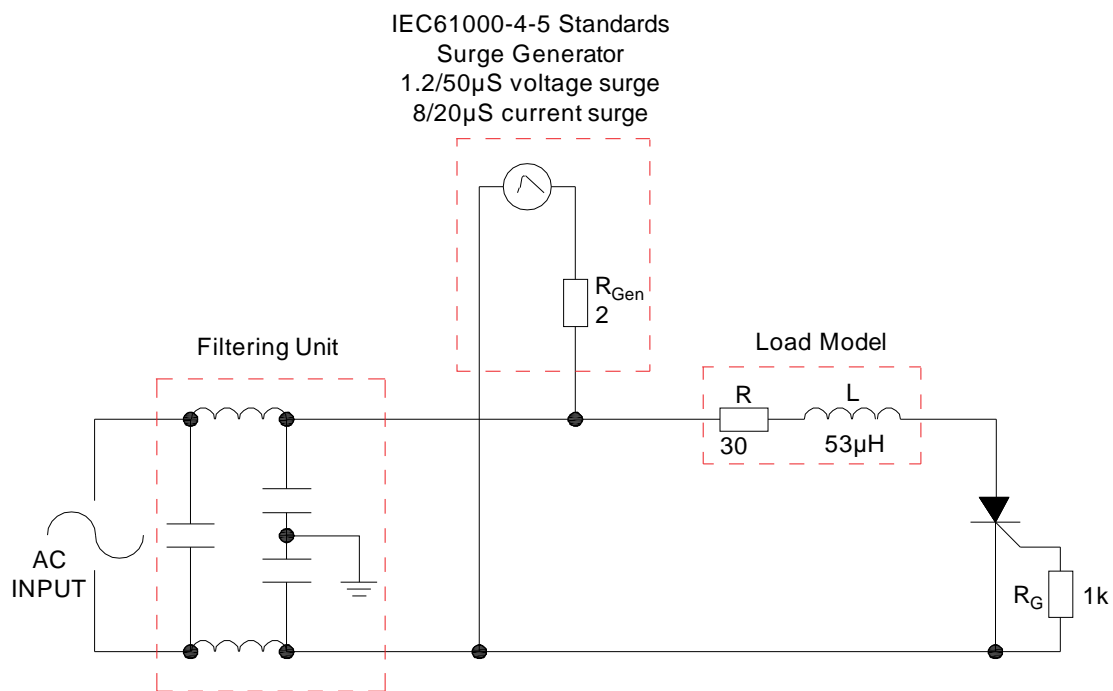




FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



## SHAPING AND SOLDERING PARAMETERS

Refer to Instructions for installation of plastic-sealed in-line power devices released by JieJie



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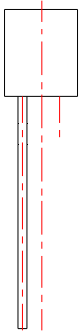


Date	Revision	Changes
Apr.12, 2023	A.1.0	Last update



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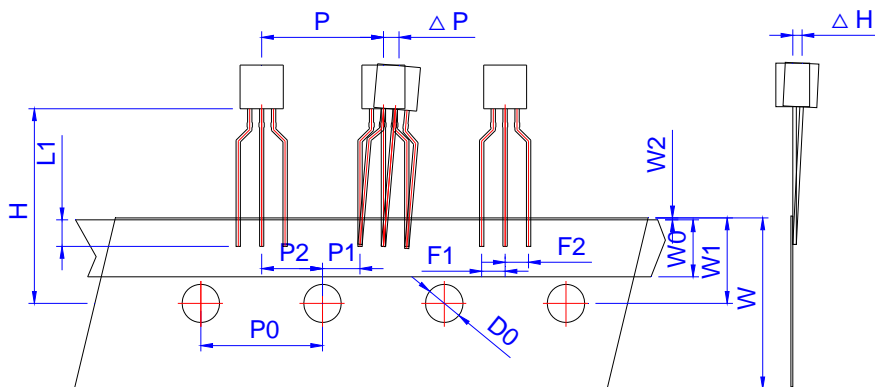
## PACKAGE MECHANICAL DATA





## DELIVERY MODE

TO-92CR	Bulk Pack	1,000	10,000	50,000



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
Δ 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
Δ 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


TO-92CR	Tape & Reel	/	2,000	20,000





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