



JX012U 1.25A Sensitive SCR

Rev.A.2.1

DESCRIPTION:

The JX012U 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-92 is RoHS compliant.

MAIN FEATURES

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

ABSOLUTE MAXIMUM RATINGS

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

unless otherwise specified

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12V$ $R_L=33\Omega$	-	50	200	μA
V_{GT}		-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM}$ $T_j=110$	0.2	-	-	V
I_L	$I_G=1.2 I_{GT}$	-	-	4	mA
I_H	$I_T=0.05A$	-	-	3	mA
dV/dt	$V_D=800V$ $T_j=110$ $R_{GK}=1k\Omega$	1000	-	-	V/ μs
	$V_D=800V$ $T_j=110$ $R_{GK}=220\Omega$	1500	-	-	
t_{on}	$I_G=10mA$ $I_A=20mA$ $I_R=2mA$ $T_j=25$	-	2	-	μs
t_{off}		-	50	-	μs

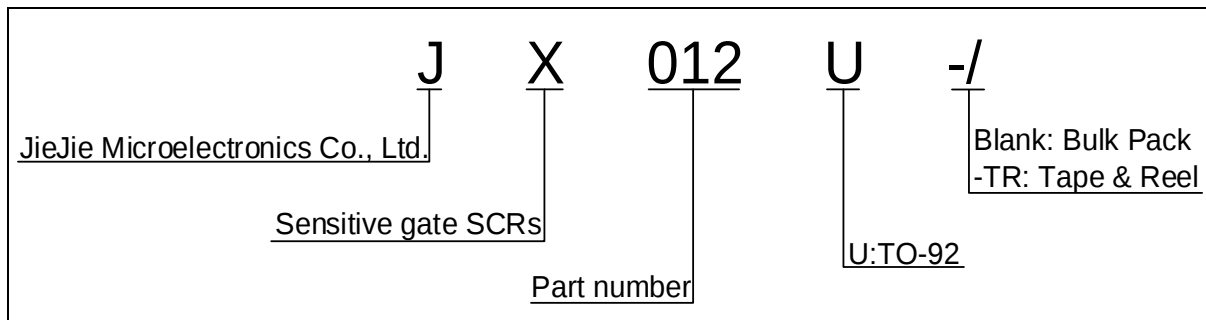
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
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	Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	5	μA
I_{RRM}		$T_j=110$	0.15	mA

THERMAL RESISTANCES

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

ORDERING INFORMATION



MARKING

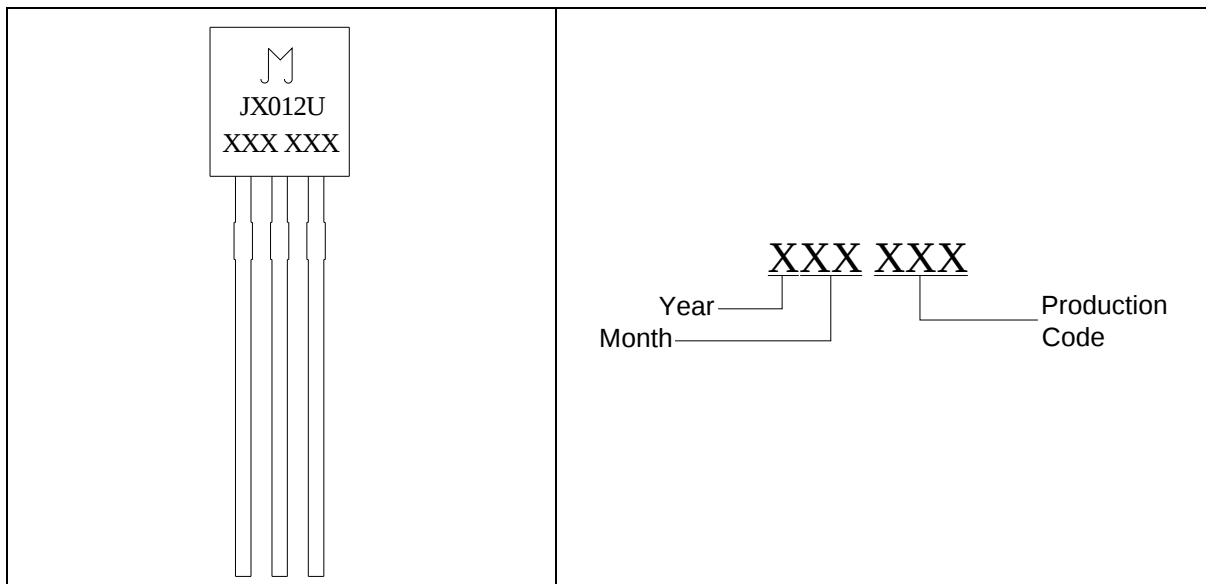


FIG.1: Maximum power dissipation versus RMS on-state current

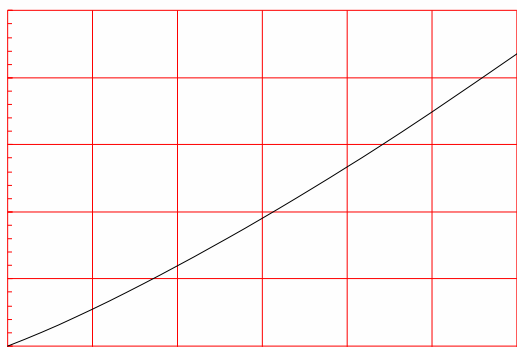


FIG.2: RMS on-state current versus case temperature

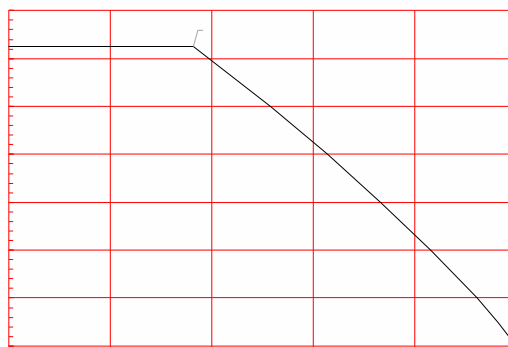


FIG.3: Surge peak on-state current versus number of cycles

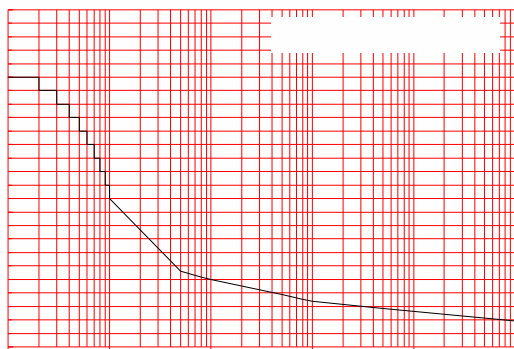


FIG.4: On-state characteristics

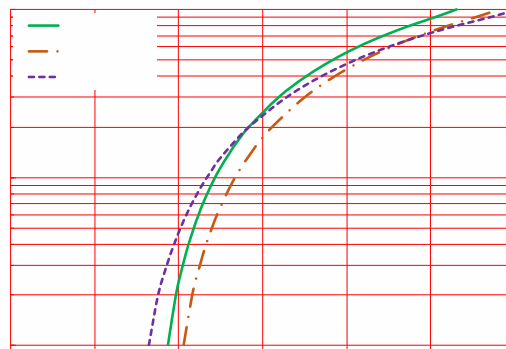
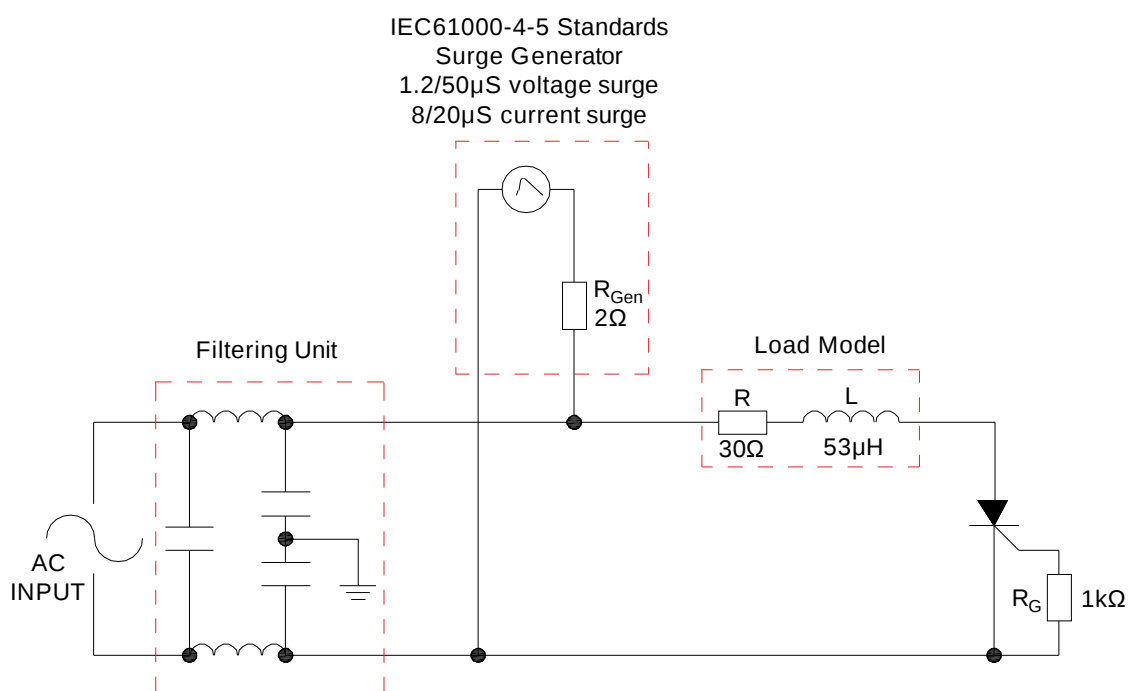


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

FIG.6: 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.



LEAD FORMING AND SOLDERING

Refer to the application note “Assembly Instructions for Thyristors in Through-hole Package” released by JieJie

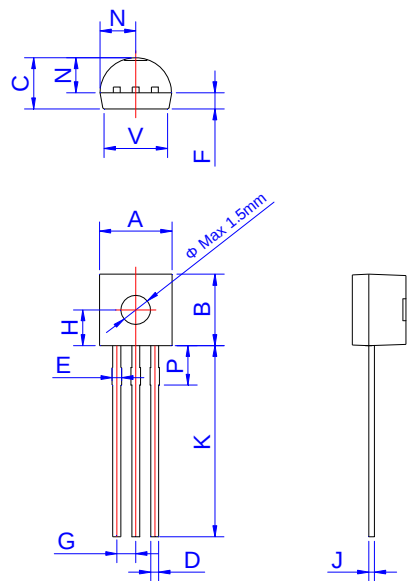
ORDERING INFORMATION

Order code	Voltage V _{DRM} /V _{RRM} (V)	IGT(μA)	Package	Base qty. (pcs)	Delivery mode
JX012U	1200	≤200	TO-92	1,000	Bulk Pack
JX012U-TR				2,000	Tape & Reel

Document Revision History

Date	Revision	Changes
May.18, 2023	A.1.0	Last update
Mar.28, 2025	A.2.0	Renew PACKAGE MECHANICAL DATA
Sept.28, 2025	A.2.1	Revise PACKAGE MECHANICAL DATA

PACKAGE MECHANICAL DATA



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			
F	1.10					
G				0.043		
H	2.20			0.087		
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	1.80	10	2.30	0.071		0.091
V	4.10		4.50	0.161		0.177

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