

JX075C 12A Sensitive SCR

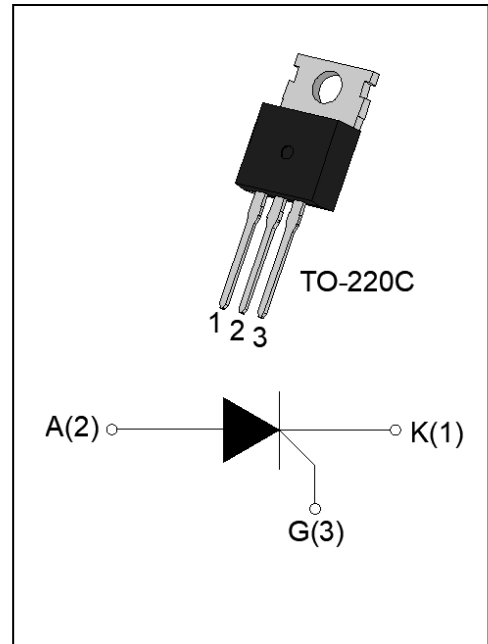
Rev.A.1.0

DESCRIPTION:

The JX075C 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-220C is RoHS compliant.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	12	A
V_{DRM} / V_{RRM}	800	V
I_{GT}	≤ 200	μA


ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	$^{\circ}C$
Operating junction temperature range	T_j	-40-110	$^{\circ}C$
Repetitive peak off-state voltage ($T_j=25^{\circ}C$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	800	V
Average on-state current ($T_c \leq 89^{\circ}C$)	$I_{T(AV)}$	7.5	A
RMS on-state current ($T_c \leq 89^{\circ}C$)	$I_{T(RMS)}$	12	A
Non repetitive surge peak on-state current ($t_p=10ms, T_j=25^{\circ}C$)	I_{TSM}	120	A
Non repetitive surge peak on-state current ($t_p=8.3ms, T_j=25^{\circ}C$)		130	
I^2t value for fusing ($t_p=10ms, T_j=25^{\circ}C$)	I^2t	72	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}, f=100Hz, T_j=110^{\circ}C$)	dI/dt	100	$A/\mu s$
Peak gate current ($t_p=20\mu s, T_j=110^{\circ}C$)	I_{GM}	4	A
Average gate power dissipation ($T_j=110^{\circ}C$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	10	W

Peak pulse voltage ($T_j=25^{\circ}\text{C}$; non-repetitive, off-state; FIG.7)	V_{pp}	0.5	kV
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ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	-	60	200	μA
V_{GT}		-	-	0.8	V
V_{GD}	$V_D=V_{DRM} T_j=110^{\circ}\text{C}$	0.2	-	-	V
I_L	$I_G=1.2 I_{GT}$	-	-	6	mA
I_H	$I_T=0.05\text{A}$	-	-	5	mA
dV/dt	$V_D=540\text{V } T_j=25^{\circ}\text{C } R_{GK}=1\text{K}\Omega$	50	-	-	V/ μs
	$V_D=540\text{V } T_j=25^{\circ}\text{C } R_{GK}=220\Omega$	200	-	-	
t_{on}	$I_G=10\text{mA } I_A=20\text{mA } I_R=2\text{mA}$	-	2	-	μs
t_{off}	$T_j=25^{\circ}\text{C}$	-	70	-	μs

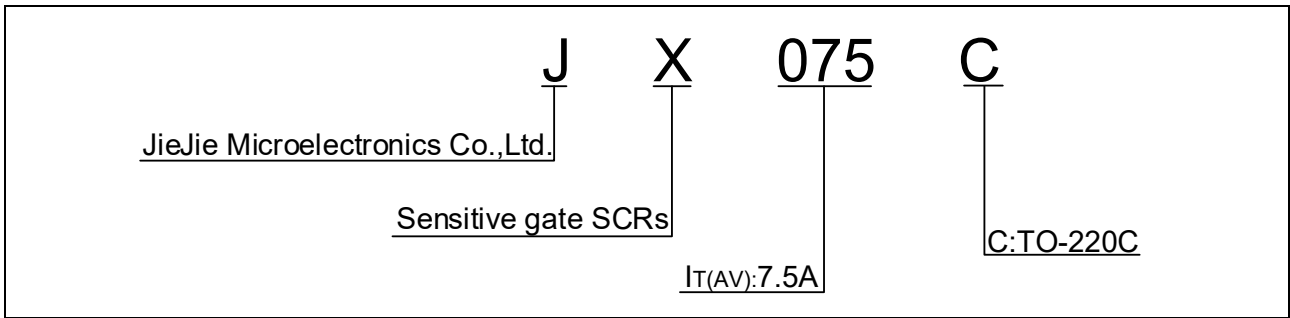
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_T=24\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.6	V
V_{TO}	Threshold voltage	$T_j=110^{\circ}\text{C}$	0.9	V
R_D	Dynamic Resistance	$T_j=110^{\circ}\text{C}$	0.02	Ω
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=110^{\circ}\text{C}$	0.5	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	1.3	$^{\circ}\text{C/W}$
$R_{th(j-a)}$	junction to ambient (DC)	40	$^{\circ}\text{C/W}$

ORDERING INFORMATION



MARKING

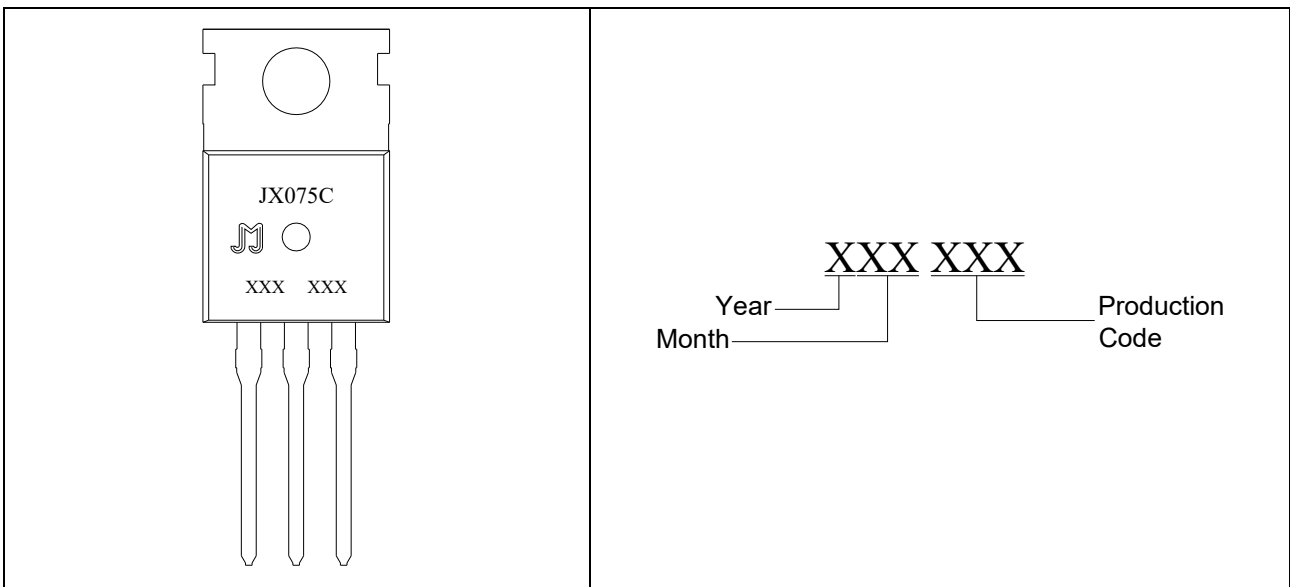


FIG.1 Maximum power dissipation versus RMS on-state current

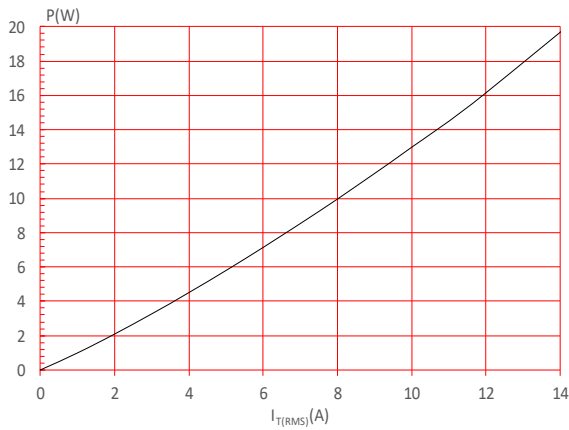


FIG.3: Surge peak on-state current versus number of cycles

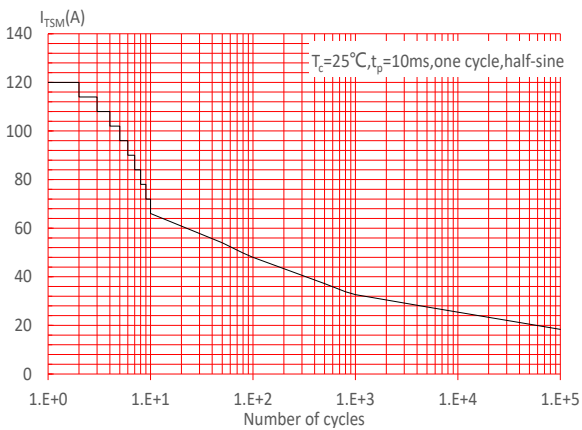


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

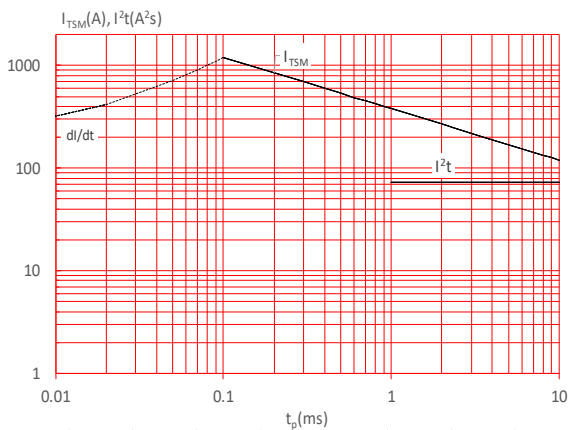


FIG.2: RMS on-state current versus case temperature

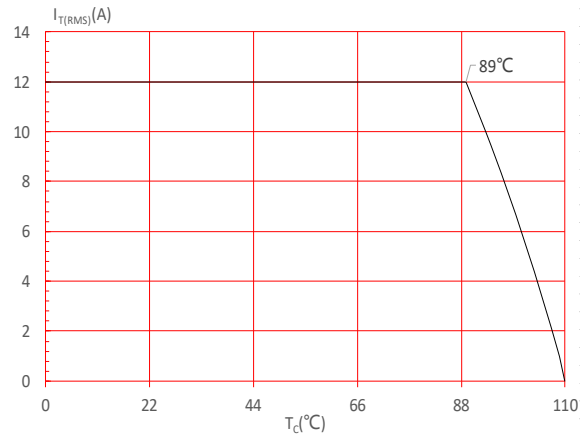


FIG.4: On-state characteristics

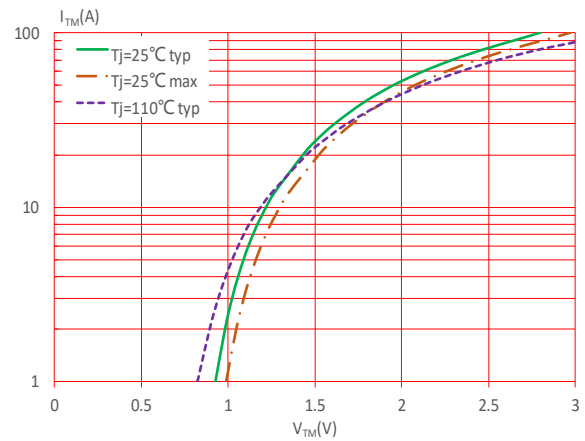


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

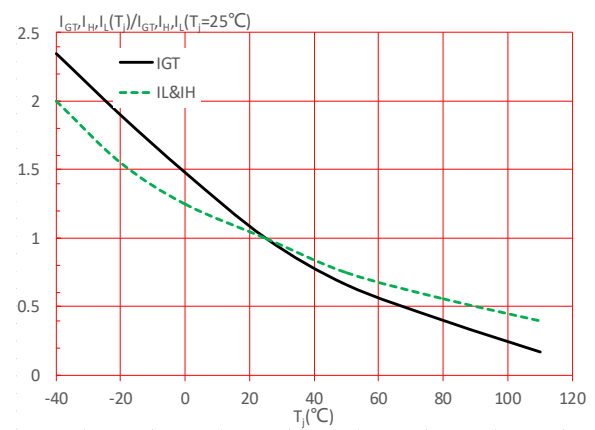
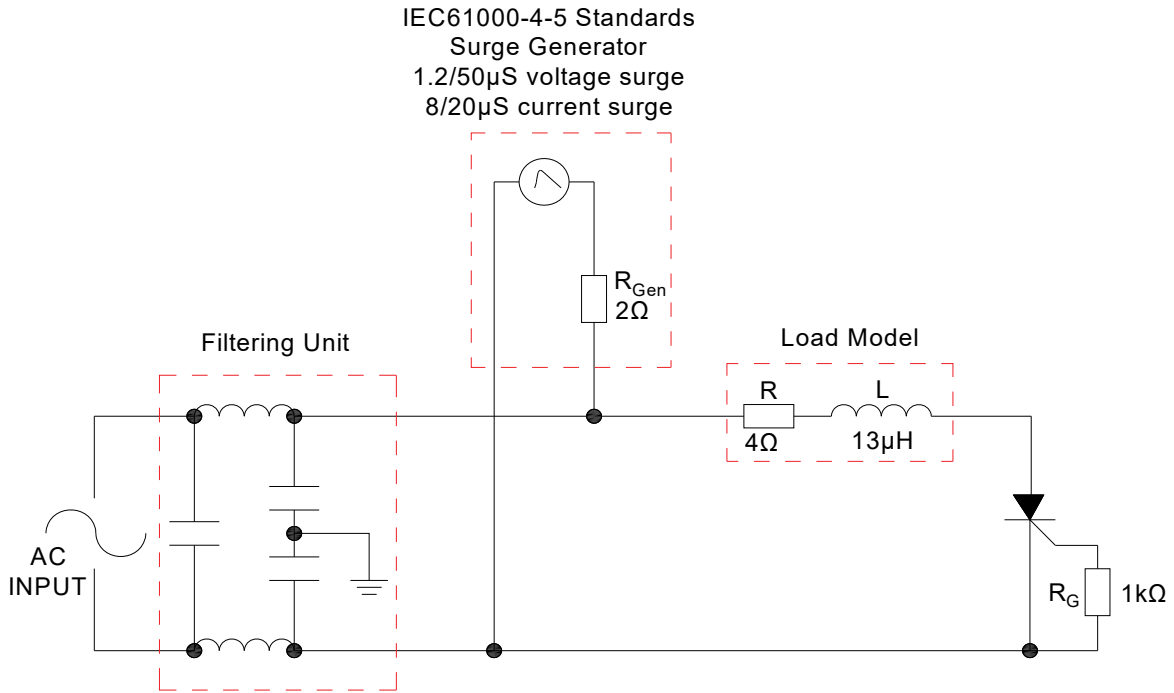


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



SHAPING AND SOLDERING PARAMETERS

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

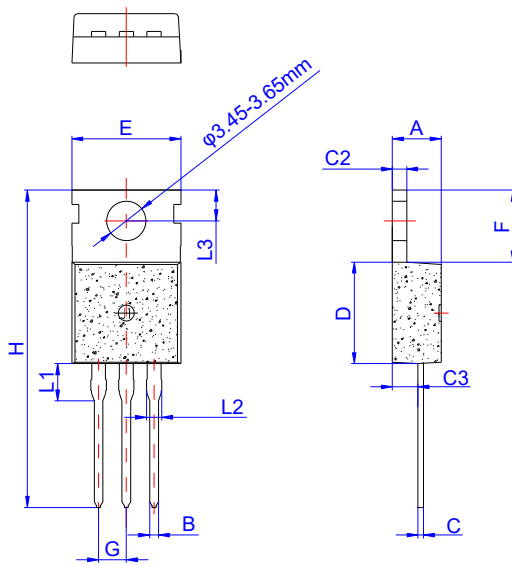
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(μ A)	Package	Base qty. (pcs)	Delivery mode
JX075C	800	≤ 200	TO-220C	50	Tube

Document Revision History

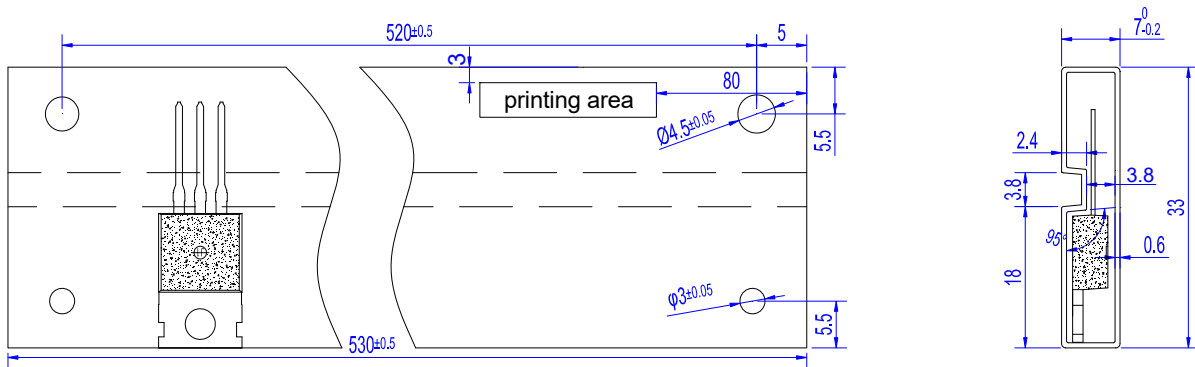
Date	Revision	Changes
Apr.12, 2023	A.1.0	Last update

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.25		1.35	0.049		0.053
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	2.70		3.30	0.106		0.130
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116


DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220C	TUBE	50	1,000	5,000

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