



JX075C Sensitive gate SCRs

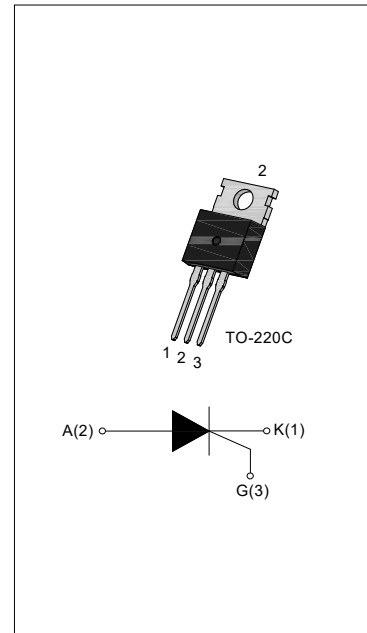
Rev.1

DESCRIPTION:

The JX075C 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. complying with UL standards (File ref: E252906) Packages TO-220C is RoHS compliant. (2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
V_{DRM}/V_{RRM}	800	V
$I_{T(RMS)}$	12	A
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	-40-125 ^①	$^{\circ}C$
Repetitive peak off-state voltage		V_{DRM}	800	V
Repetitive peak reverse voltage		V_{RRM}	800	V
RMS on-state current	TO-220C ($T_C=80^{\circ}C$)	$I_{T(RMS)}$	12	A
Non repetitive surge peak on-state current (tp=10ms)		I_{TSM}	100	A
I^2t value for fusing (tp=10ms)		I^2t	50	A^2s
Critical rate of rise of on-state current		dI/dt	50	$A/\mu s$
Peak gate current (tp=20 μs , $T_j=125^{\circ}C$)		I_{GM}	4	A
Peak gate power (tp=20 μs , $T_j=125^{\circ}C$)		P_{GM}	3	W
Average gate power dissipation($T_j=125^{\circ}C$)		$P_{G(AV)}$	0.2	W

NOTE 1: When we parallel connect a $\leq 1K\Omega$ resistor between Gate and Cathode, the T_j can reach $125^{\circ}C$; if without this resistor, the T_j only can reach $110^{\circ}C$.

ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}C$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I _{GT}	V _D =12V R _L =33Ω	-	60	200	μA
V _{GT}		-	-	0.8	V
V _{GD}	V _D =V _{DRM} T _j =125°C	0.2	-	-	V
I _L	I _G =1.2 I _{GT}	-	-	6	mA
I _H	I _T =0.05A	-	-	5	mA
dv/dt	V _D =2/3V _{DRM} T _j =125°C R _{GK} =1KΩ	5	10	-	V/μs

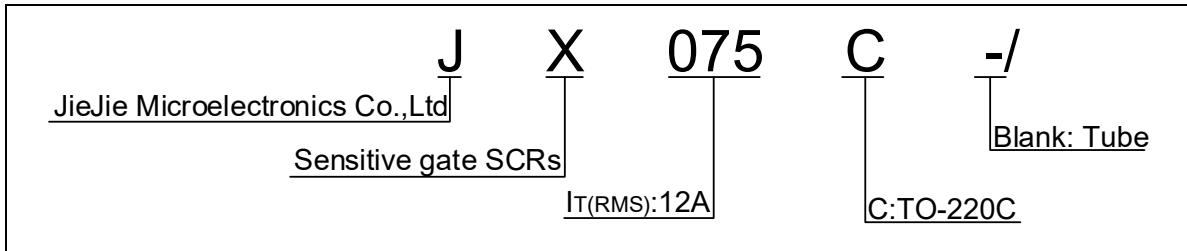
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V _{TM}	I _{TM} =24A t _p =380μs	T _j =25°C	1.6	V
I _{DRM}	V _D =V _{DRM} V _R =V _{RRM}	T _j =25°C	10	μA
I _{RRM}		T _j =125°C	2	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R _{th(j-c)}	junction to case	TO-220C	2.5	°C/W

ORDERING INFORMATION



MARKING

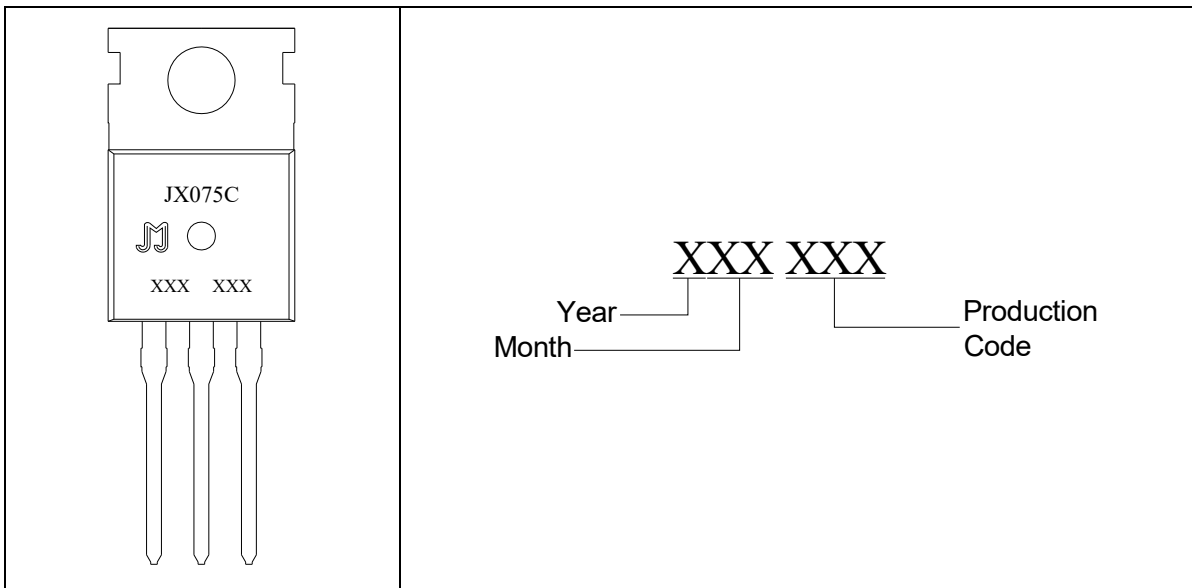


FIG.1 Maximum power dissipation versus RMS on-state current

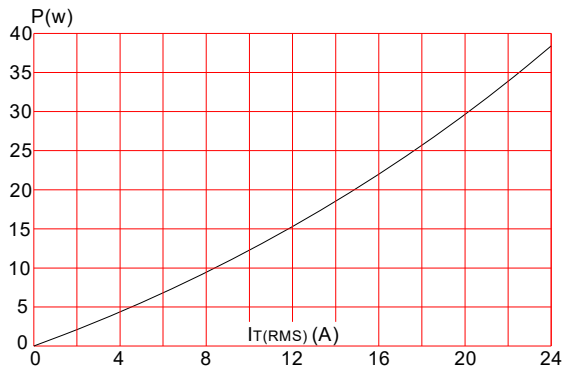


FIG.2: RMS on-state current versus case temperature

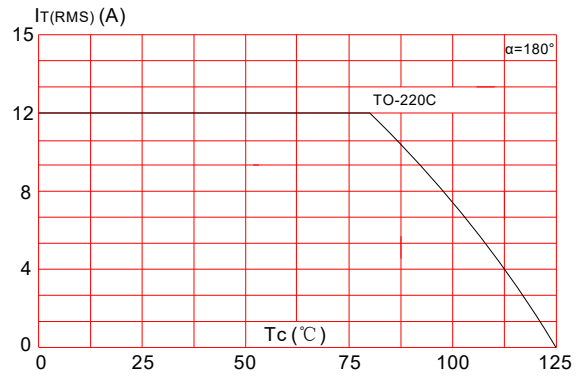


FIG.3: Surge peak on-state current versus number of cycles

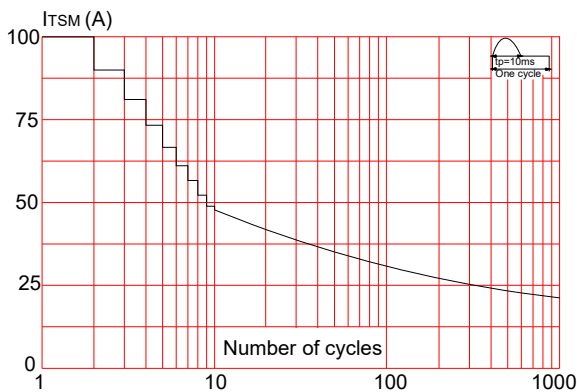


FIG.4: On-state characteristics (maximum values)

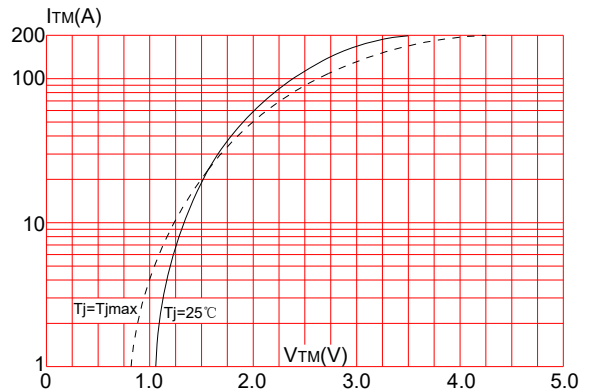


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

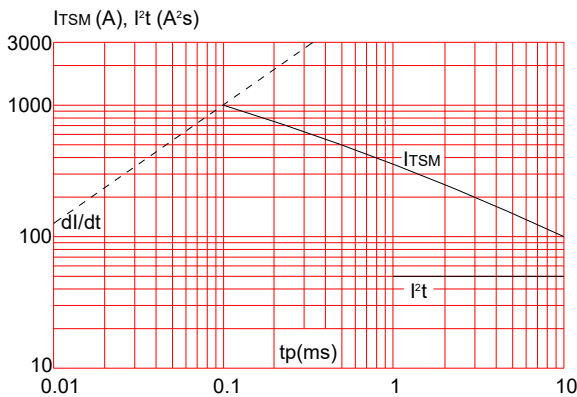
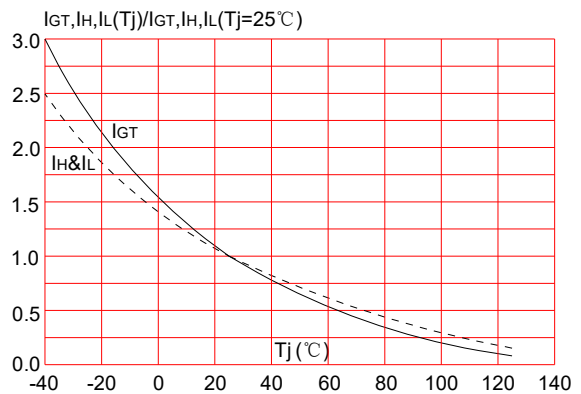


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



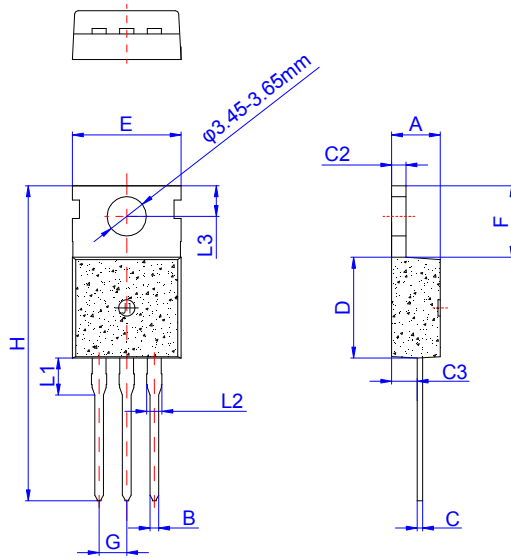
ORDERING INFORMATION

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

Document Revision History

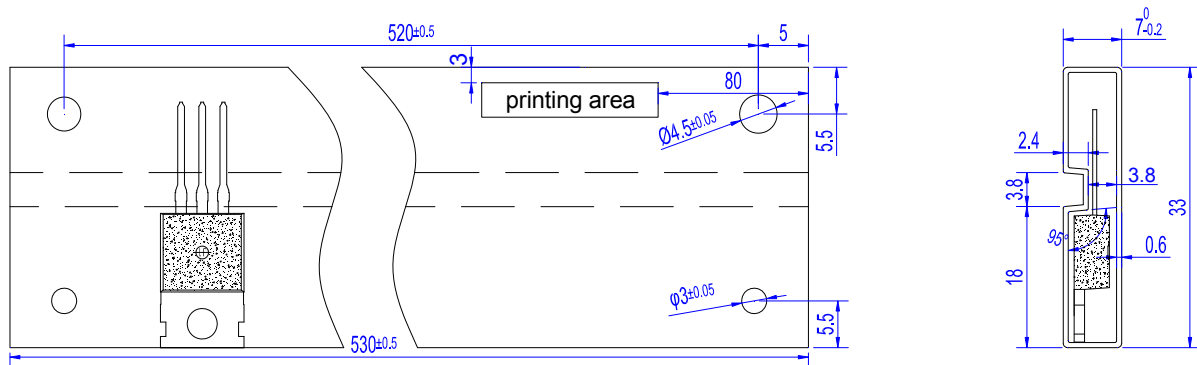
Date	Revision	Changes
Mar 21, 2022	1	Last update

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	1.23		1.32	0.048		0.052
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		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
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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