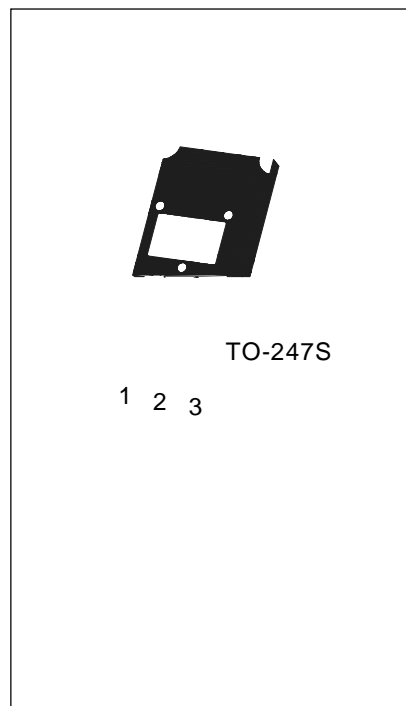




DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT12110CS SCR provides high dV/dt rate with strong resistance to electromagnetic interference. It is especially recommended for use on solid state relay, UPS, SVC, power charger, T-tools etc. Package TO-247S is RoHS compliant.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	110	A
V_{DRM}/V_{RRM}	1200	V
I_{GT}	10-80	mA

ABSOLUTE MAXIMUM RATINGS

Storage junction temperature range	T_{stg}	-40-150	°C
Operating junction temperature range	T_j	-40-125	°C
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	1200	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	1200	V
Average on-state current ($T_c \leq 65^\circ\text{C}$)	$I_{T(AV)}$	70	A
RMS on-state current ($T_c \leq 65^\circ\text{C}$)	$I_{T(RMS)}$	110	A
Non repetitive surge peak on-state current ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	1100	A
Non repetitive surge peak on-state current ($t_p=8.3\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	1200	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I^2t	6050	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100\text{Hz}$, $T_j=125^\circ\text{C}$)	di/dt	200	$\text{A}/\mu\text{s}$
Peak gate current ($t_p=20\mu\text{s}$, $T_j=125^\circ\text{C}$)	I_{GM}	12	A



Average gate power dissipation ($T_j=125^\circ\text{C}$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	22	W
Peak pulse voltage ($T_j=25^\circ\text{C}$; non-repetitive, off-state; FIG.7)	V_{pp}	1.3	kV

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

I_{GT}	$V_D=12\text{V } R_L=33$	10	-	80	mA
V_{GT}		-	-	1.3	V
V_{GD}	$V_D=V_{DRM} T_j=125^\circ\text{C } R_L=3.3\text{K}$	0.25	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	250	mA
I_H	$I_T=1\text{A}$	-	-	200	mA
dV/dt	$V_D=800\text{V}$ Gate Open $T_j=125^\circ\text{C}$	3000	-	-	V/ μs
t_{on}	$I_G=100\text{mA } I_A=1\text{A } I_R=100\text{mA}$ $T_j=25^\circ\text{C}$	-	8	-	μs
t_{off}		-	200	-	

STATIC CHARACTERISTICS

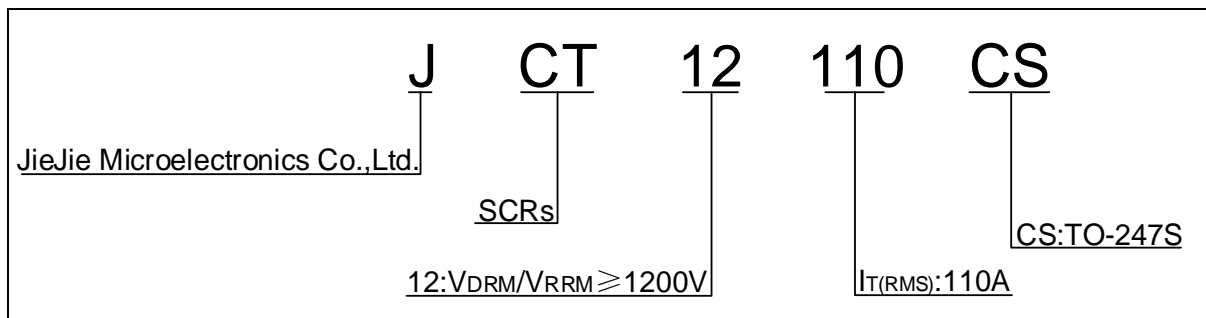
V_{TM}	$I_{TM}=150\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.6	V
V_{TO}	Threshold voltage	$T_j=125^\circ\text{C}$	0.76	V
R_D	Dynamic resistance	$T_j=125^\circ\text{C}$	5.6	m
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	μA
I_{RRM}		$T_j=125^\circ\text{C}$	8	mA

THERMAL RESISTANCES

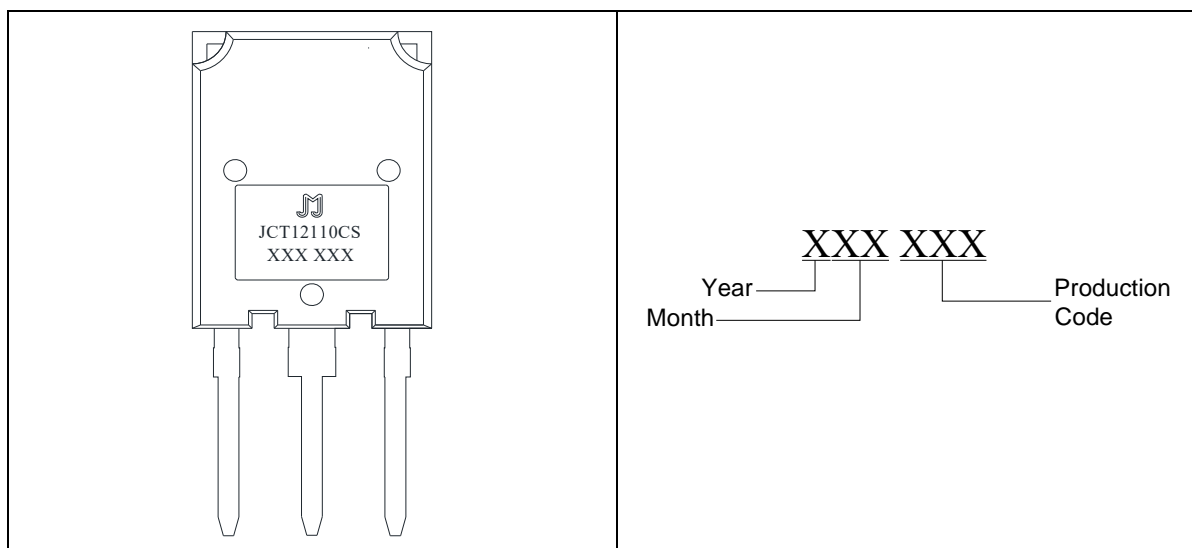
$R_{th(j-c)}$	junction to case (DC)	0.4	$^\circ\text{C/W}$
$R_{th(j-a)}$	junction to ambient (DC)	50	$^\circ\text{C/W}$



ORDERING INFORMATION

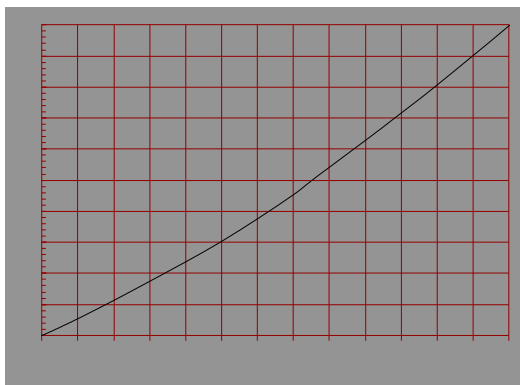


MARKING

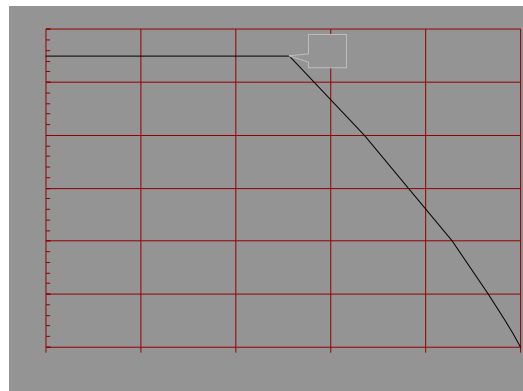




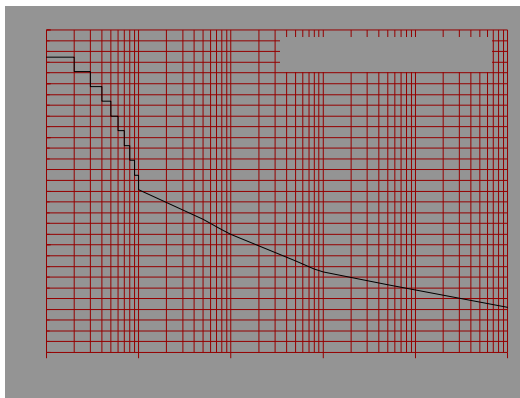
Maximum power dissipation versus RMS on-state current



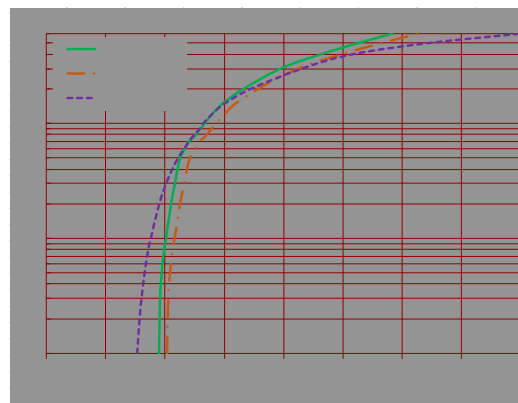
RMS on-state current versus case temperature



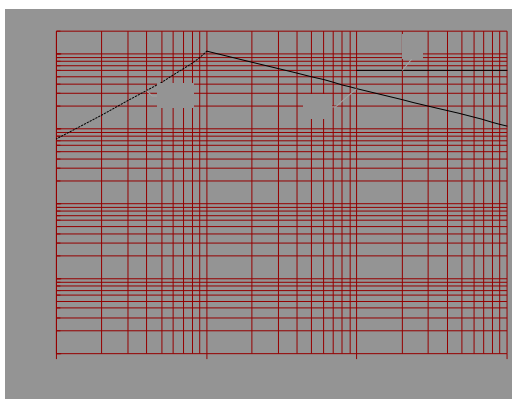
Surge peak on-state current versus number of cycles



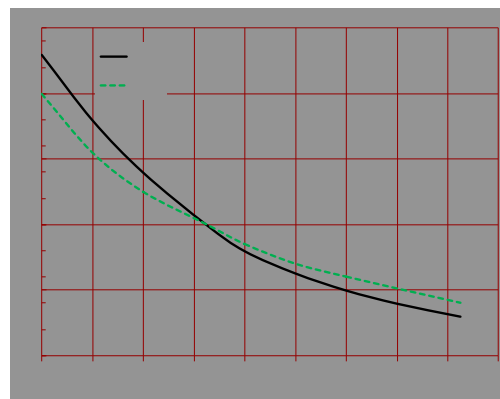
On-state characteristics



Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 200\text{A}/\mu\text{s}$)

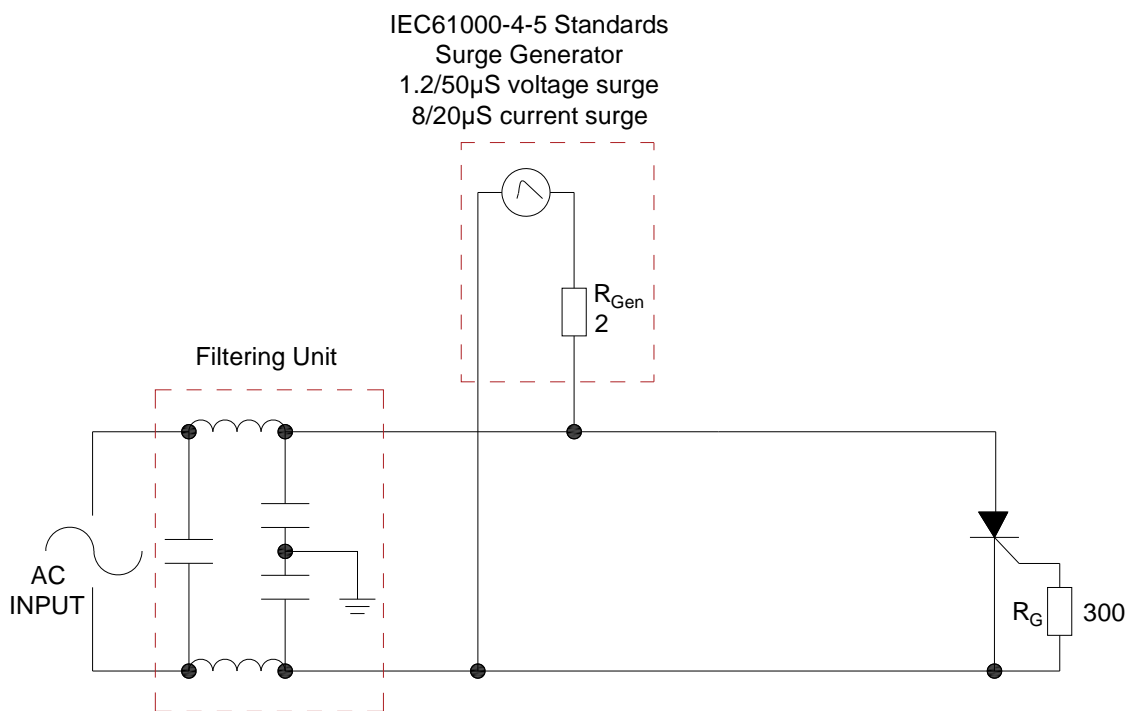


Relative variations of gate trigger current, holding current and latching current versus junction temperature





: 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

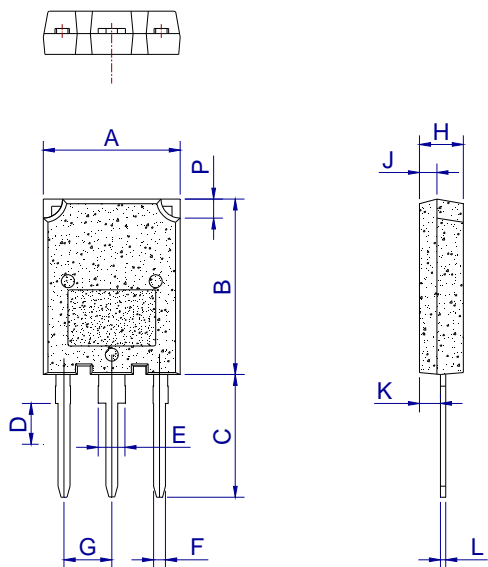


ORDERING INFORMATION

Date	Revision	Changes
Apr.13, 2023	A.1.0	Last update

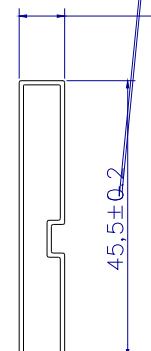


PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.1		16.1	0.594		0.634
B	19.8		20.8	0.78		0.819
C	13.8		14.8	0.543		0.583
D	3.00		4.00	0.118		0.157
E	2.75		3.35	0.108		0.132
F	1.30		1.50	0.051		0.059
G	5.10		5.80	0.201		0.228
H	4.50		5.50	0.177		0.217
J	1.45		2.15	0.057		0.085
K	1.90		2.80	0.075		0.110
L	0.55		0.80	0.022		0.031
P	2.00		2.40	0.079		0.094

DELIVERY MODE





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