

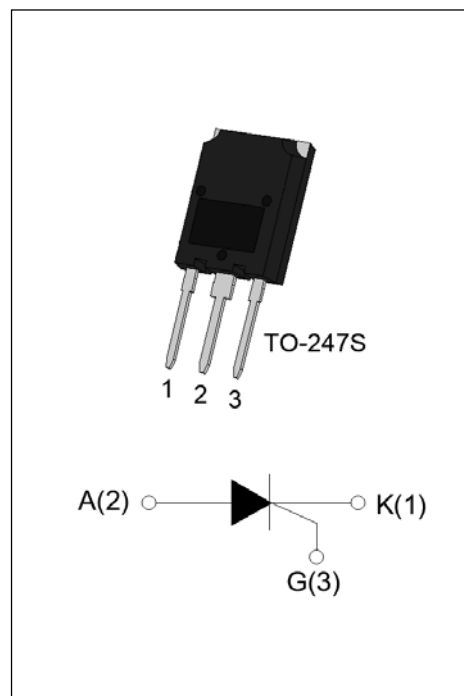


DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT1275CS 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
$I_{T(RMS)}$	75	A
V_{DRM}/V_{RRM}	1200	V
I_{GT}	10-80	mA



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	$^{\circ}C$
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 ($T_c \leq 78^{\circ}C$)	$I_{T(AV)}$	49	A
RMS on-state current ($T_c \leq 78^{\circ}C$)	$I_{T(RMS)}$	75	A
Non repetitive surge peak on-state current ($t_p=10ms$, $T_j=25^{\circ}C$)	I_{TSM}	800	A
Non repetitive surge peak on-state current ($t_p=8.3ms$, $T_j=25^{\circ}C$)		880	
I^2t value for fusing ($t_p=10ms$, $T_j=25^{\circ}C$)	I^2t	3200	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100Hz$, $T_j=125^{\circ}C$)	di/dt	200	$A/\mu s$
Peak gate current ($t_p=20\mu s$, $T_j=125^{\circ}C$)	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	kV

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	10	-	80	mA
V_{GT}		-	-	1.3	V
V_{GD}	$V_D=V_{DRM} T_j=125^{\circ}\text{C } R_L=3.3\text{k}\Omega$	0.2	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	200	mA
I_H	$I_T=500\text{mA}$	-	-	150	mA
dV/dt	$V_D=800\text{V}$ Gate Open $T_j=125^{\circ}\text{C}$	2000	-	-	V/ μs
t_{on}	$I_G=100\text{mA } I_A=1\text{A } I_R=100\text{mA}$ $T_j=25^{\circ}\text{C}$	-	5	-	μs
t_{off}		-	100	-	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=100\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.4	V
V_{TO}	Threshold voltage	$T_j=125^{\circ}\text{C}$	0.72	V
R_D	Dynamic resistance	$T_j=125^{\circ}\text{C}$	7.3	m Ω
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	10	μA
I_{RRM}		$T_j=125^{\circ}\text{C}$	5	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	0.48	$^{\circ}\text{C/W}$
$R_{th(j-a)}$	junction to ambient (DC)	48	$^{\circ}\text{C/W}$

ORDERING INFORMATION

<u>J</u>	<u>CT</u>	<u>12</u>	<u>75</u>	<u>CS</u>
JieJie Microelectronics Co., Ltd.	SCRs			CS:TO-247S
	$12: V_{\text{DRM}}/V_{\text{RRM}} \geq 1200\text{V}$		$I_{\text{T(RMS)}}: 75\text{A}$	

MARKING

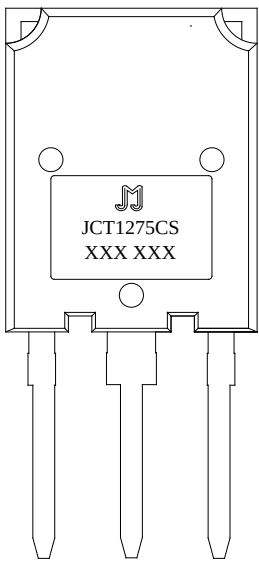
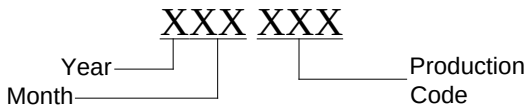
	
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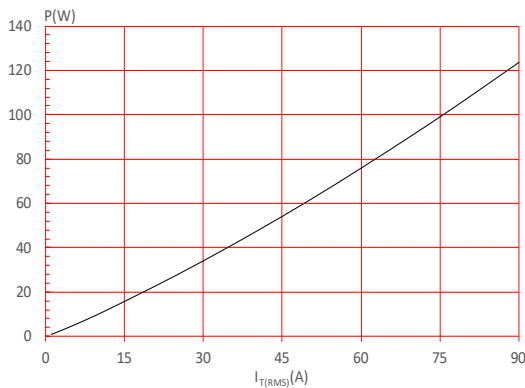
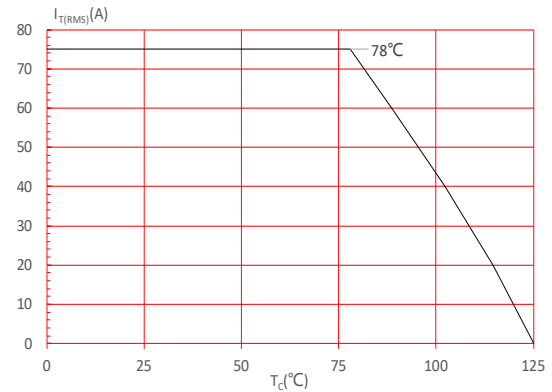
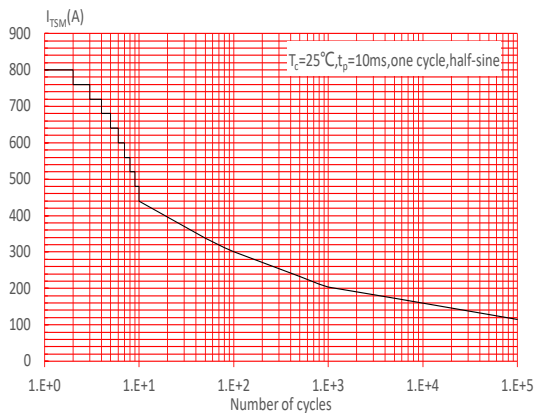
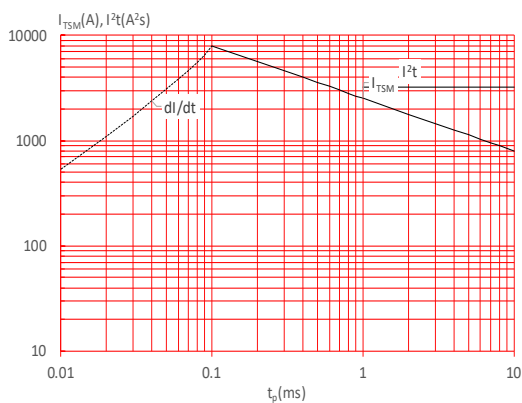
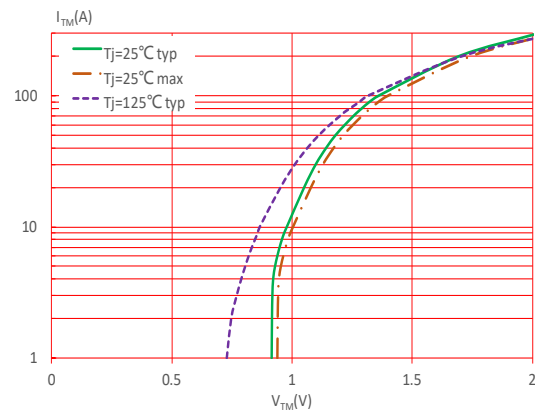
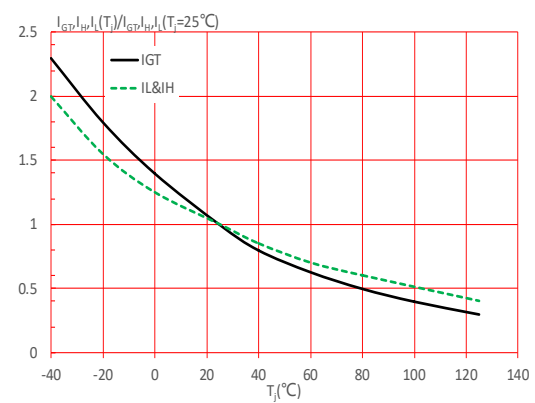
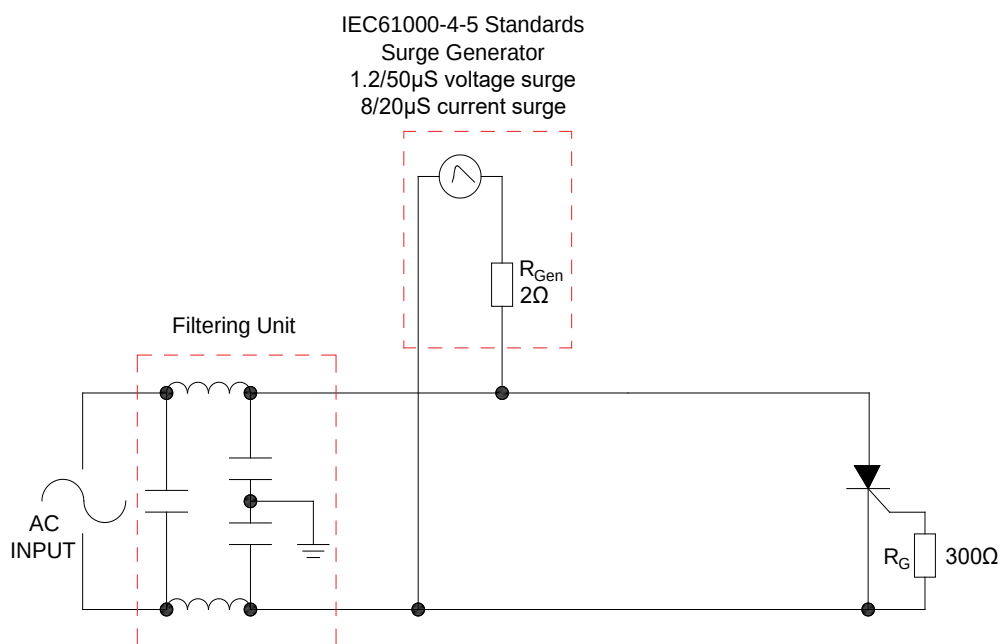
FIG.1: Maximum power dissipation versus RMS on-state current**FIG.2:** RMS on-state current versus case temperature**FIG.3:** Surge peak on-state current versus number of cycles**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 200\text{A}/\mu\text{s}$)**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.



LEAD FORMING AND SOLDERING

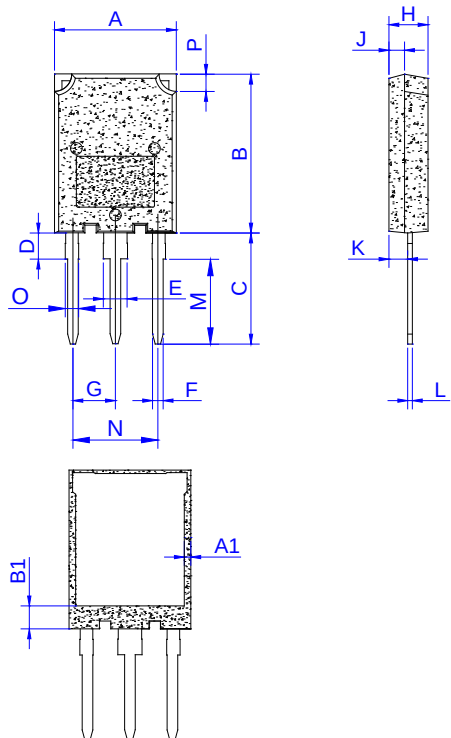
Refer to the application note “Assembly Instructions for Thyristors in Through-hole Package” released by JieJie Microelectronics

ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT1275CS	1200	10-80	TO-247S	30	Tube

Document Revision History

Date	Revision	Changes
Apr.13, 2023	A.1.0	Last update
Oct.16, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.10		16.10	0.594		0.634
A1	0.80		1.20	0.031		0.047
B	19.80		20.80	0.780		0.819
B1	3.30		3.70	0.130		0.146
C	13.80		14.80	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
M	10.60		11.00	0.417		0.433
N	10.70		11.10	0.421		0.437
O	1.50		1.90	0.059		0.075
P	2.00		2.40	0.079		0.094

Technical drawing of a rectangular PCB (Printed Circuit Board) showing dimensions and labels. The drawing includes a top view and a side view.

Top View Dimensions:

- Overall width: 495.0 ± 0.5
- Overall length: 483.0 ± 0.2
- Distance from top edge to the center of the component: 145
- Distance from the center of the component to the right edge: 70
- Distance from the left edge to the center of the component: 145
- Distance from the bottom edge to the center of the component: 70
- Distance from the left edge to the center of the component: 145
- Distance from the right edge to the center of the component: 70
- Distance from the top edge to the center of the component: 145
- Distance from the bottom edge to the center of the component: 70

Labels:

- ANTISTATIC
- RoHS

Side View Dimensions:

- Overall thickness: 7.4 ± 0.2
- Distance from the top edge to the center of the component: 22.3
- Distance from the bottom edge to the center of the component: 45.5 ± 0.2
- Distance from the top edge to the center of the component: 22.3
- Distance from the bottom edge to the center of the component: 45.5 ± 0.2

Other Dimensions:

- Distance from the left edge to the center of the component: $\phi 5$
- Distance from the right edge to the center of the component: $\phi 3.00 \pm 0.05$
- Distance from the top edge to the center of the component: $0.70^{+0.1}$
- Distance from the bottom edge to the center of the component: 2.85
- Distance from the top edge to the center of the component: 16.4

PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-247S	TUBE	30	450	2,250

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