

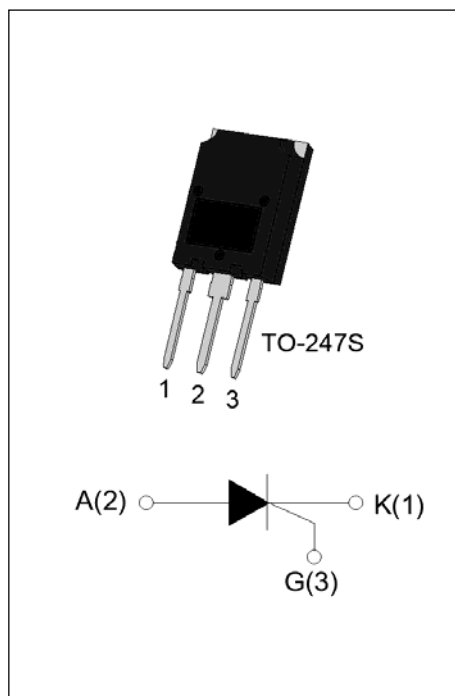


DESCRIPTION:

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	-	

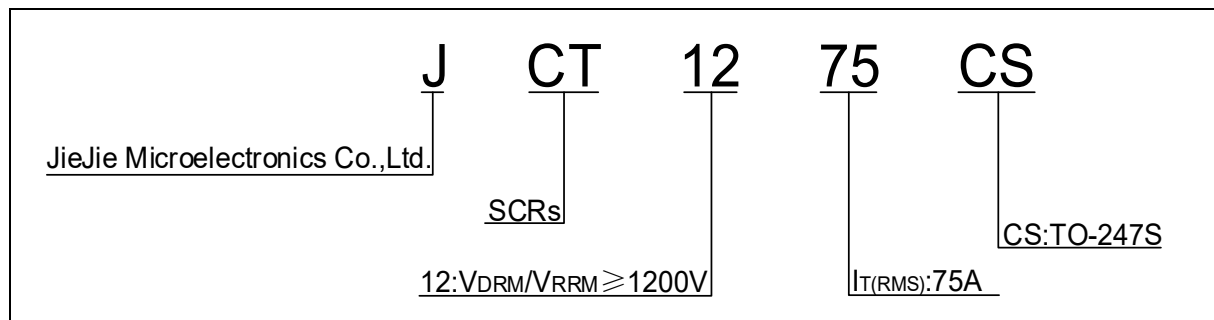
STATIC CHARACTERISTICS

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	$\text{m}\Omega$
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	$^{\circ}\text{C}/\text{W}$
$R_{th(j-a)}$	junction to ambient (DC)	48	$^{\circ}\text{C}/\text{W}$

ORDERING INFORMATION



MARKING

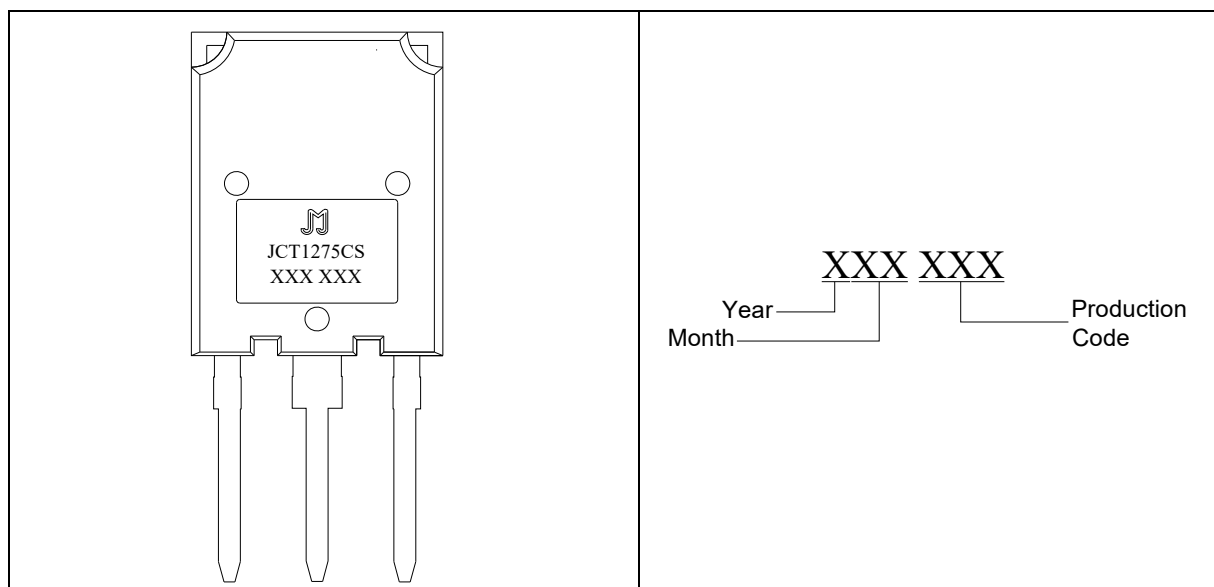


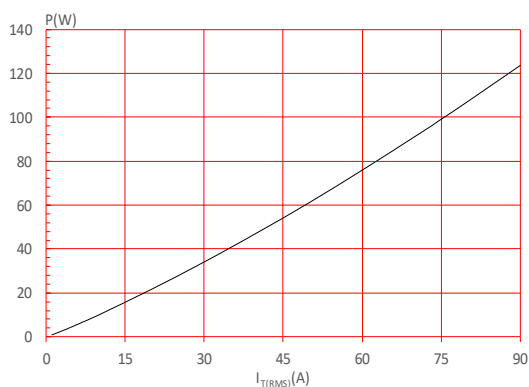
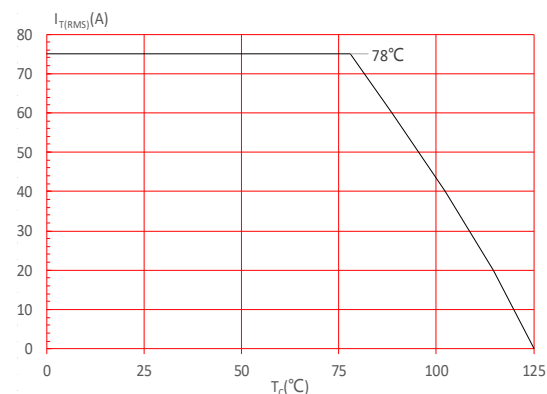
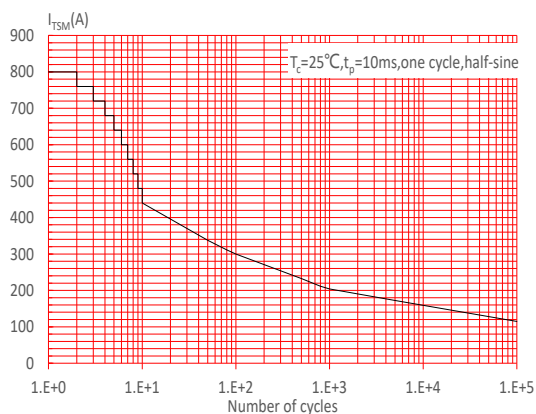
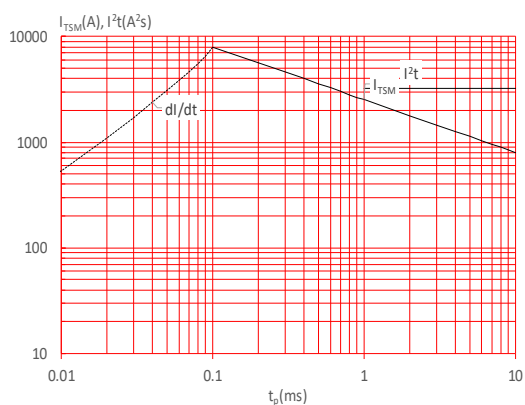
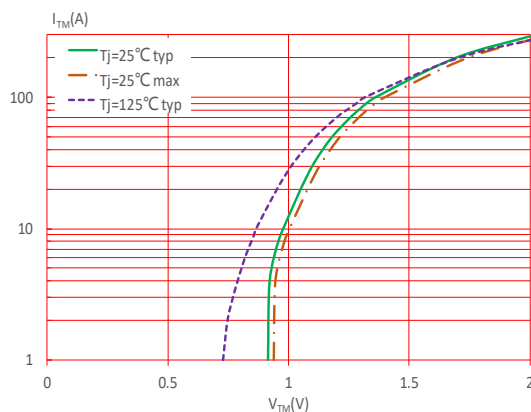
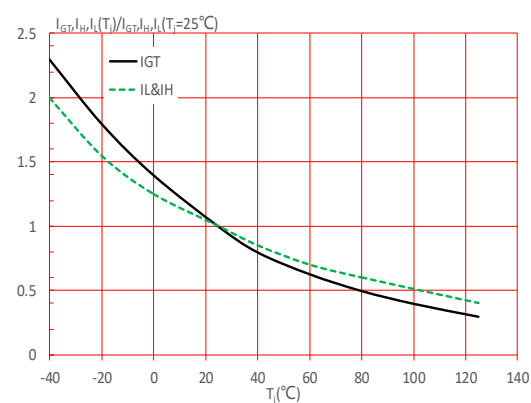
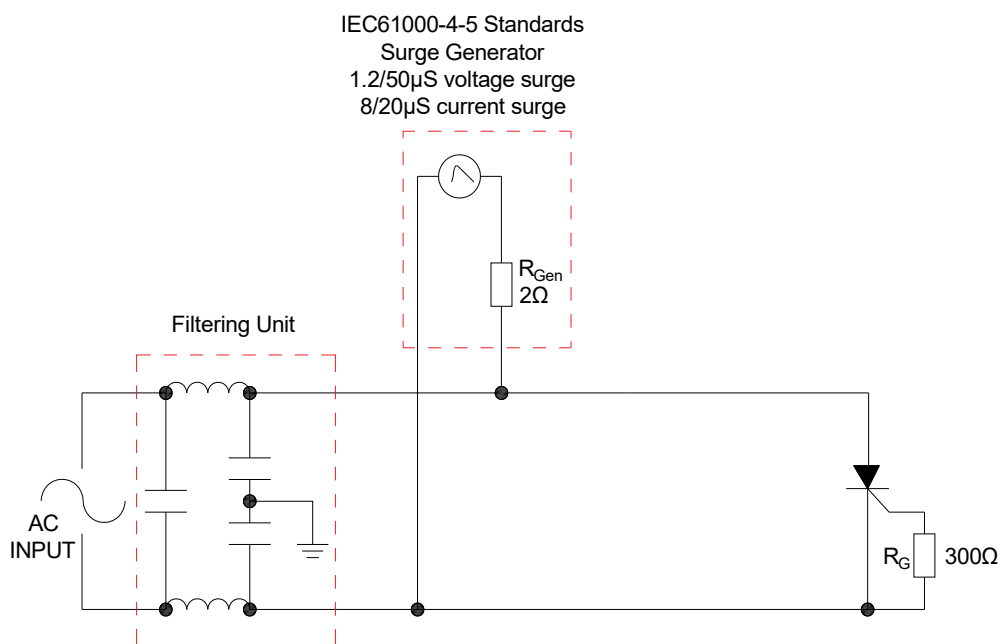
FIG.1 Maximum power dissipation versus RMS on-state current

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

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

FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$, and corresponding value of I^2t ($di/dt < 200A/\mu s$)

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.

SHAPING AND SOLDERING PARAMETERS

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

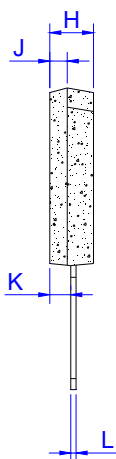
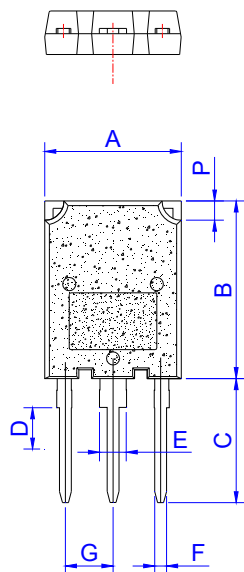
ORDERING INFORMATION

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

Document Revision History

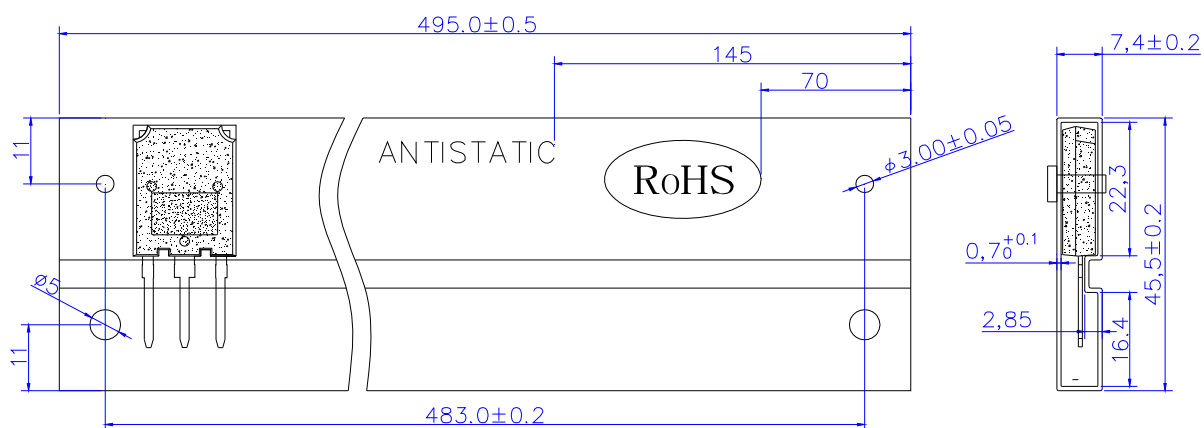
Date	Revision	Changes
Apr.13, 2023	A.1.0	Last update

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



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

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