

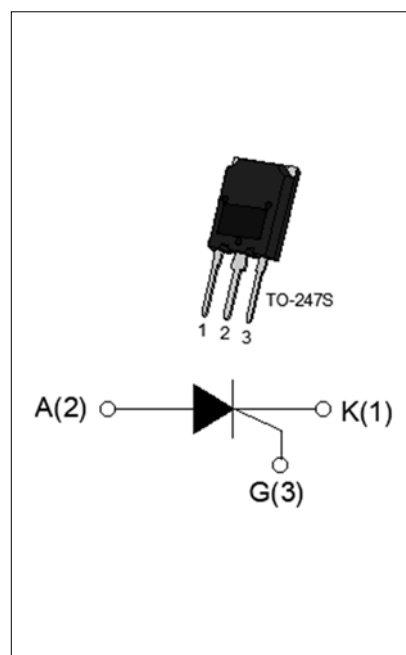


DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT1675CS 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}	1600	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}	1600	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	1600	V
Average on-state current ($T_c \leq 85^{\circ}C$)	$I_{T(AV)}$	48	A
RMS on-state current ($T_c \leq 85^{\circ}C$)	$I_{T(RMS)}$	75	A
Non repetitive surge peak on-state current ($t_p=10ms, T_j=25^{\circ}C$)	I_{TSM}	900	A
Non repetitive surge peak on-state current ($t_p=8.3ms, T_j=25^{\circ}C$)		1000	
I^2t value for fusing ($t_p=10ms, T_j=25^{\circ}C$)	I^2t	4050	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 ($T_j=125^{\circ}C$)	$P_{G(AV)}$	1	W

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

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12V R_L=33\Omega$	10	-	80	mA
V_{GT}		-	-	1.3	V
V_{GD}	$V_D=V_{DRM} T_j=125^{\circ}C R_L=3.3K\Omega$	0.25	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	250	mA
I_H	$I_T=500mA$	-	-	200	mA
dV/dt	$V_D=1070V$ Gate Open $T_j=125^{\circ}C$	2000	-	-	V/ μs
t_{on}	$I_G=100mA I_A=1A I_R=100mA$ $T_j=25^{\circ}C$	-	8	-	μs
t_{off}		-	200	-	

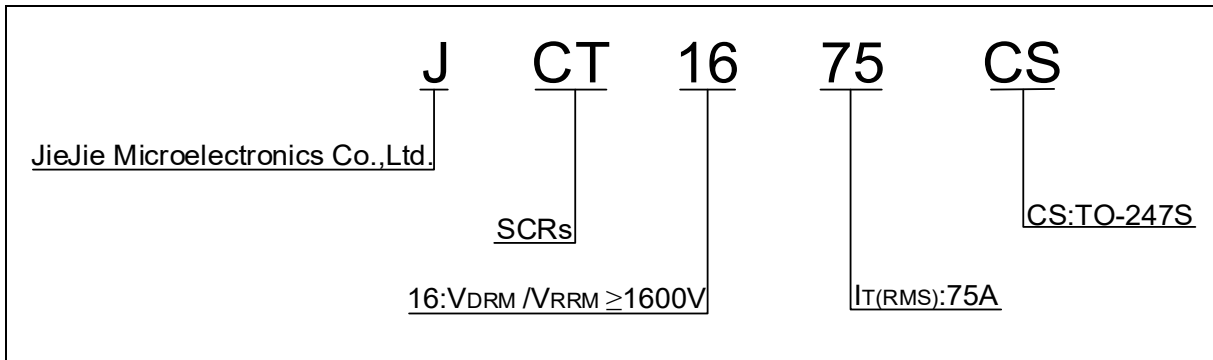
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=100A t_p=380\mu s$	$T_j=25^{\circ}C$	1.5	V
V_{TO}	Threshold voltage	$T_j=125^{\circ}C$	0.68	V
R_D	Dynamic resistance	$T_j=125^{\circ}C$	7.2	m Ω
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}C$	20	μA
I_{RRM}		$T_j=125^{\circ}C$	8	mA

THERMAL RESISTANCES

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

ORDERING INFORMATION



MARKING

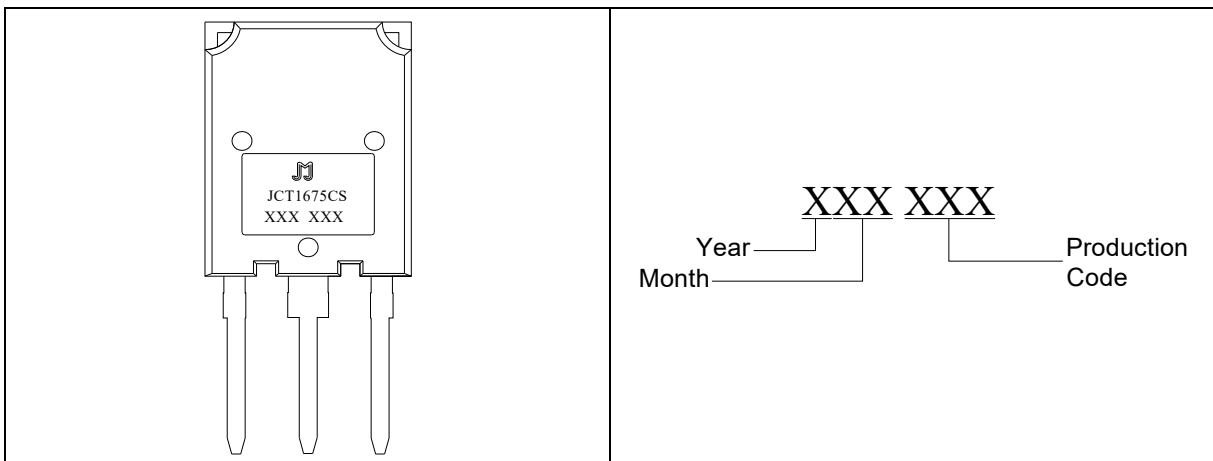


FIG.1 Maximum power dissipation versus RMS on-state current

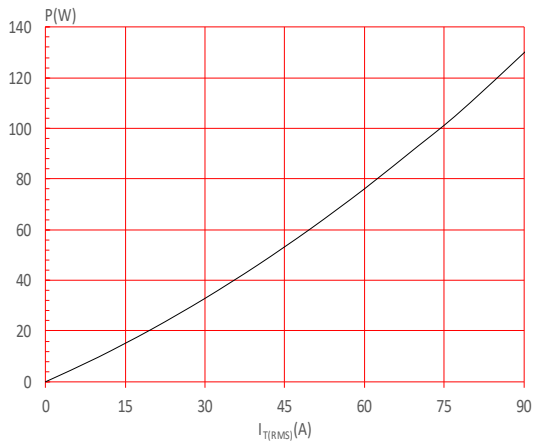


FIG.2: RMS on-state current versus case temperature

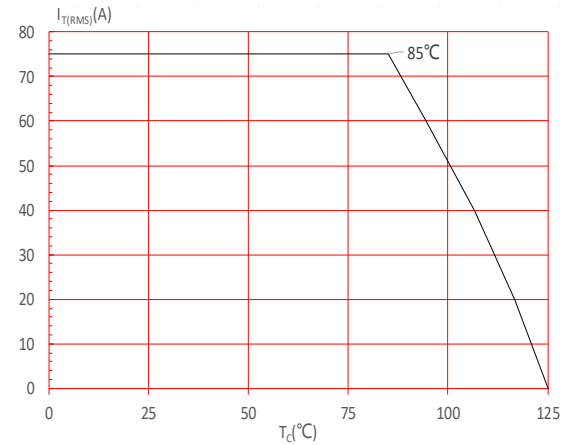


FIG.3: Surge peak on-state current versus number of cycles

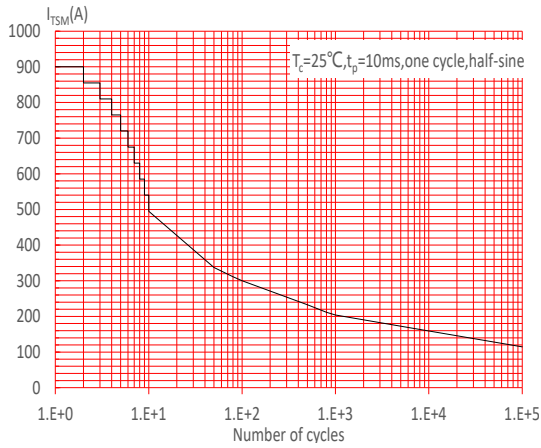


FIG.4: On-state characteristics

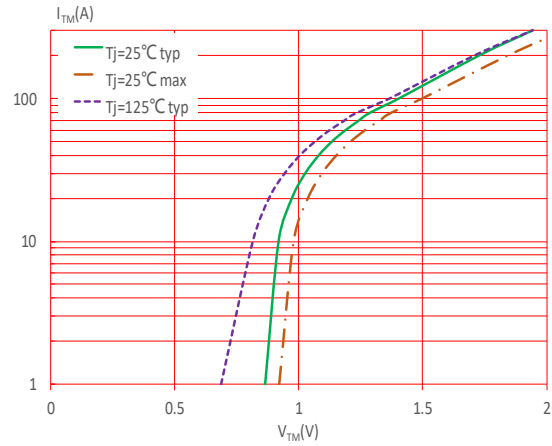


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 200\text{A}/\mu\text{s}$)

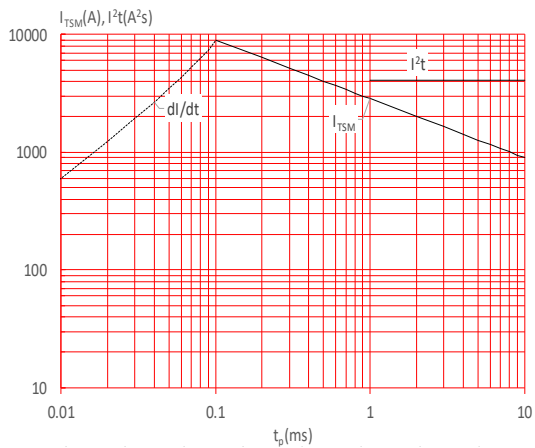


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

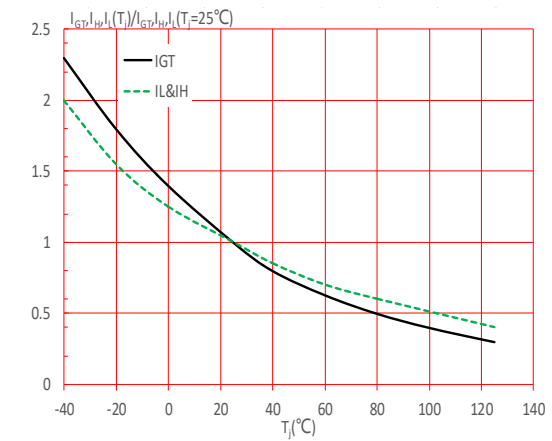
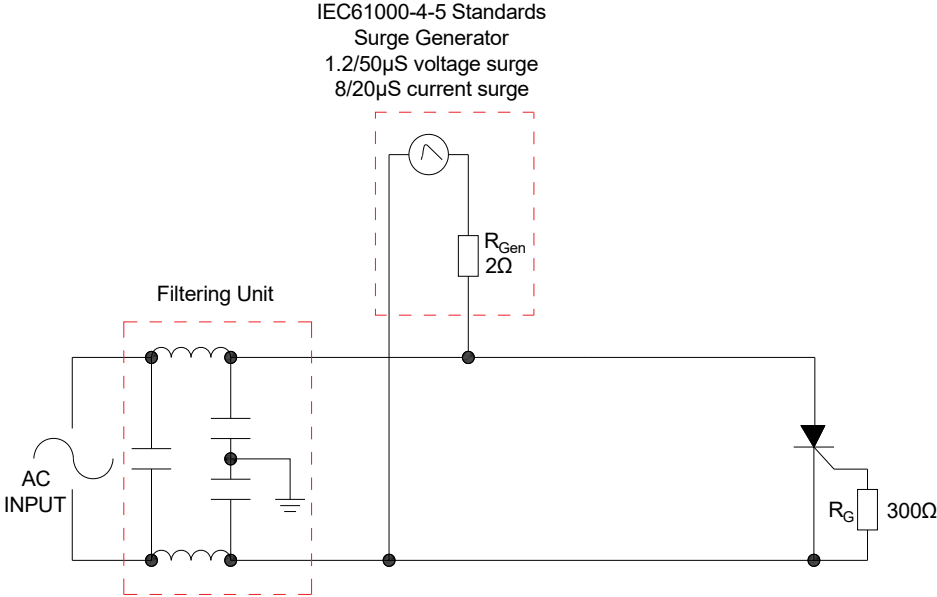


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



SHAPING AND SOLDERING PARAMETERS

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

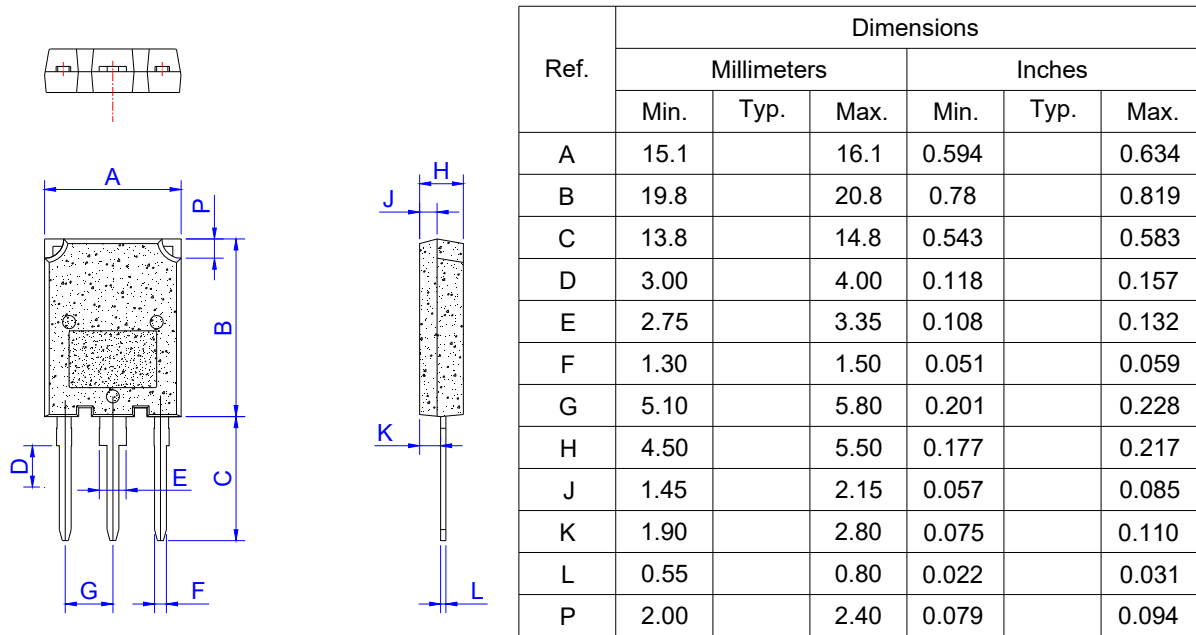
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT1675CS	1600	10-80	TO-247S	30	Tube

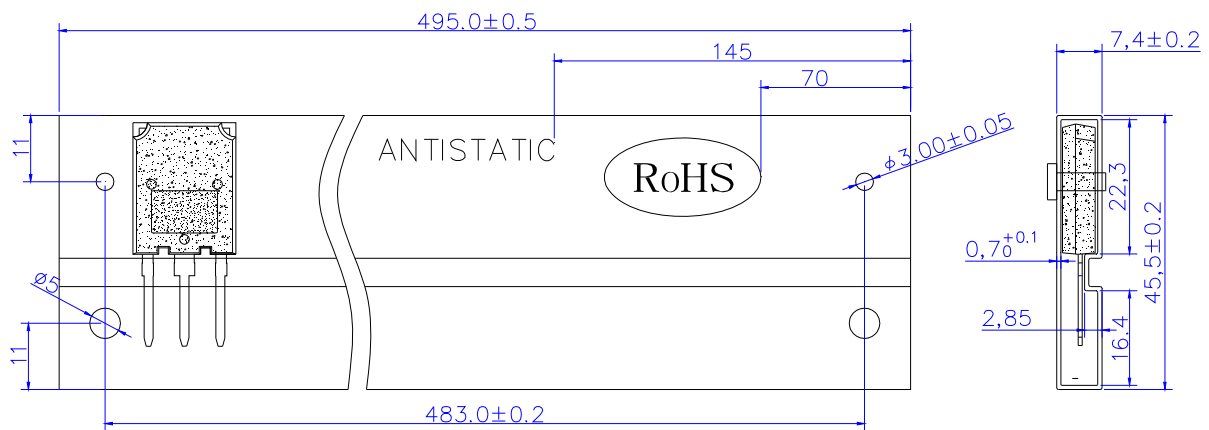
Document Revision History

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

PACKAGE MECHANICAL DATA




DELIVERY MODE



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

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