

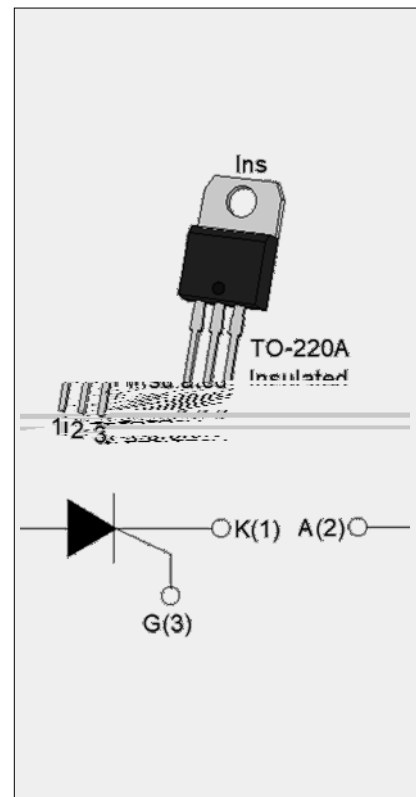


DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT1625A SCR provides high dV/dt rate with strong resistance to electromagnetic interference. It is especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc. From all three terminals to external heatsink, JCT1625A provides a rated insulation voltage of 2500 V_{RMS}, complying with UL standards (File ref: E252906). Package TO-220A is RoHS compliant.

MAIN FEATURES

Symbol	Value	Unit
I _{T(RMS)}	25	A
V _{DRM} /V _{RRM}	1600	V
I _{GT}	40	mA



ABSOLUTE MAXIMUM RATINGS

Storage junction temperature range	T _{stg}	-40-150	
Operating junction temperature range	T _j	-40-125	
Repetitive peak off-state voltage (T _j =25 °C)	V _{DRM}	1600	V
Repetitive peak reverse voltage (T _j =25 °C)	V _{RRM}	1600	V
Average on-state current (T _c = 48 °C)	I _{T(AV)}	16	A
RMS on-state current (T _c = 48 °C)	I _{T(RMS)}	25	A
Non repetitive surge peak on-state current (t _p =10ms, T _j =25 °C)	I _{TSM}	280	A
Non repetitive surge peak on-state current (t _p =8.3ms, T _j =25 °C)		300	
I ² t value for fusing (t _p =10ms, T _j =25 °C)	I ² t	392	A ² s
Critical rate of rise of on-state current (I _G =2× I _{GT} , f=100Hz, T _j =125 °C)	di/dt	200	A/μs



Peak gate current ($t_p=20\mu s$, $T_j=125$)	I_{GM}	5	A
Average gate power dissipation ($T_j=125$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	20	W
Peak pulse voltage ($T_j=25$; non-repetitive, off-state; FIG.7)	V_{pp}	1.5	kV

ELECTRICAL CHARACTERISTICS ($T_j=25$ unless otherwise specified)

I_{GT}	$V_D=12V$ $R_L=33$	-	-	40	mA
V_{GT}		-	-	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125$ $R_L=3.3K$	0.2	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	100	mA
I_H	$I_T=500mA$	-	-	90	mA
dV/dt	$V_D=1070V$ Gate Open $T_j=125$	1000	-	-	V/ μs
t_{on}	$I_G=50mA$ $I_A=500mA$ $I_R=50mA$ $T_j=25$	-	7	-	μs
t_{off}		-	100	-	

STATIC CHARACTERISTICS

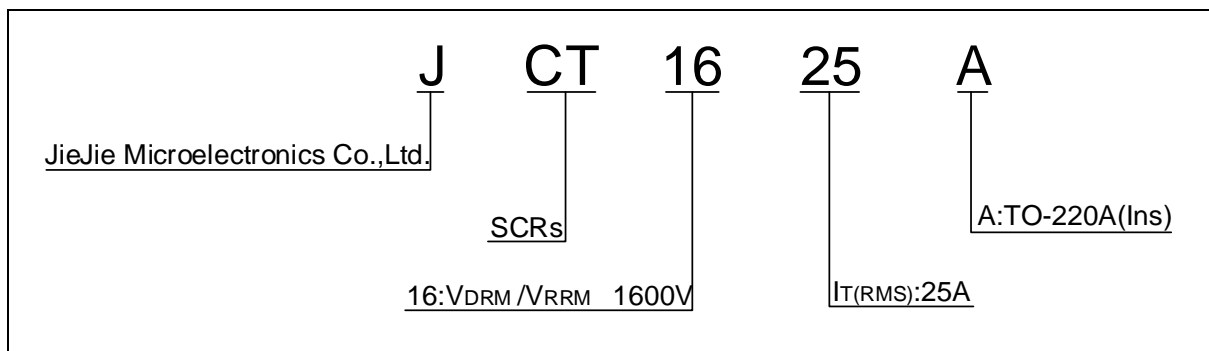
V_{TM}	$I_{TM}=50A$ $t_p=380\mu s$	$T_j=25$	1.8	V
V_{TO}	Threshold voltage	$T_j=125$	0.74	V
R_D	Dynamic resistance	$T_j=125$	27	m
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	10	μA
I_{RRM}		$T_j=125$	4	mA

THERMAL RESISTANCES

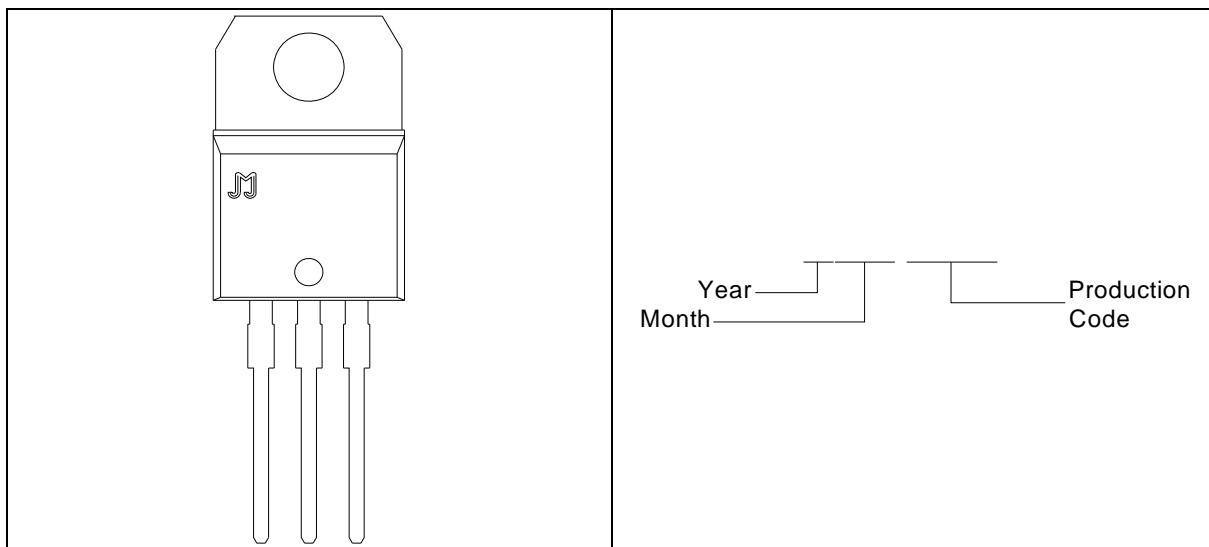
$R_{th(j-c)}$	junction to case(DC)	2.1	/W
$R_{th(j-a)}$	junction to ambient (DC)	65	/W



ORDERING INFORMATION

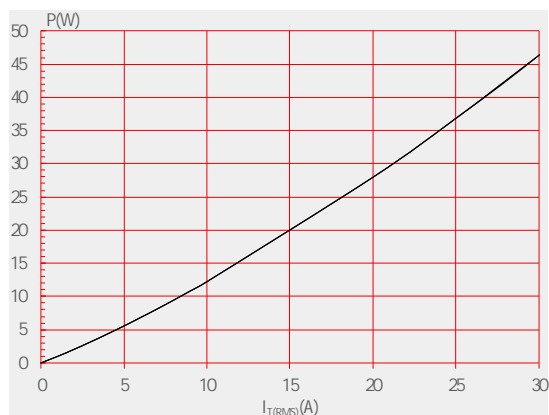


MARKING

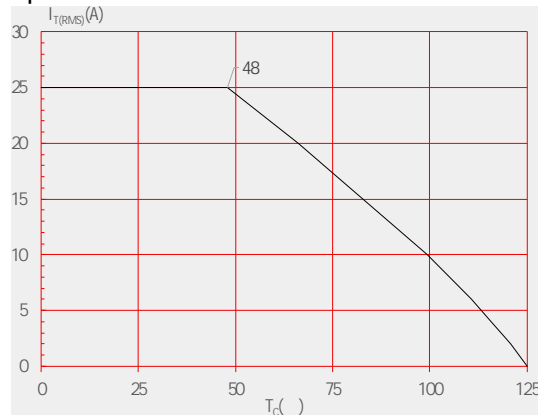




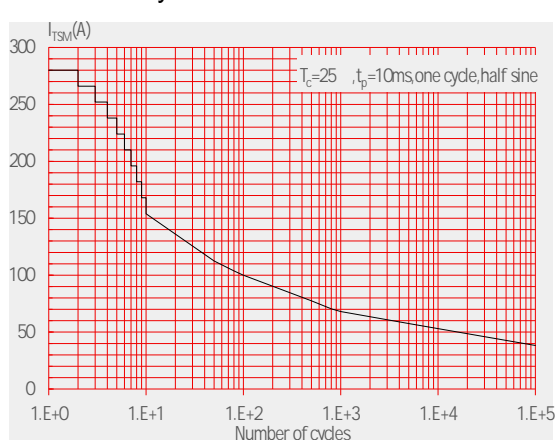
Maximum power dissipation versus RMS on-state current



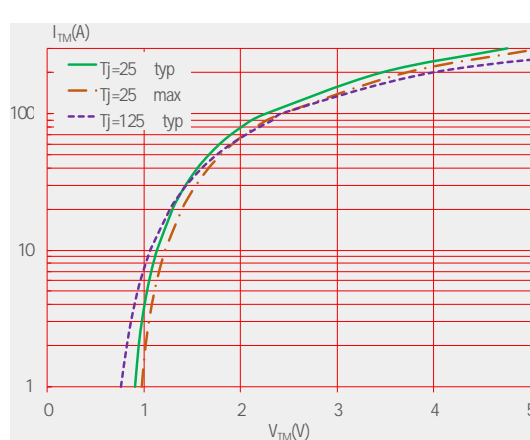
RMS on-state current versus case temperature



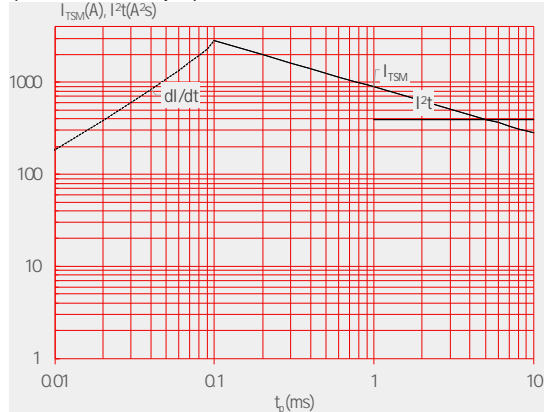
Surge peak on-state current versus number of cycles



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

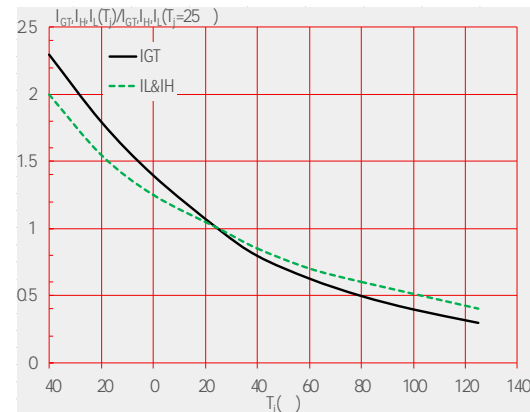
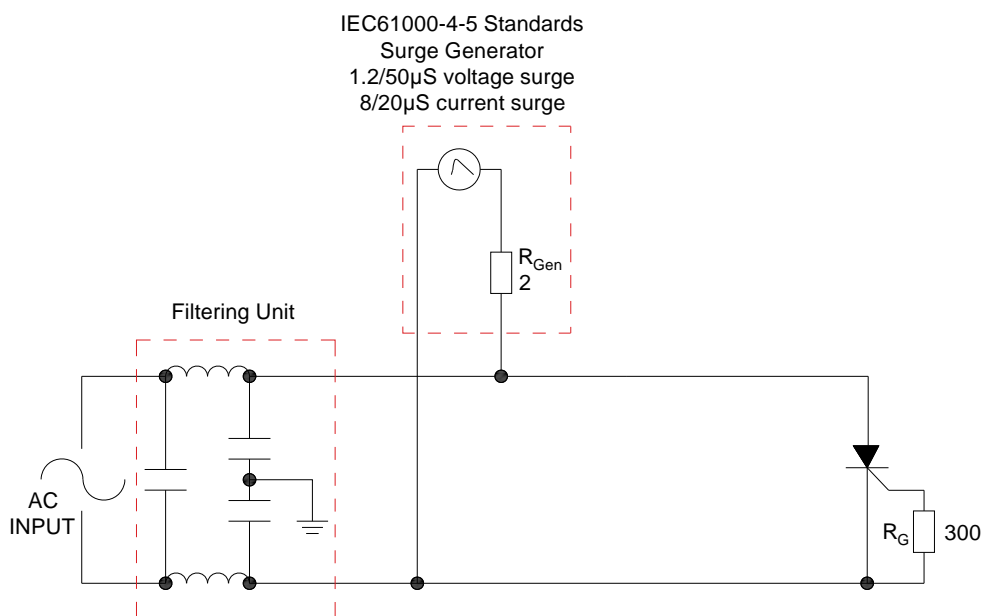




FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



SHAPING AND SOLDERING PARAMETERS

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

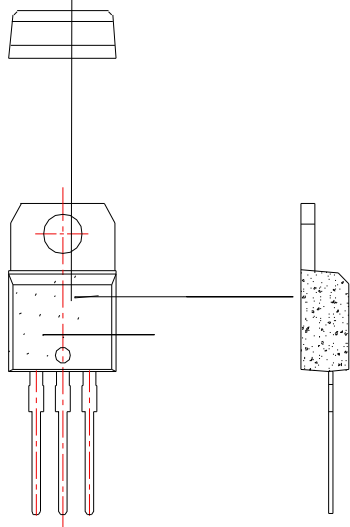


ORDERING INFORMATION

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




PACKAGE MECHANICAL DATA





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