



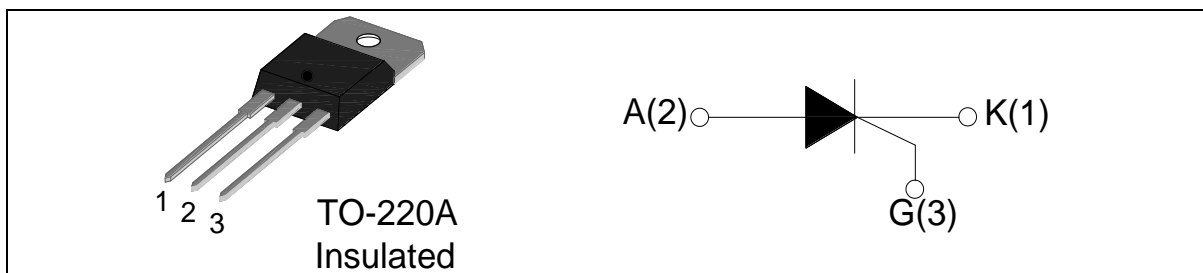
DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT825i provide high dv/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc.

From all three terminals to external heatsink, JCT825i provide a rated insulation voltage of 2500 V_{RMS} , complying with UL standards (File ref: E252906).

MAIN FEATURES

Symbol	Value	Unit
V_{DRM}/V_{RRM}	600 and 800	V
$I_{T(RMS)}$	25	A
I_{GT}	≤ 35	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}	600/800	V	
Repetitive peak reverse voltage($T_j=25^{\circ}C$)	V_{RRM}	600/800	V	
Non repetitive surge peak Off-state voltage	V_{DSM}	$V_{DRM} +100$	V	
Non repetitive peak reverse voltage	V_{RSM}	$V_{RRM} +100$	V	
RMS on-state current	TO-220A(Ins) ($T_C=98^{\circ}C$)	$I_{T(RMS)}$	25	A
Non repetitive surge peak on-state current (tp=10ms)	I_{TSM}	400	A	
I^2t value for fusing (tp=10ms)	I^2t	800	A^2s	

Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	150	A/ μ s
Peak gate current	I_{GM}	3.5	A
Average gate power dissipation	$P_{G(AV)}$	0.8	W
Peak gate power	P_{GM}	35	W

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	1	-	35	mA
V_{GT}		-	-	1.5	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	$I_G=1.2I_{GT}$	-	-	90	mA
I_H	$I_T=500\text{mA}$	-	-	50	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$	500	-	-	V/ μ s
t_{gt}	$V_D=V_{DRM(max)} I_G=0.1\text{A } I_{TM}=40\text{A}$ $di_G/dt=5\text{A}/\mu\text{s}$	-	2	-	μ s
t_q	$V_D=67\%V_{DRM(max)} T_j=125^\circ\text{C}$ $I_{TM}=50\text{A } V_R=25\text{V } di_{TM}/dt=30\text{A}/\mu\text{s}$ $dV_D/dt=50\text{V}/\mu\text{s } R_{GK}=100\Omega$	-	35	-	μ s

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=50\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.8	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	μ A
I_{RRM}		$T_j=125^\circ\text{C}$	2	mA

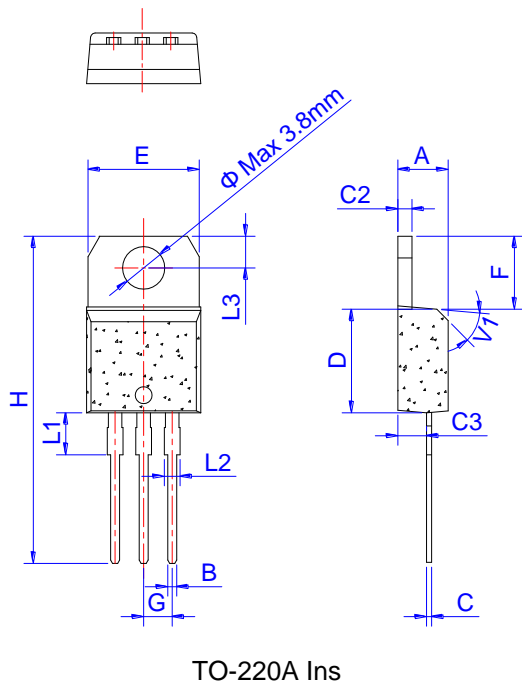
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220A(Ins)	2.25	$^\circ\text{C}/\text{W}$

ORDERING INFORMATION

J JieJie Microelectronics Co.,Ltd	CT SCRs 6: $V_{DRM}/V_{RRM} \geq 600V$ 8: $V_{DRM}/V_{RRM} \geq 800V$	8	25 $I_{T(RMS)}: 25A$	i i:TO-220A(Ins)
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PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

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

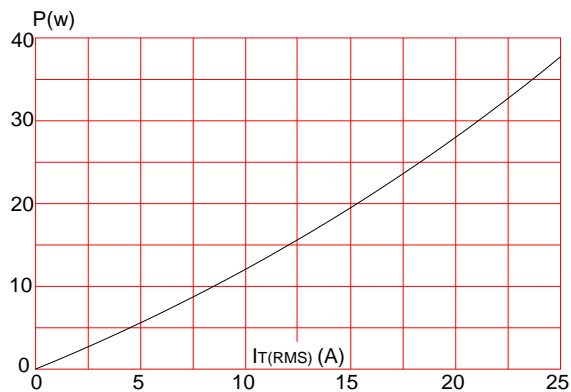


FIG.2: RMS on-state current versus case temperature

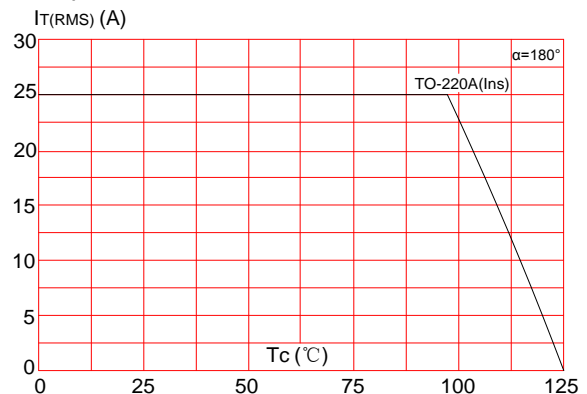


FIG.3: Surge peak on-state current versus number of cycles

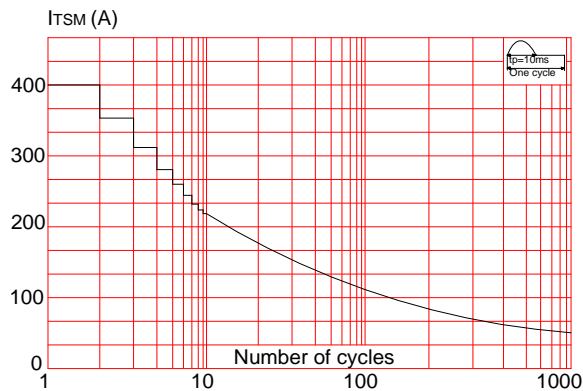


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 150\text{A}/\mu\text{s}$)

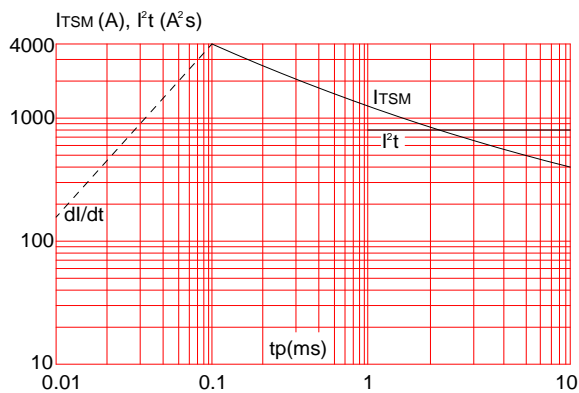


FIG.4: On-state characteristics (maximum values)

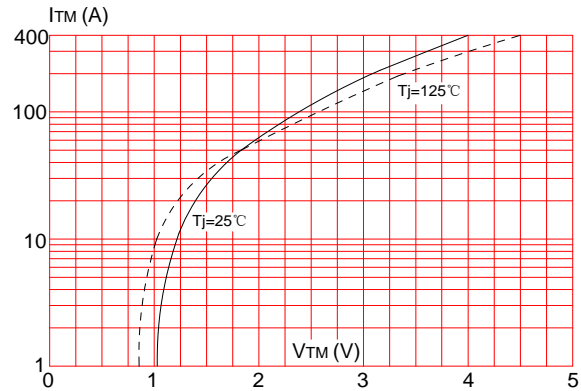
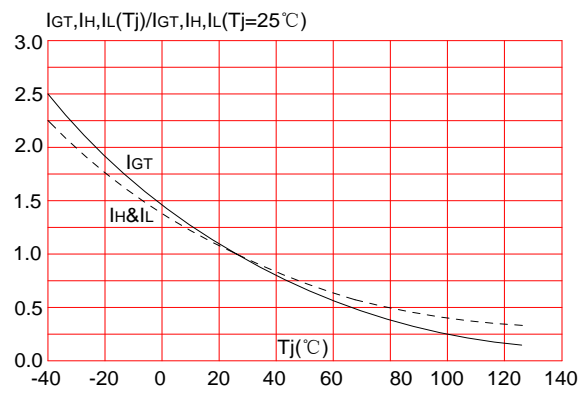



FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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