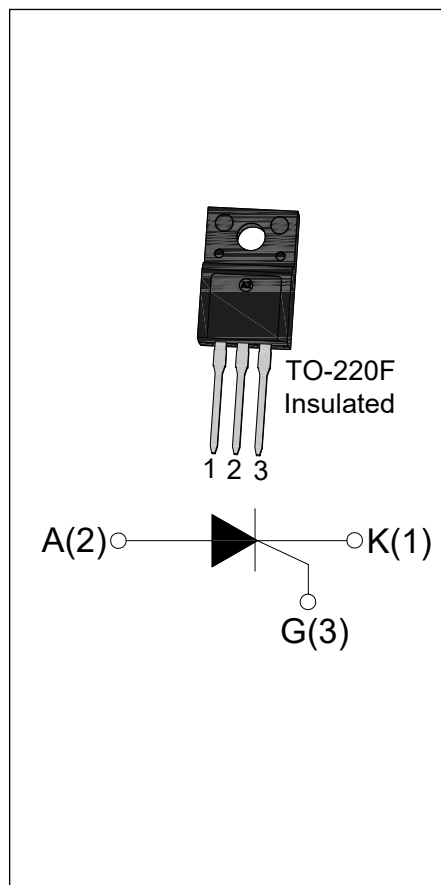




DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT1225F SCRs 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, JCT1225F provides a rated insulation voltage of 2000 V_{RMS}, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant. (2011/65/EU)



MAIN FEATURES

Symbol	Value	Symbol
V _{DRM} / V _{R_{RRM}}	1200	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	°C
Operating junction temperature range		T _j	-40-125	°C
Repetitive peak off-state voltage(T _j =25°C)		V _{DRM}	1200	V
Repetitive peak reverse voltage(T _j =25°C)		V _{R_{RRM}}	1200	V
RMS on-state current	TO-220F(Ins) (T _c =50°C)	I _{T(RMS)}	25	A
Non repetitive surge peak on-state current (tp=10ms)		I _{TSM}	250	A
I ² t value for fusing (tp=10ms)		I ² t	310	A ² s
Critical rate of rise of on-state current (I _G =2×I _{GT})		di/dt	100	A/μs
Peak gate current		I _{GM}	1.5	A

Average gate power dissipation	$P_{G(AV)}$	2	W
Peak gate power	P_{GM}	5	W

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	-	-	35	mA
V_{GT}		-	-	1.5	V
V_{GD}	$V_D=V_{DRM} T_j=125^\circ\text{C } R_L=3.3\text{K}\Omega$	0.25	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	150	mA
I_H	$I_T=500\text{mA}$	-	-	120	mA
dv/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$	1000	-	-	V/ μs

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
V_{TO}	Threshold voltage	$T_j=125^\circ\text{C}$	0.96	V
R_D	Dynamic resistance	$T_j=125^\circ\text{C}$	16	m Ω
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	μA
I_{RRM}		$T_j=125^\circ\text{C}$	4	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220F(Ins)	2.3	$^\circ\text{C/W}$

ORDERING INFORMATION

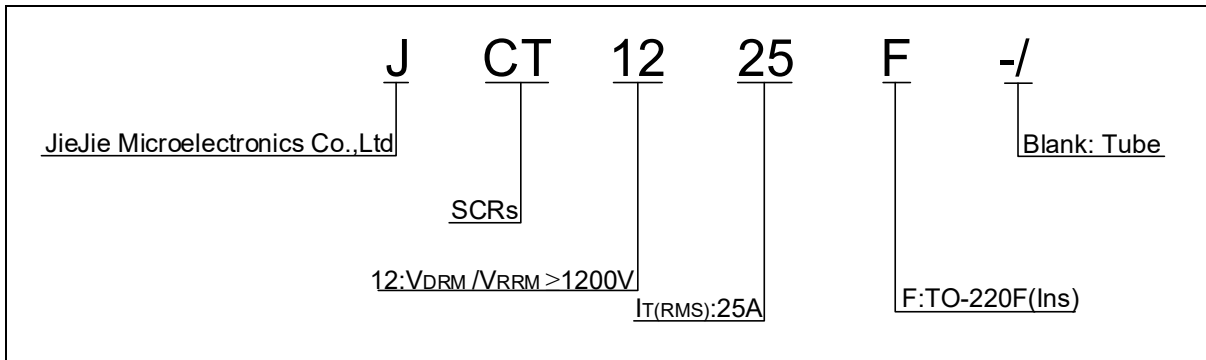


FIG.1 Maximum power dissipation versus RMS on-state current

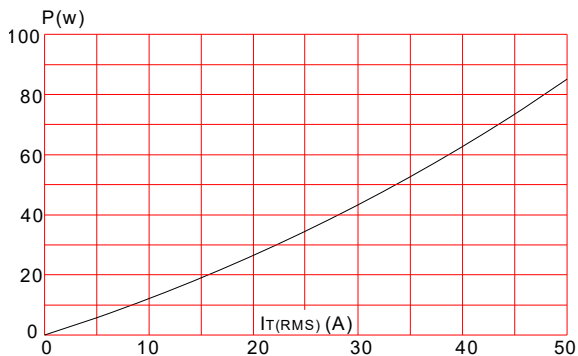


FIG.3: Surge peak on-state current versus number of cycles

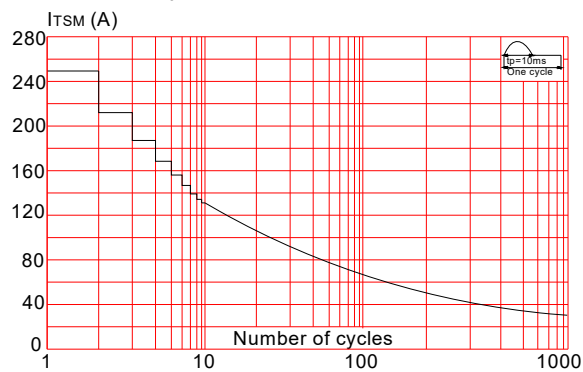


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$, and corresponding value of I^2t ($di/dt < 100A/\mu s$)

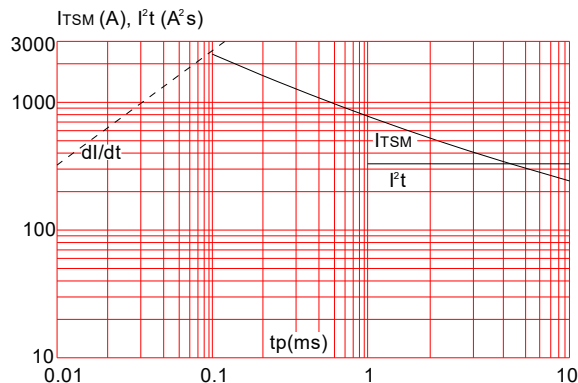


FIG.2: RMS on-state current versus case temperature

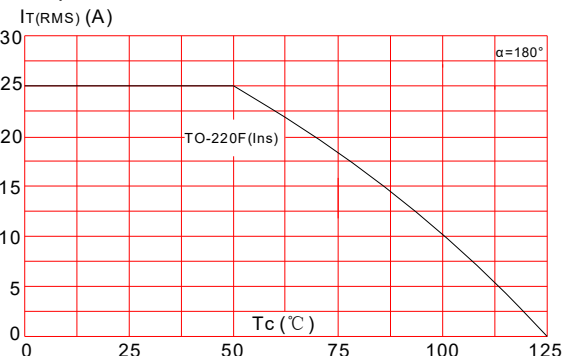


FIG.4: On-state characteristics (maximum values)

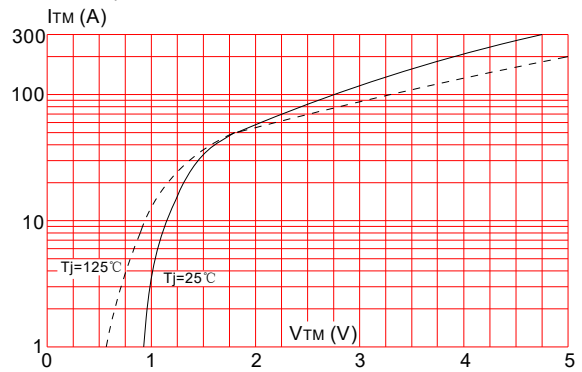
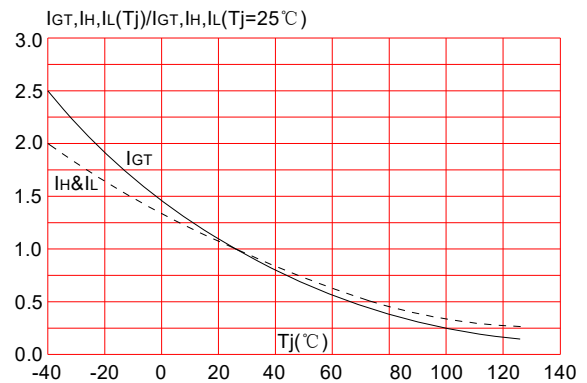


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



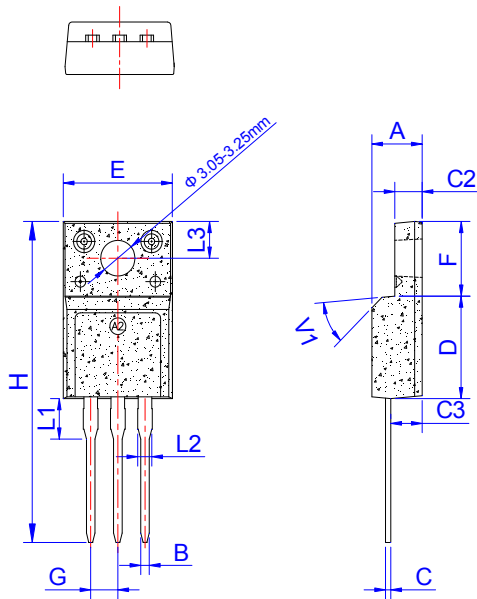
ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT1225F	1200	35	TO-220F(Ins)	50	Tube

Document Revision History

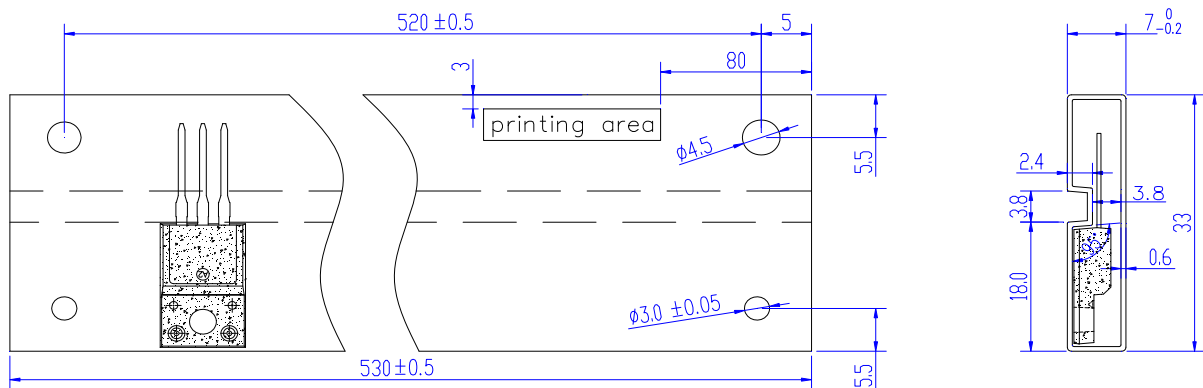
Date	Revision	Changes
Dec 9, 2020	9	Last update
Dec 23, 2021	9	Add V_{TO} & R_{D}

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2		1.14			0.045	
L3		3.30			0.130	
V1		45°			45°	


DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220F	TUBE	50	1,000	5,000



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