



With high ability to withstand the shock loading of large current, JCT1230F SCR provide 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, JCT1230F provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.

Symbol	Value	Unit
$I_{T(RMS)}$	30	A
V_{DRM}/V_{RRM}	1200	V
I_{GT}	40	mA

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-125	

Peak gate current ($t_p=20\mu s$, $T_j=125$)	I_{GM}	10	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}	0.5	kV

($T_j=25$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12V R_L=33$	-	-	40	mA
V_{GT}		-	-	1	V
V_{GD}	$V_D=V_{DRM} T_j=125 R_L=3.3K$	0.25	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	120	mA
I_H	$I_T=1A$	-	-	100	mA
dV/dt	$V_D=800V$ Gate Open $T_j=125$	1500	-	-	V/ μs
t_{on}	$I_G=100mA I_A=1A I_R=100mA$ $T_j=25$	-	5	-	μs
t_{off}		-	70	-	

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=60A t_p=380\mu s$	$T_j=25$	1.55	V
V_{TO}	Threshold voltage	$T_j=125$	0.76	V
R_D	Dynamic resistance	$T_j=125$	15	m
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	8	μA
I_{RRM}		$T_j=125$	3	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	2.1	/W
$R_{th(j-a)}$	junction to ambient (DC)	60	/W

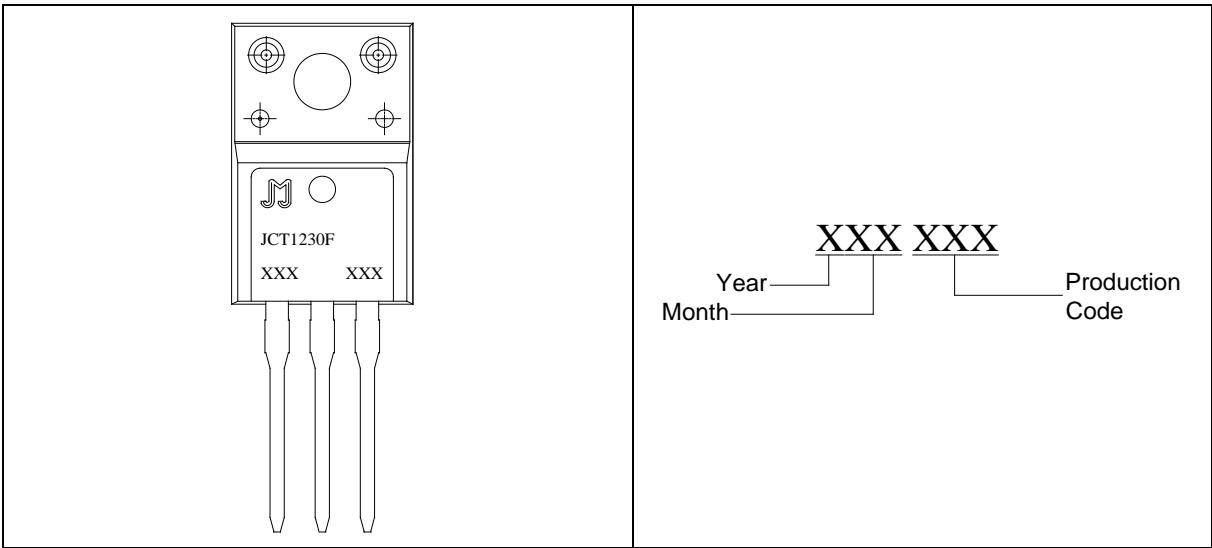
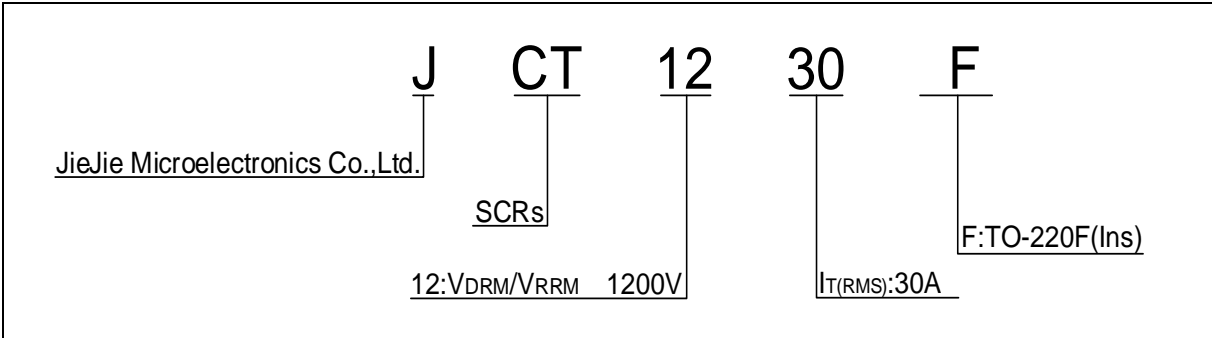


FIG.1 Maximum power dissipation versus RMS on-state current

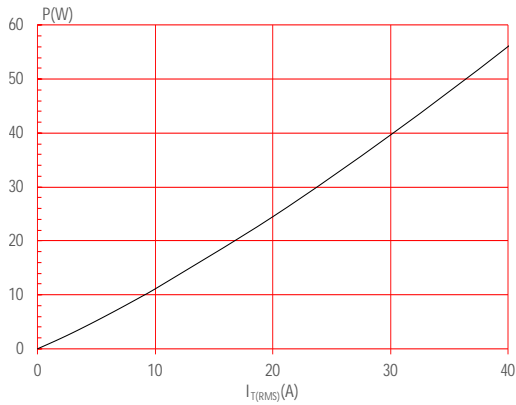


FIG.2: RMS on-state current versus case temperature

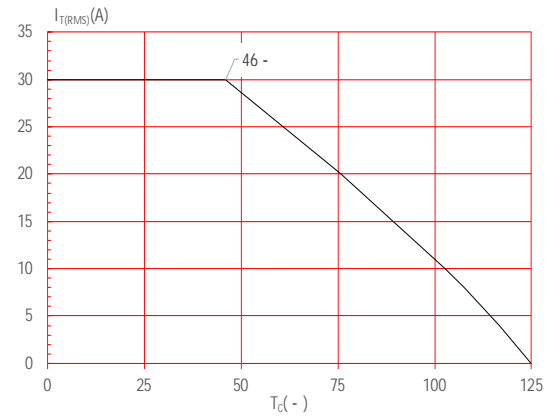


FIG.3: Surge peak on-state current versus number of cycles

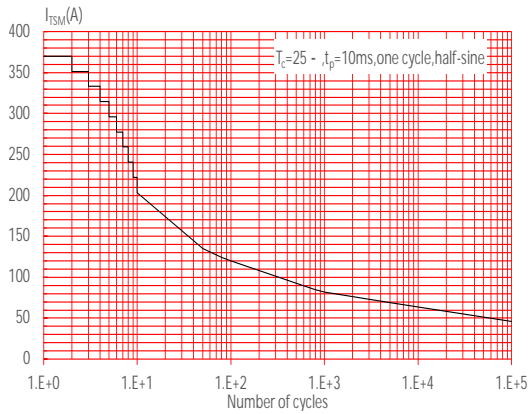


FIG.4: On-state characteristics

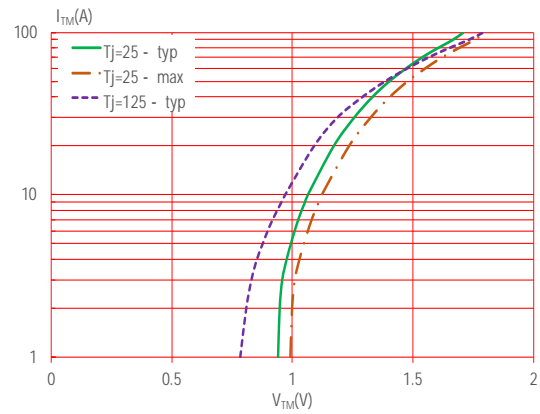


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 200\text{A}/\mu\text{s}$)

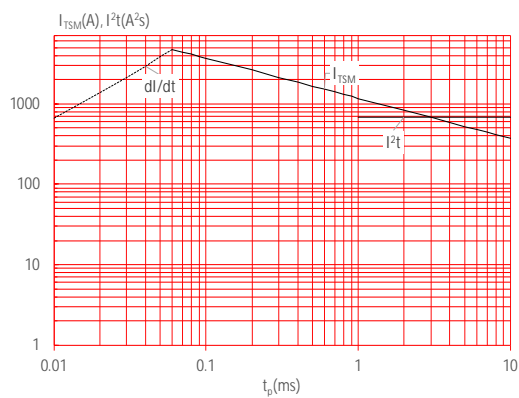


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

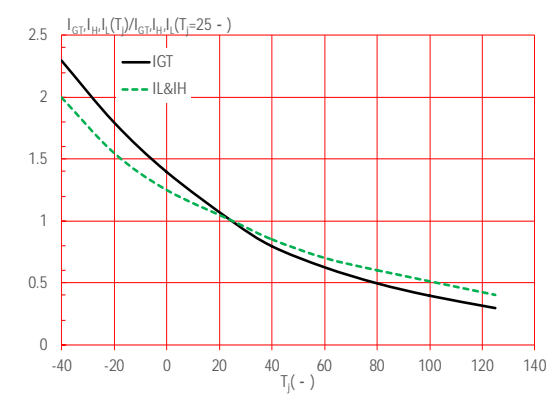
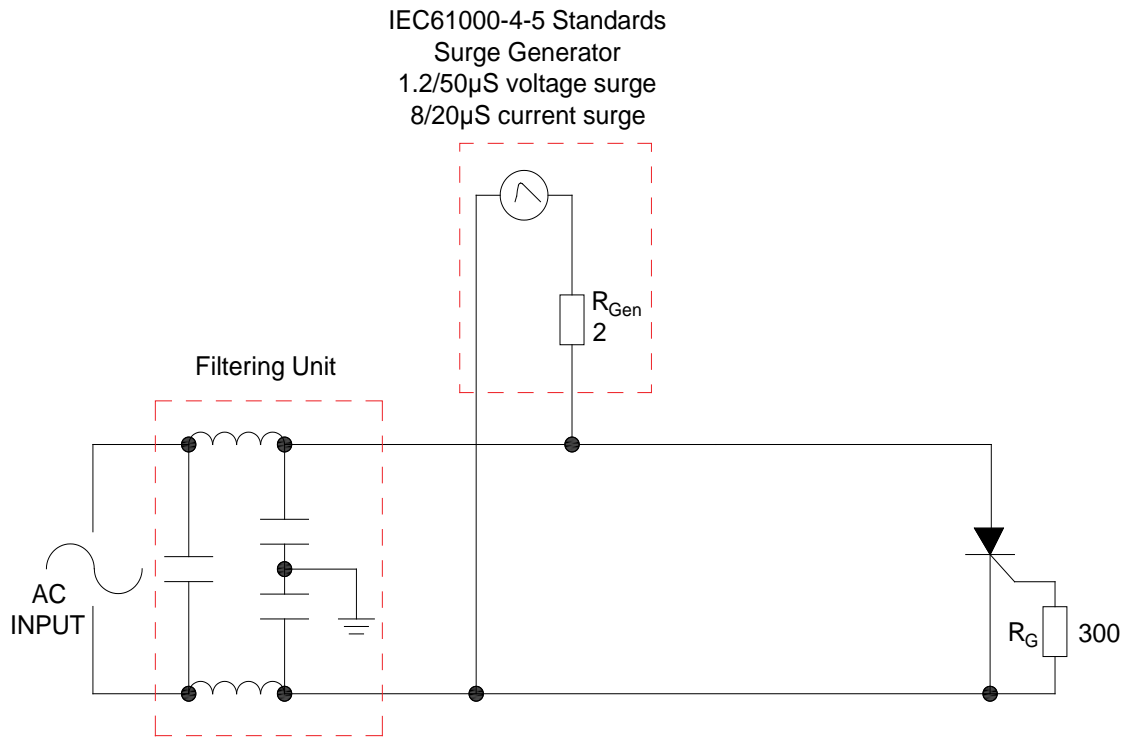


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



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


Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT1230F	1200	40	TO-220F(Ins)	50	Tube

Document Revision History

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



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