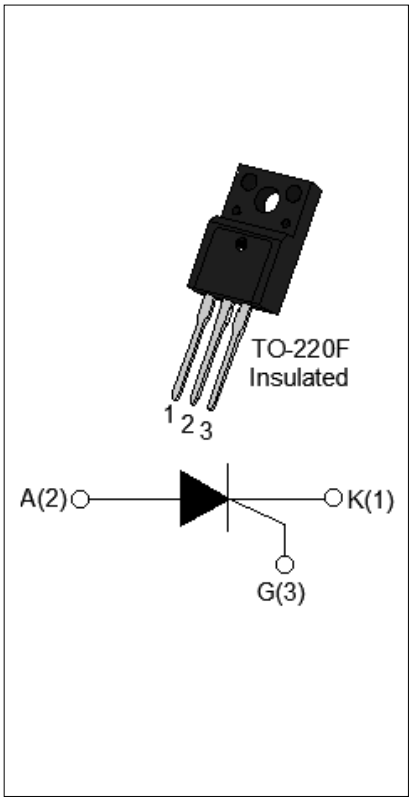
JCT825F 25A SCR

Rev.A.1.0

With high ability to withstand the shock loading of large current, JCT825F 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,JCT825F provides a rated insulation voltage of 2000 V_{RMS}, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	25	A
V_{DRM}/V_{RRM}	800	V
I_{GT}	≤20	mA

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-125	
Repetitive peak off-state voltage (T_j=25)	V_{DRM}	800	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	800	V
Average on-state current (T_C 60)	$I_{T(AV)}$	16	A
RMS on-state current (T_C 60)	$I_{T(RMS)}$	25	A
Non repetitive surge peak on-state current (t_p=10ms, T_j=25)	I_{TSM}	320	A
Non repetitive surge peak on-state current (t_p=8.3ms, T_j=25)		352	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	512	A^2s
Critical rate of rise of on-state current (I_G=2 I_{GT}, f=100Hz , T_j=125)	dI/dt	200	A/μs

Peak gate current (t_p=20μs , 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}	0.5	kV

(T_j=25 unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	V_D=12V R_L=33Ω	-	-	20	mA
V_{GT}		-	-	1	V
V_{GD}	V_D=V_{DRM} T_j=125 R_L=3.3KΩ	0.2	-	-	V
I_L	I_G=1.2I_{GT}	-	-	70	mA
I_H	I_T=500mA	-	-	60	mA
dV/dt	V_D=540V Gate Open T_j=125	1000	-	-	V/μs
t_{on}	I_G=20mA I_A=200mA I_R=20mA T_j=25	-	2	-	μs
t_{off}		-	50	-	

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM}=50A t_p=380μs	T_j=25	1.5	V
V_{TO}	Threshold voltage	T_j=125	0.72	V
R_D	Dynamic resistance	T_j=125	16	mΩ
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25	5	μA
I_{RRM}		T_j=125	0.7	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case(DC)	2.1	/W
$R_{th(j-a)}$	junction to ambient (DC)	62	/W

J	CT	8	25	F
JieJie Microelectronics Co.,Ltd.	SCRs	8:V_{DRM} /V_{RRM} ≥800V	$I_{T(RMS)}$:25A	F:TO-220F(Ins)

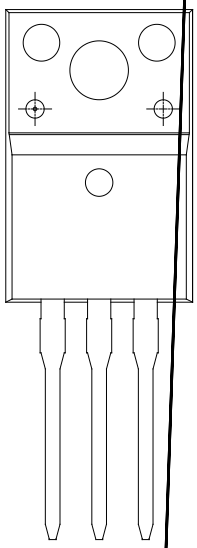


FIG.1 Maximum power dissipation versus RMS on-state current

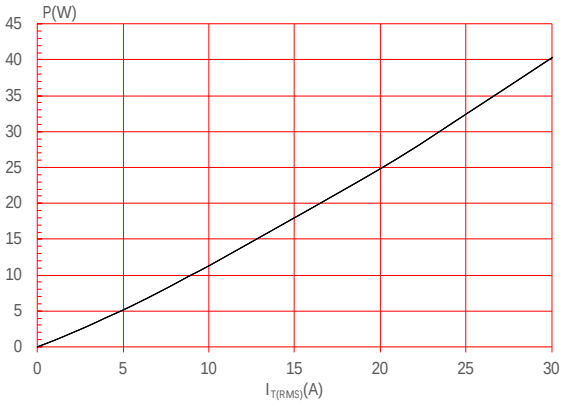


FIG.2: RMS on-state current versus case temperature

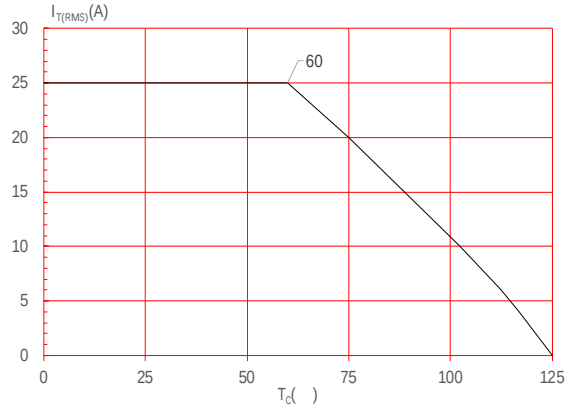


FIG.3: Surge peak on-state current versus number of cycles

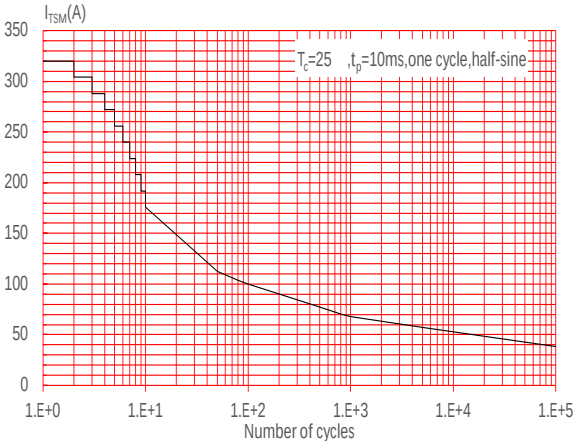


FIG.4: On-state characteristics

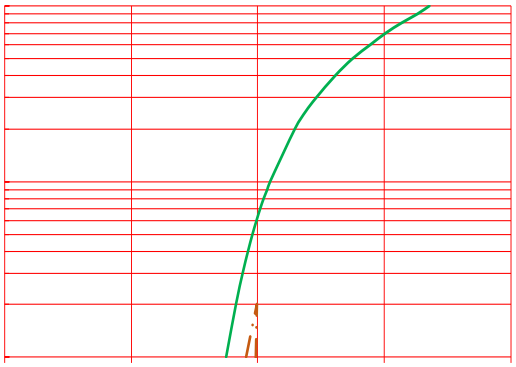
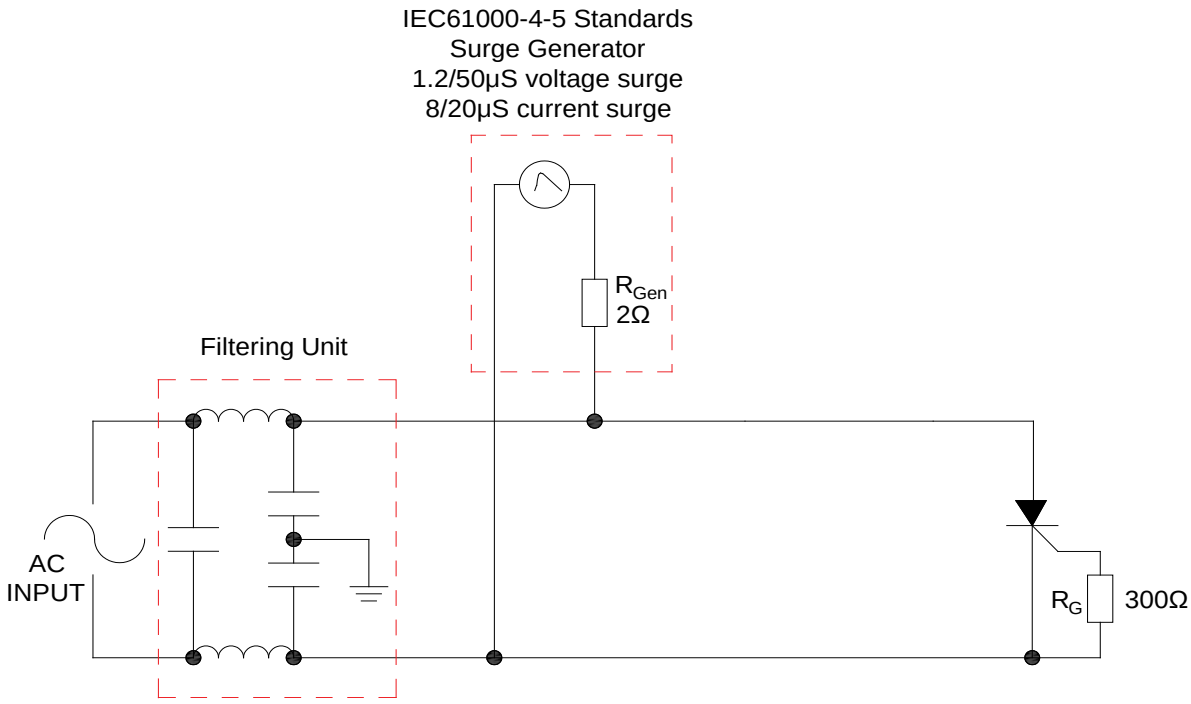


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



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
JCT825F	800	20	TO-220F(Ins)	50	Tube

Document Revision History

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