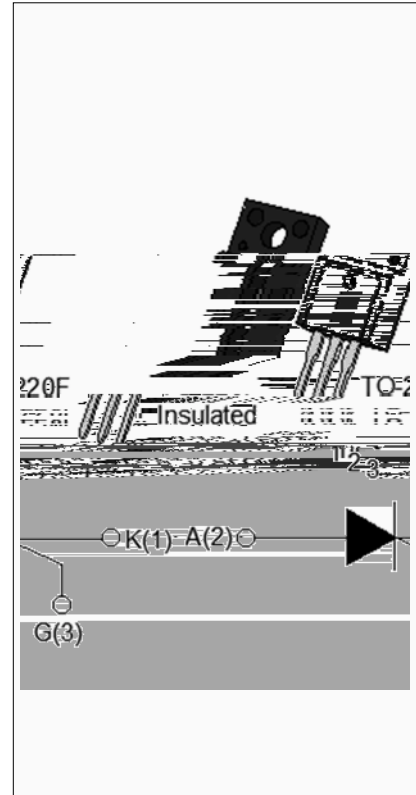




With high ability to withstand the shock loading of large current, JCT640F SCR provides high dV/dt rate with strong resistance to electromagnetic interference. It is especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc. From all three terminals to external heatsink, JCT640F 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
$I_{T(RMS)}$	40	A
V_{DRM}/V_{RRM}	600	V
I_{GT}	35	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 ($T_j=25^\circ C$)	V_{DRM}	600	V
Repetitive peak reverse voltage ($T_j=25^\circ C$)	V_{RRM}	600	V
Average on-state current ($T_c = 56^\circ C$)	$I_{T(AV)}$	25	A
RMS on-state current ($T_c = 56^\circ C$)	$I_{T(RMS)}$	40	A
Non repetitive surge peak on-state current ($t_p=10ms, T_j=25^\circ C$)	I_{TSM}	500	A
Non repetitive surge peak on-state current ($t_p=8.3ms, T_j=25^\circ C$)		540	
I^2t value for fusing ($t_p=10ms, T_j=25^\circ C$)	I^2t	1250	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}, f=100Hz, T_j=125^\circ C$)	di/dt	150	$A/\mu s$

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

=25 unless otherwise specified)

	Value			Unit
	MIN.	TYP.	MAX.	

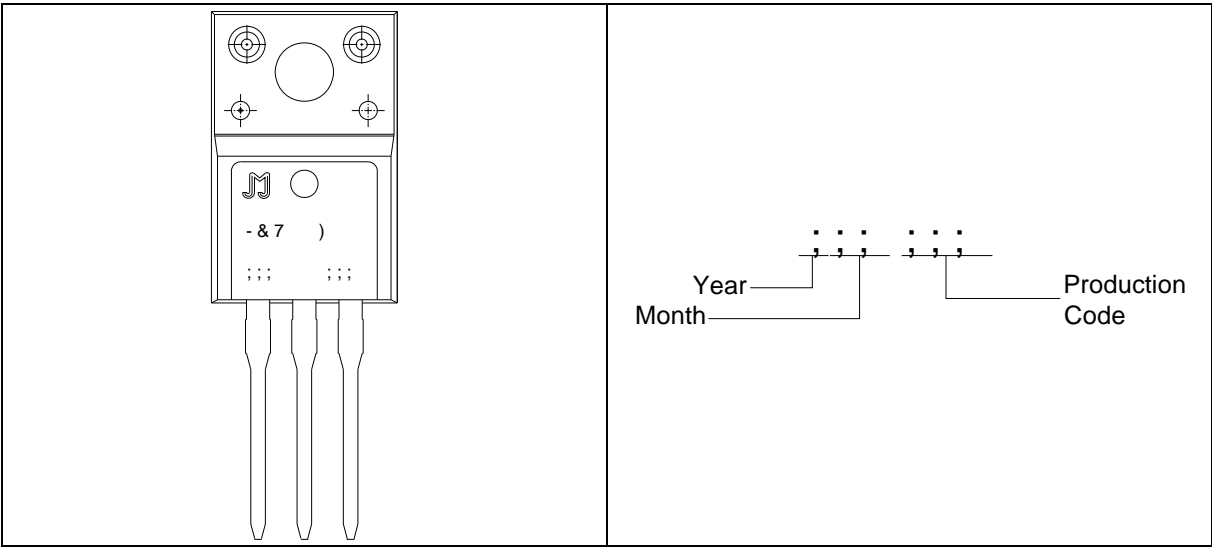
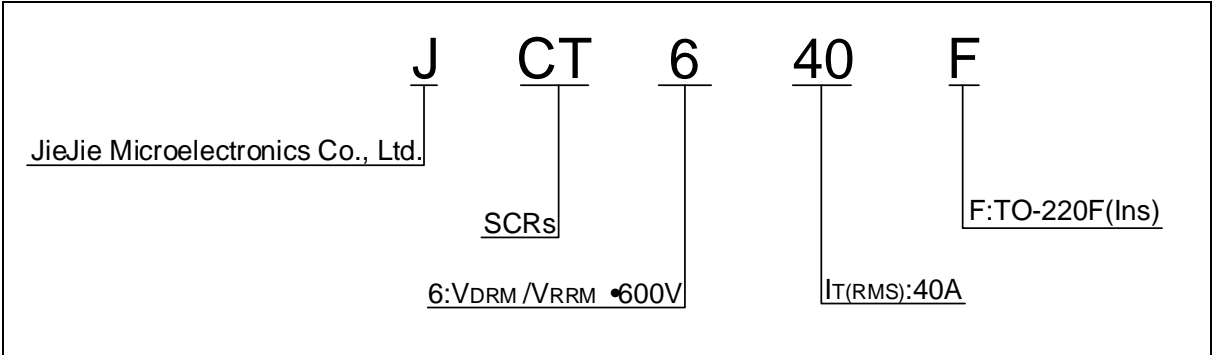


FIG.1: Maximum power dissipation versus RMS on-state current

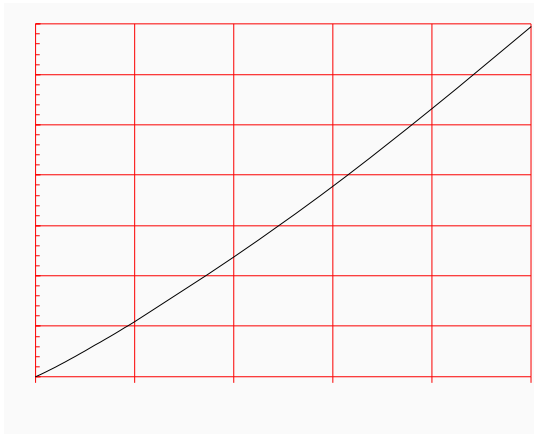


FIG.2: RMS on-state current versus case temperature

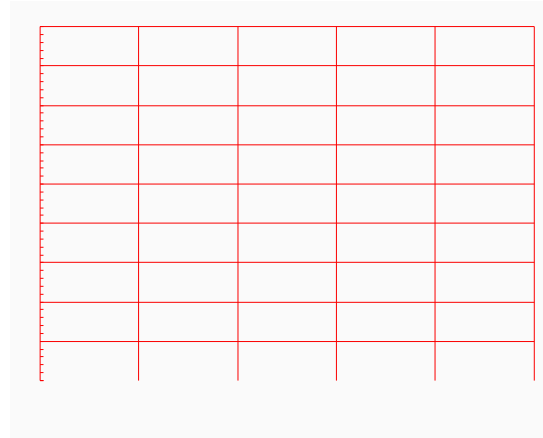
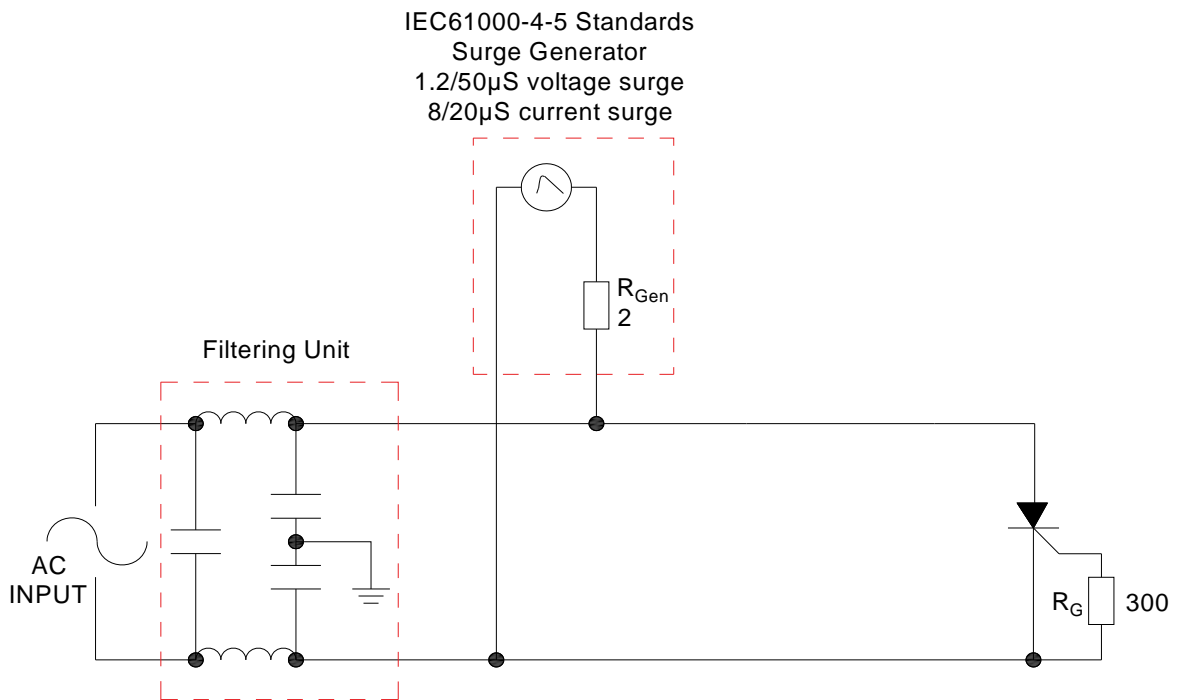


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



Refer to the application note “Assembly Instructions for Thyristors in Through-hole Package” released by JieJie

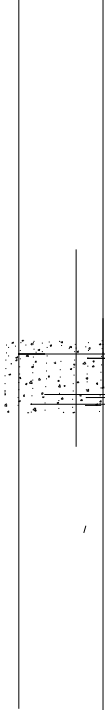
Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT640F	600	35	TO-220F(Ins)	50	Tube

Document Revision History


Date	Revision	Changes
Apr.13, 2023	A.1.0	Last update
Sept.29, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA

JCT640F

 **JieJie Microelectronics Co., Ltd.**



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