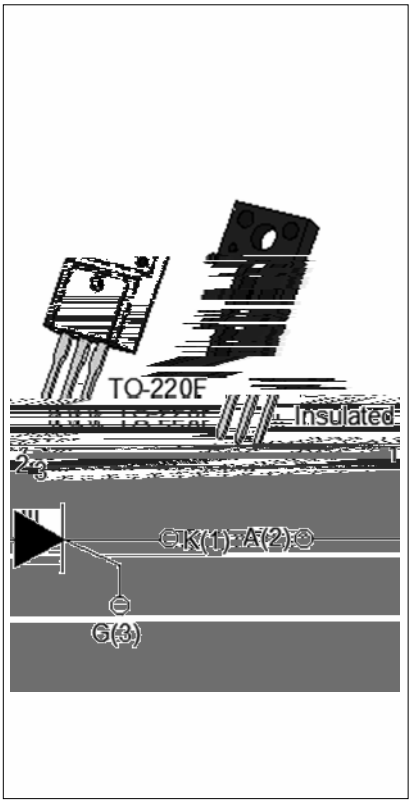
DESCRIPTION:

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.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	40	A
V_{DRM}/V_{RRM}	600	V
I_{GT}	≤35	mA

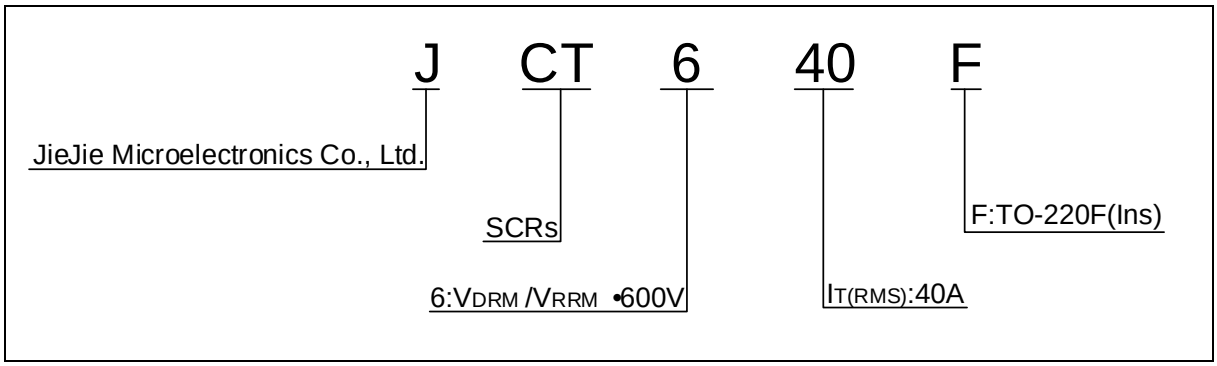
ABSOLUTE MAXIMUM RATINGS

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}	600	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	600	V
Average on-state current ($T_C \leq 56$)	$I_{T(AV)}$	25	A
RMS on-state current ($T_C \leq 56$)	$I_{T(RMS)}$	40	A
Non repetitive surge peak on-state current (t_p=10ms, T_j=25)	I_{TSM}	500	A
Non repetitive surge peak on-state current (t_p=8.3ms, T_j=25)		540	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	1250	A^2s
Critical rate of rise of on-state current (I_G=2 × I_{GT}, f=100Hz , T_j=125)	dI/dt	150	A/μs

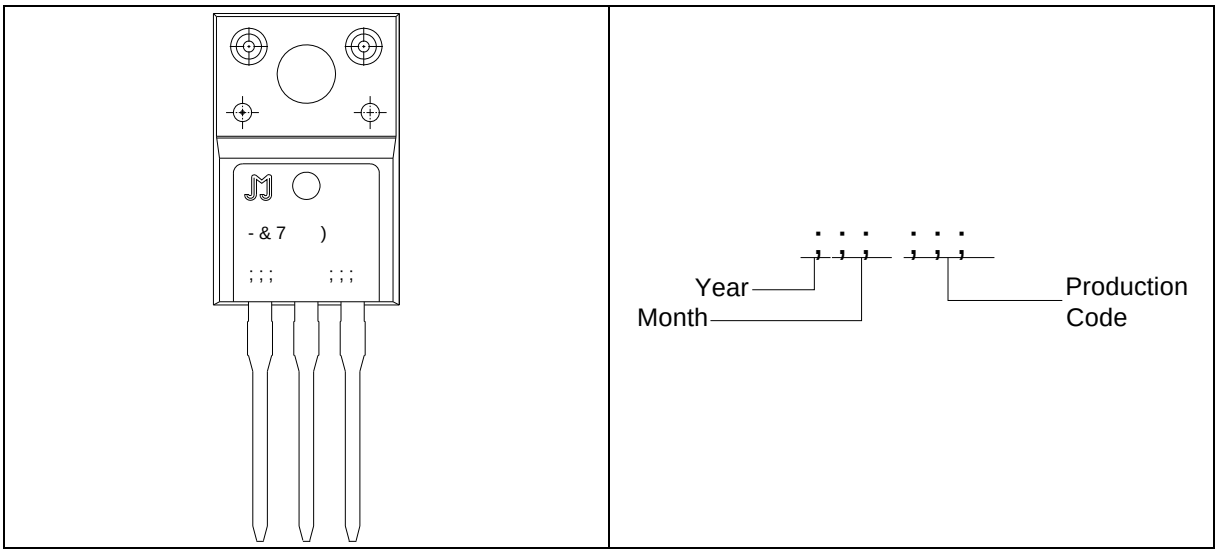
Peak gate current (t_p=20μs , T_j=125)	I_{GM}	10	A
Average gate power dissipation (T_j=125)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	20	W
Peak pulse voltage (T_j=25 ; non-repetitive,off-state;FIG.7)	V_{pp}	0.5	kV

=25 unless otherwise specified)

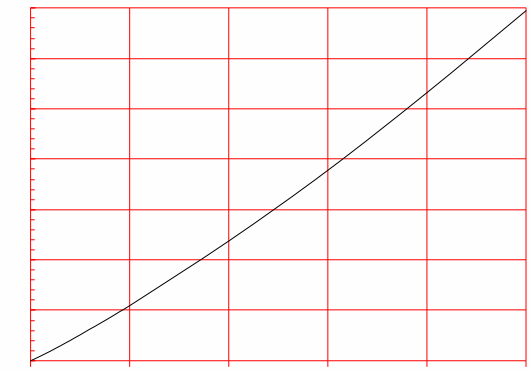
ORDERING INFORMATION



MARKING



Maximum power dissipation versus RMS on-state current



RMS on-state current versus case temperature

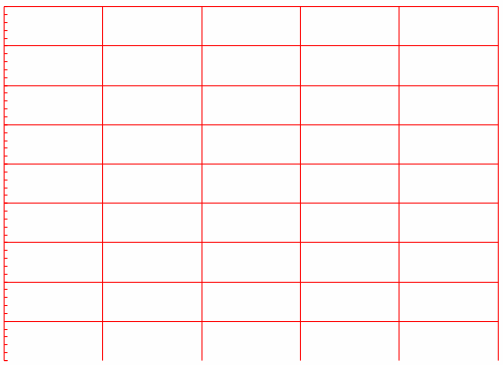
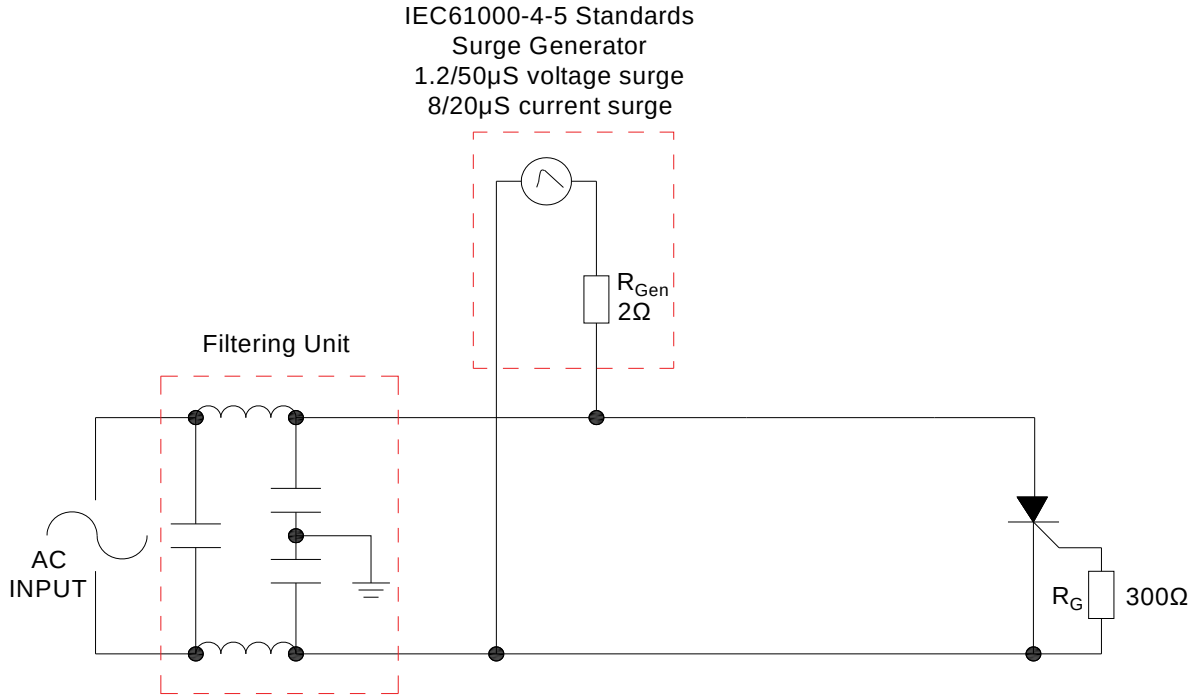


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



LEAD FORMING AND SOLDERING

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

ORDERING INFORMATION

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

PACKAGE MECHANICAL DATA