

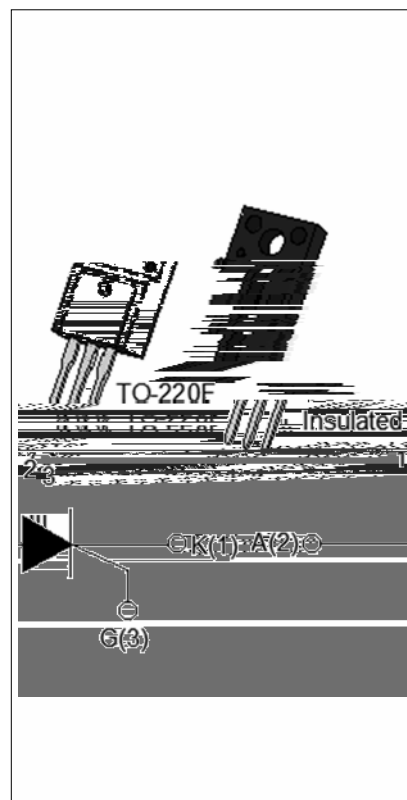


## DESCRIPTION:

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 ( $T_j=25^\circ C$ )	$V_{DRM}$	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	$A/\mu s$



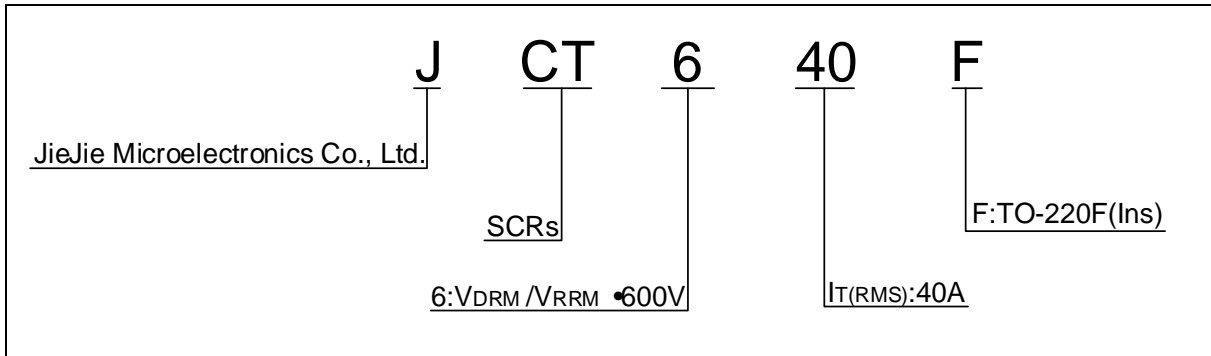
Peak gate current ( $t_p=20\mu s$ , $T_j=125$ )	$I_{GM}$	10	A
Average gate power dissipation ( $T_j=125$ )	$P_{G(AV)}$	1	W
Peak gate power	$P_{GM}$	20	W
Peak pulse voltage ( $T_j=25$ ; non-repetitive,off-state;FIG.7)	$V_{pp}$	0.5	kV

=25 unless otherwise specified)

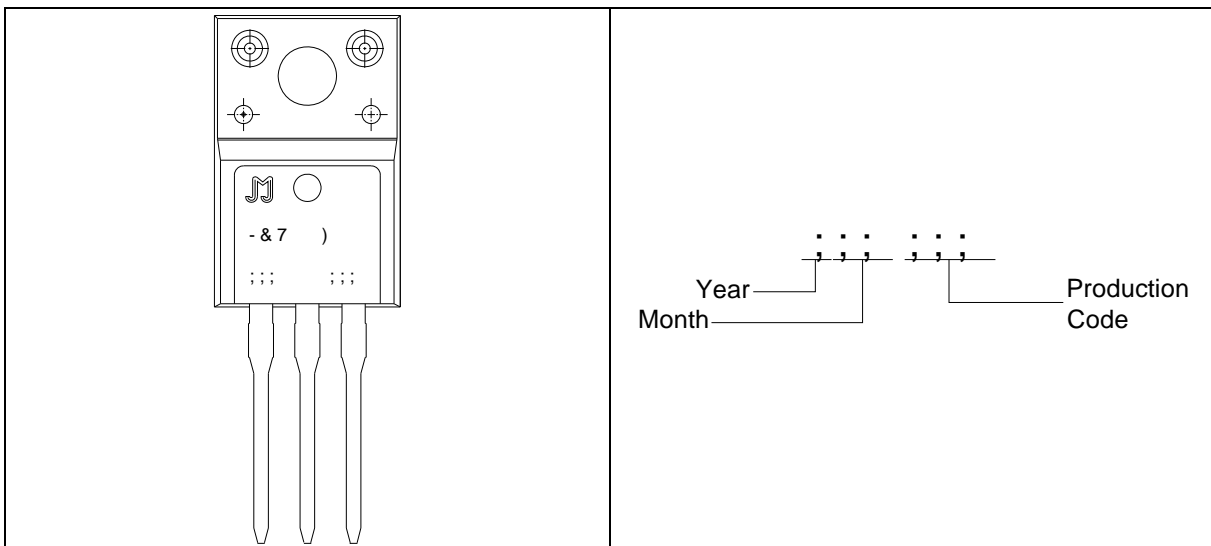
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## ORDERING INFORMATION

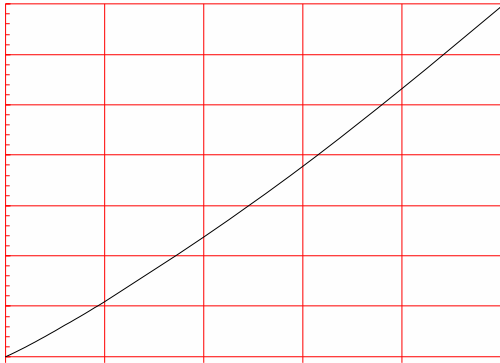


## MARKING





Maximum power dissipation versus  
RMS on-state current



RMS on-state current versus case  
temperature

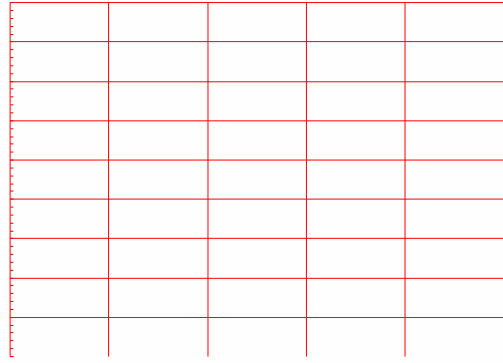
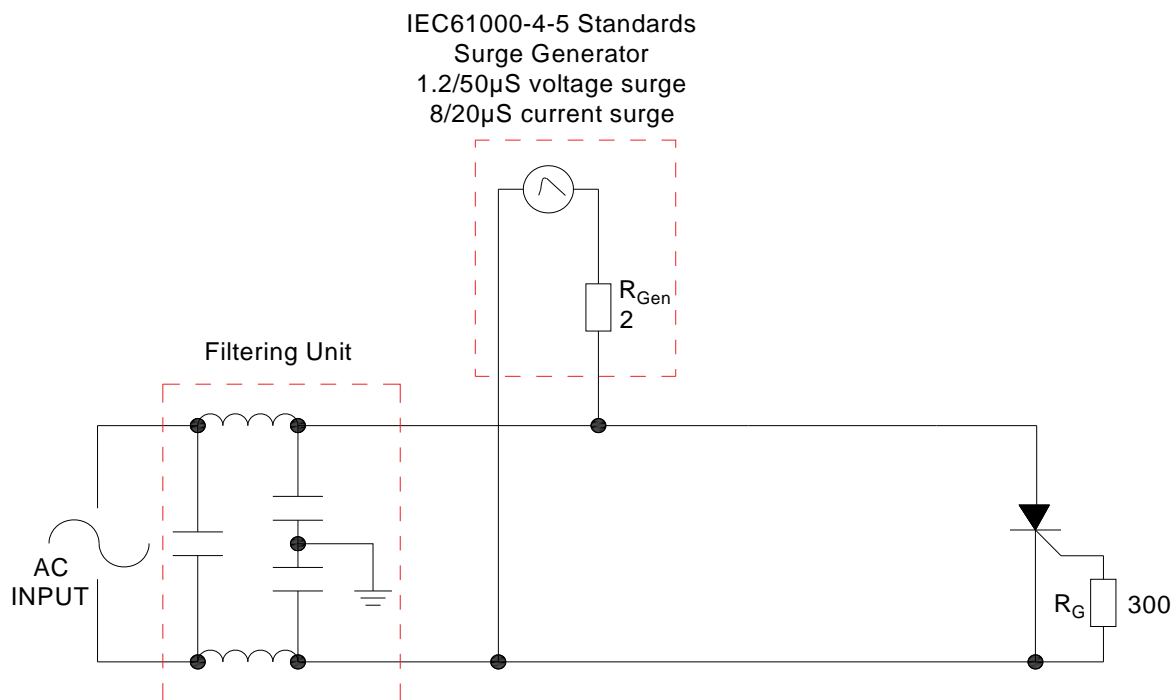




FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



## LEAD FORMING AND SOLDERING

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



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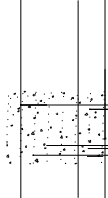
## ORDERING INFORMATION


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



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PACKAGE MECHANICAL DATA





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