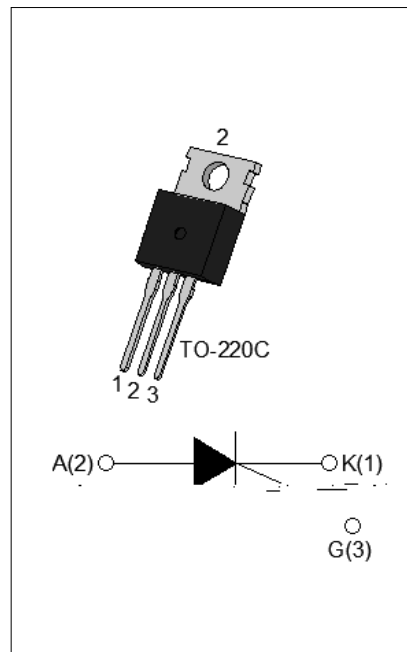




With high ability to withstand the shock loading of large current, JCT625C SCR provides high  $dV/dt$  rate with strong resistance to electromagnetic interference. It is especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc. Package TO-220C is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	25	A
$V_{DRM}/V_{RRM}$	600	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 ( $T_j=25^\circ C$ )	$V_{DRM}$	600	V
Repetitive peak reverse voltage ( $T_j=25^\circ C$ )	$V_{RRM}$	600	V
Average on-state current ( $T_c = 102^\circ C$ )	$I_{T(AV)}$	16	A
RMS on-state current ( $T_c = 102^\circ C$ )	$I_{T(RMS)}$	25	A
Non repetitive surge peak on-state current ( $t_p=10ms, T_j=25^\circ C$ )	$I_{TSM}$	320	A
Non repetitive surge peak on-state current ( $t_p=8.3ms, T_j=25^\circ C$ )		352	
$I^2t$ value for fusing ( $t_p=10ms, T_j=25^\circ C$ )	$I^2t$	512	$A^2s$
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}, f=100Hz, T_j=125^\circ C$ )	$di/dt$	200	$A/s$
Peak gate current ( $t_p=20 \mu s, T_j=125^\circ C$ )	$I_{GM}$	5	A
Average gate power dissipation ( $T_j=125^\circ C$ )	$P_{G(AV)}$	1	W

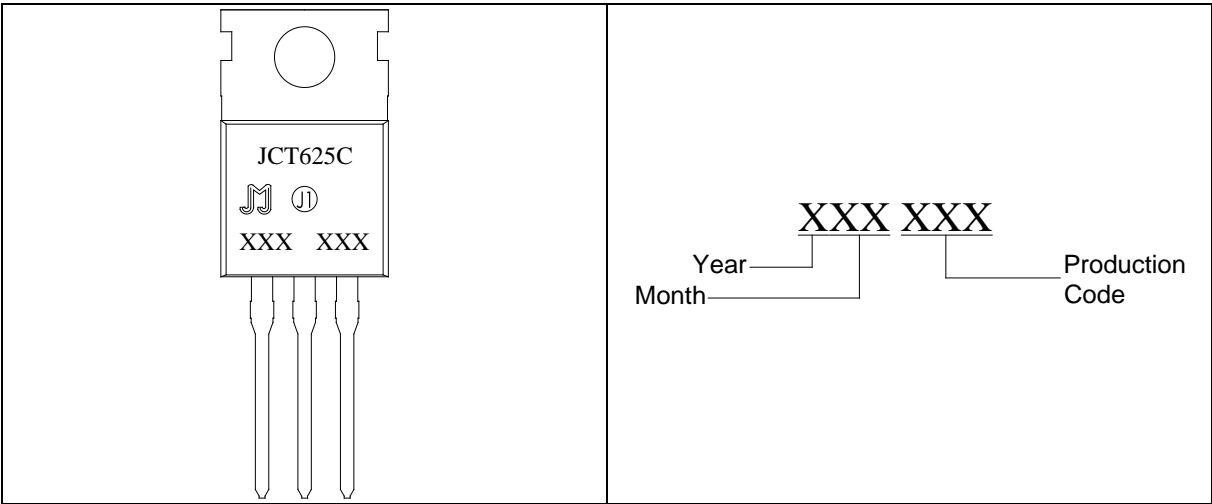
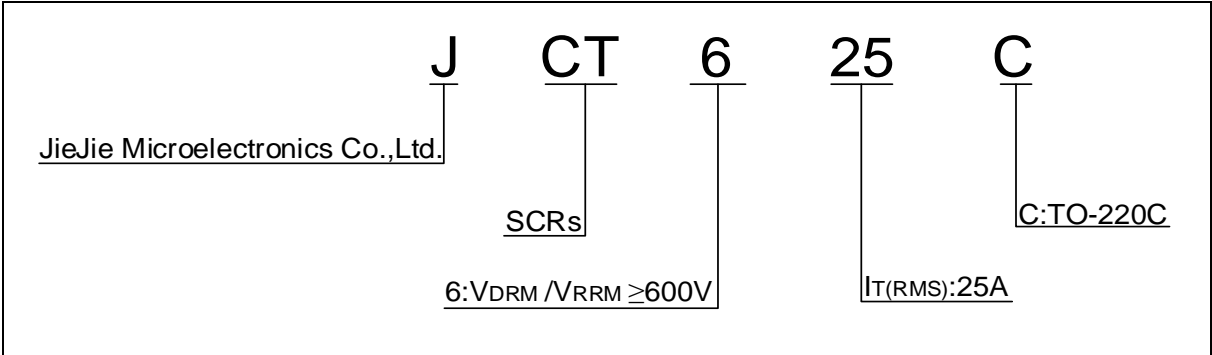
Peak gate power	$P_{GM}$	20	W
Peak pulse voltage ( $T_j=25$ ; non-repetitive,off-state;FIG.7)	$V_{pp}$	0.5	kV

( $T_j=25$  unless otherwise specified)

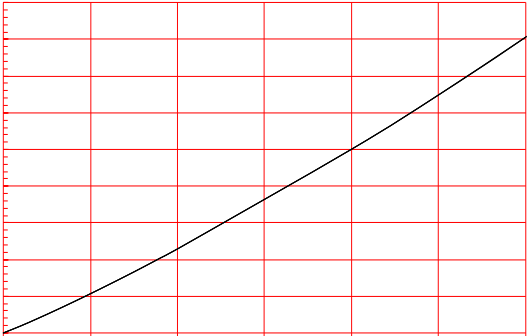
Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
$I_{GT}$	$V_D=12V R_L=33$	-	-	20	mA
$V_{GT}$		-	-	1	V
$V_{GD}$	$V_D=V_{DRM} T_j=125 R_L=3.3K$	0.2	-	-	V
$I_L$	$I_G=1.2I_{GT}$	-	-	70	mA
$I_H$	$I_T=500mA$	-	-	60	mA
dV/dt	$V_D=400V$ Gate Open $T_j=125$	1200	-	-	V s
$t_{on}$	$I_G=20mA I_A=200mA I_R=20mA$ $T_j=25$	-	2	-	s
$t_{off}$		-	50	-	

Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_{TM}=50A t_p=380 s$	$T_j=25$	1.5	V
$V_{TO}$	Threshold voltage	$T_j=125$	0.72	V
$R_D$	Dynamic resistance	$T_j=125$	16	
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	A
$I_{RRM}$		$T_j=125$	0.5	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case(DC)	0.7	$\text{/W}$
$R_{th(j-a)}$	junction to ambient (DC)	43	$\text{/W}$



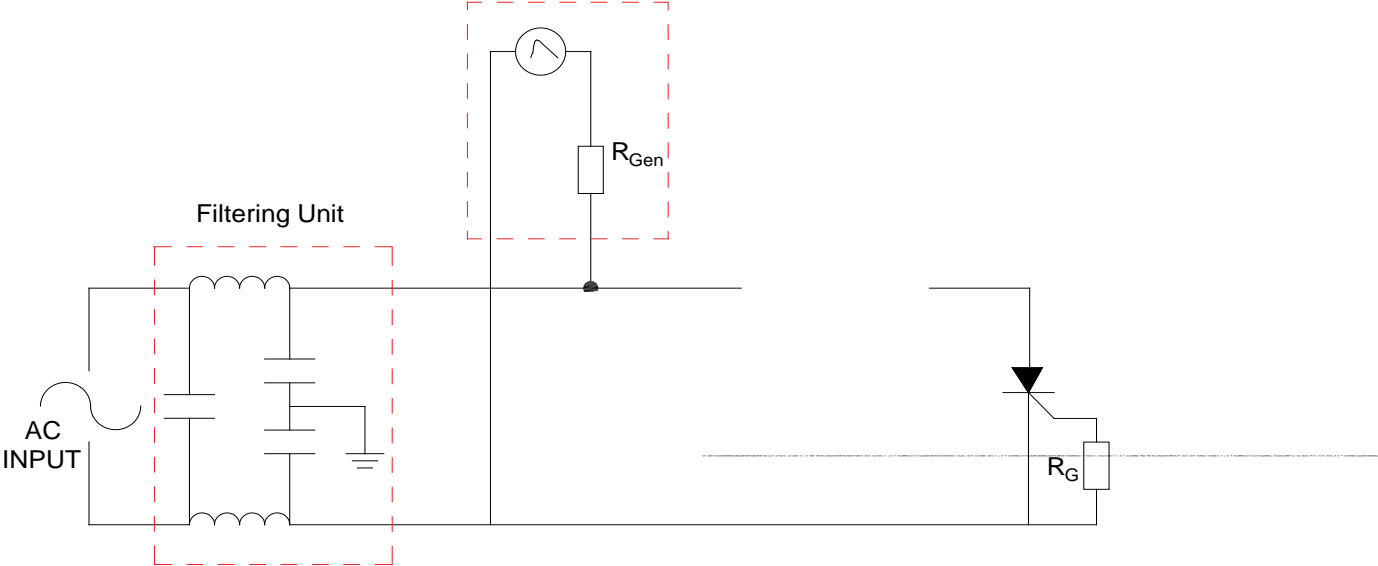
**FIG.1** Maximum power dissipation versus RMS on-state current



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

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

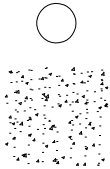
IEC61000-4-5 Standards  
Surge Generator



Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT625C	600	20	TO-220C	50	Tube

**Document Revision History**

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



Information furnished in this document is believed to be accurate and reliable.

However, Jiangsu JieJie Microelectronics Co., Ltd. assumes no responsibility for any errors or omissions.