

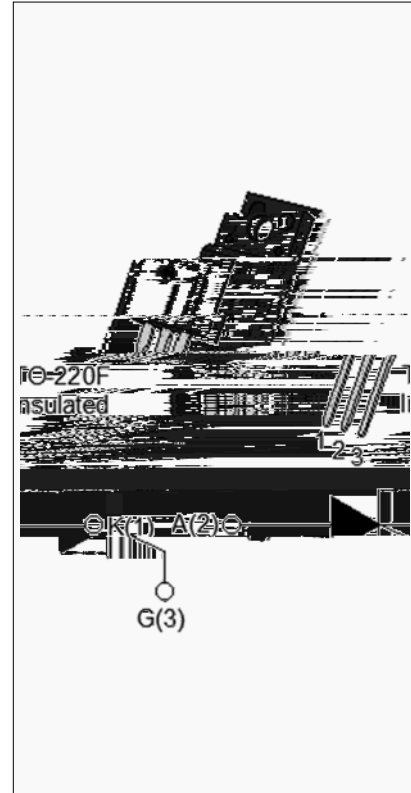


DESCRIPTION:

With high ability to withstand the shock loading of large current, JCT625F 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, JCT625F 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
$I_{T(RMS)}$	25	A
V_{DRM}/V_{RRM}	600	V
I_{GT}	≤ 20	mA



ABSOLUTE MAXIMUM RATINGS

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 ($T_c \leq 60^\circ C$)	$I_{T(AV)}$	16	A
RMS on-state current ($T_c \leq 60^\circ C$)	$I_{T(RMS)}$	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	$A/\mu s$

Peak gate current ($t_p=20\mu s$, $T_j=125$)	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

ELECTRICAL CHARACTERISTICS ($T_j=25$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12V$ $R_L=33\Omega$	-	-	20	mA
V_{GT}		-	-	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125$ $R_L=3.3k\Omega$	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/ μs
t_{on}	$I_G=20mA$ $I_A=200mA$ $I_R=20mA$ $T_j=25$	-	2	-	μs
t_{off}		-	50	-	

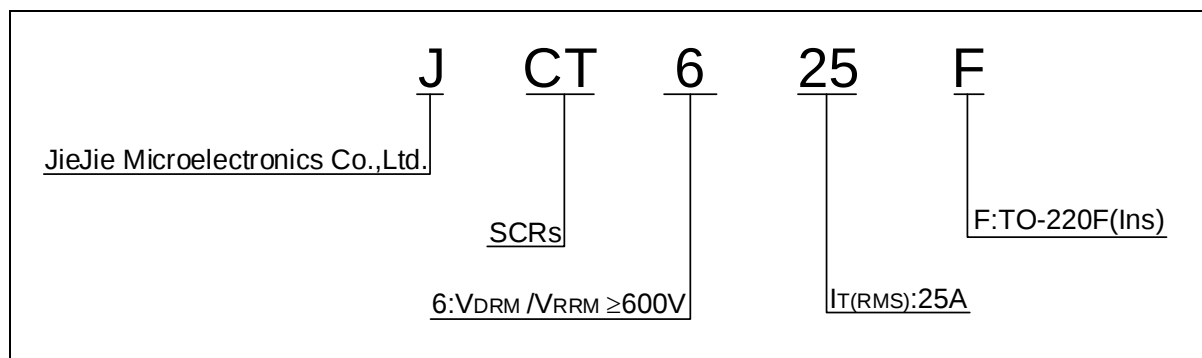
STATIC CHARACTERISTICS

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

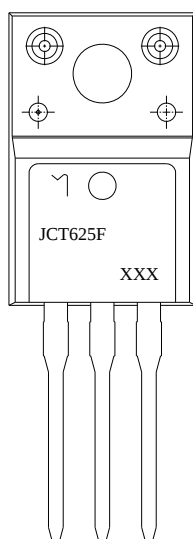
THERMAL RESISTANCES

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

ORDERING INFORMATION



MARKING



ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT625F	600	20	TO-220F(Ins)	50	Tube

Document Revision History

Date	
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PACKAGE MECHANICAL DATA



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