



JCT610F 10A SCR

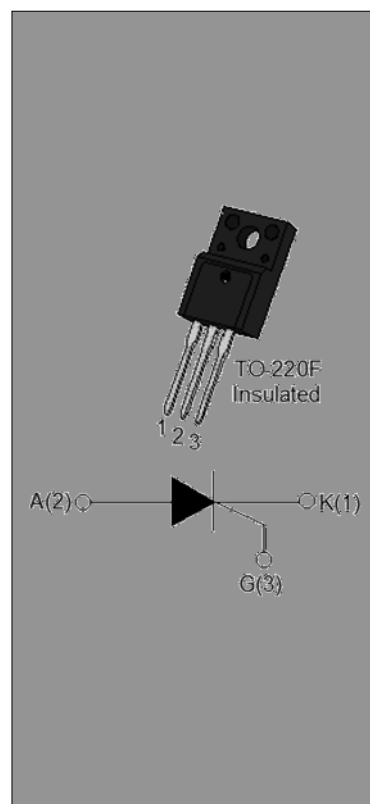
Rev.A.1.1

^ Z / W d / K E W

With high ability to withstand the shock loading of large current, JCT610F of silicon controlled rectifiers 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, JCT610F provides a rated insulation voltage of 2000 V_{RMS} , complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.

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Symbol	Value	Unit
$I_{T(RMS)}$	10	A
V_{DRM}/V_{RRM}	600	V
I_{GT}	≤ 10	mA



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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 ($T_c=85^\circ C$)	$I_{T(AV)}$	6.5	A
RMS on-state current ($T_c=85^\circ C$)	$I_{T(RMS)}$	10	A
Non repetitive surge peak on-state current ($t_p=10ms, T_j=25^\circ C$)	I_{TSM}	110	A
Non repetitive surge peak on-state current ($t_p=8.3ms, T_j=25^\circ C$)		120	
I^2t value for fusing ($t_p=10ms, T_j=25^\circ C$)	I^2t	61	A^2s
Critical rate of rise of on-state current ($I_G=2mA, f=100Hz, T_j=125^\circ C$)	di/dt	100	$A/\mu s$



Peak gate current (tp=20μs , Tj=125)	I GM	4	A
Average gate power dissipation (Tj=125)	P G(AV)	1	W
Peak gate power	P GM	10	W
Peak pulse voltage (Tj=25 ; non-repetitive,off-state;FIG.7)	V pp	0.7	kV

> d Z / > , Z d Z T=25 /unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I GT	V D=12V R L (T				

JCT610F



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SCRs

6:V_{DRM} /V_{RRM} 1 600V

F:TO-220F(Ins)

I_{T(RMS)}:10A

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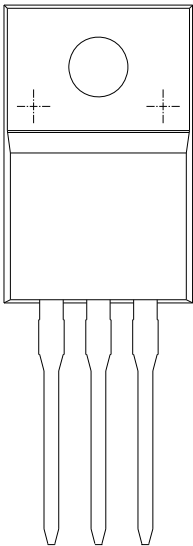




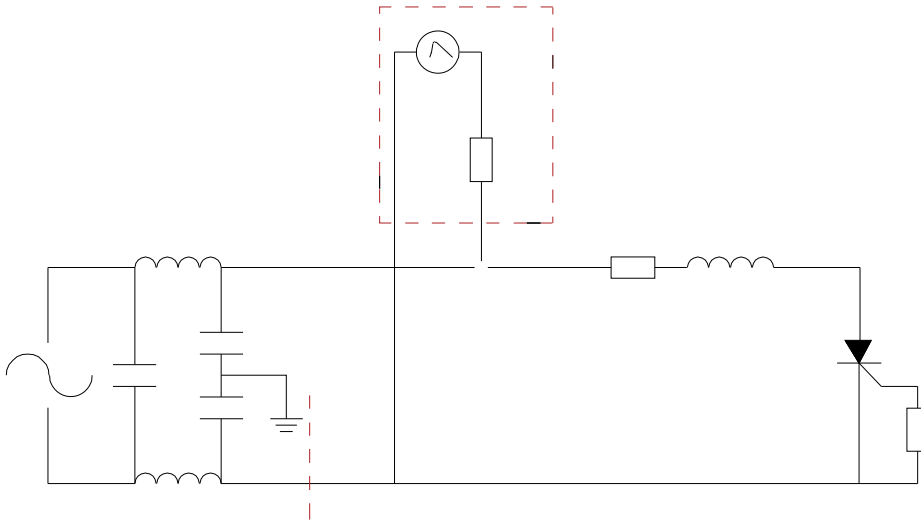
FIG.1: Maximum power dissipation versus RMS on-state current



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



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





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Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JCT610F	600	10	TO-220F(Ins)	50	Tube

Document Revision History

Date	Revision	Changes
Apr.13, 2023	A.1.0	Last update
Sept.28, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA

JCT610F



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