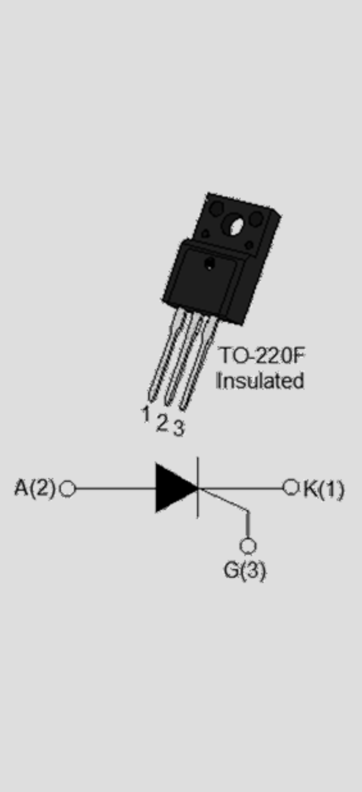
JCT610F 10A SCR

Rev.A.1.1

^ Z/Wd/KEW

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)	V_{DRM}	600	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	600	V
Average on-state current (T_C 085)	$I_{T(AV)}$	6.5	A
RMS on-state current (T_C 085)	$I_{T(RMS)}$	10	A
Non repetitive surge peak on-state current (t_p=10ms, T_j=25)	I_{TSM}	110	A
Non repetitive surge peak on-state current (t_p=8.3ms, T_j=25)		120	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	61	A^2s
Critical rate of rise of on-state current (I_G=2 hI $_{GT}$, f=100Hz , T_j=125)	dI/dt	100	A/μs

Peak gate current (t_p=20μs , T_j=125)	I_{GM}	4	A
Average gate power dissipation (T_j=125)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	10	W
Peak pulse voltage (T_j=25 ; non-repetitive,off-state;FIG.7)	V_{pp}	0.7	kV

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Symbol	**Test Condition**	**Value**			**Unit**
		MIN.	**TYP.**	**MAX.**	
I_{GT}	V_D=12V R_L (T				

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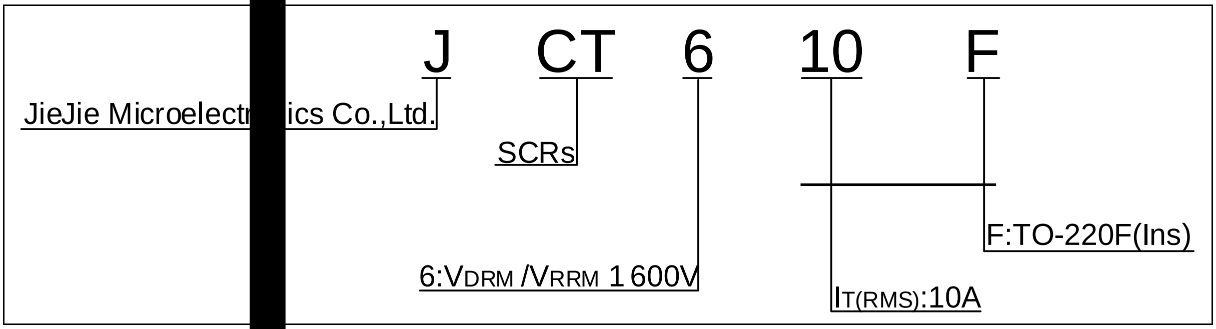

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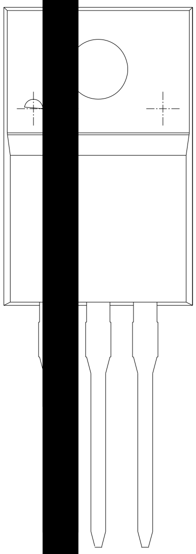
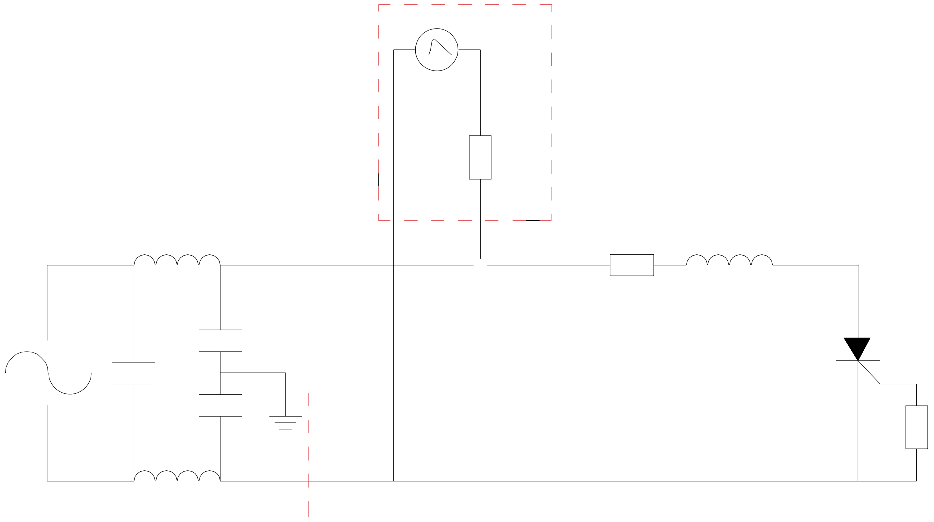


FIG.1: Maximum power dissipation versus RMS on-state current

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

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



KZ Z/E' /E&KZD d/KE

Order code	Voltage V_{DRM}/V_{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

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