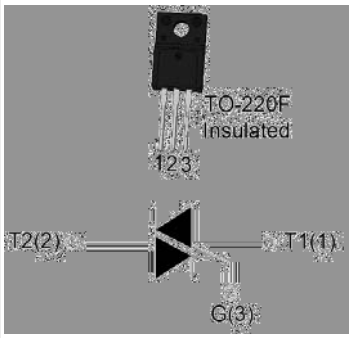
JST12F-600CW 12A TRIAC

Rev.A.1.1

The JST12F-600CW triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. JST12F-600CW snubberless triac is especially recommended for use on inductive loads. By using an external plastic package, JST12F-600CW provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	12	A
V_{DRM} /V_{RRM}	600	V
I_{GT} / /	35/35/35	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)	V_{DRM}	600	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	600	V
RMS on-state current (T_C 85)	$I_{T(RMS)}$	12	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	120	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		132	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	72	A^2s
Critical rate of rise of on-state current (I_G=2 I_{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)	$P_{G(AV)}$	0.5	W

Peak gate power	P_{GM}	10	W
Peak pulse voltage (T_j=25 ; non-repetitive,off-state;FIG.7)	V_{pp}	4.5	kV

J ST 12 F -600 CW

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

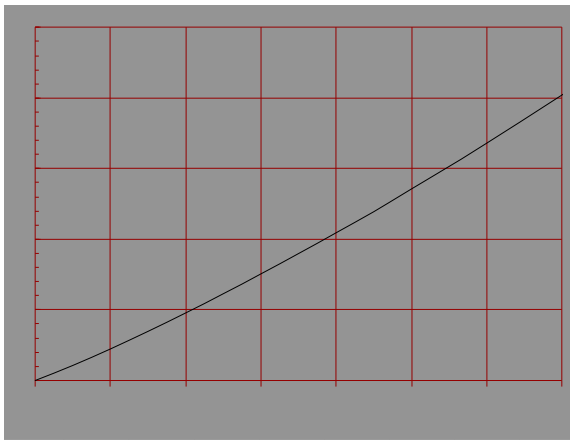


FIG.2: RMS on-state current versus case temperature

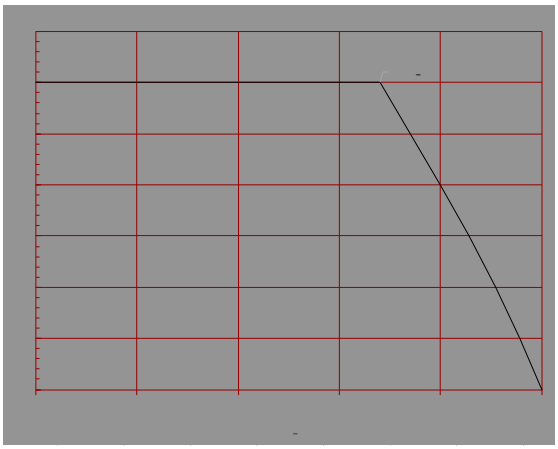


FIG.3: Surge peak on-state current versus number of cycles

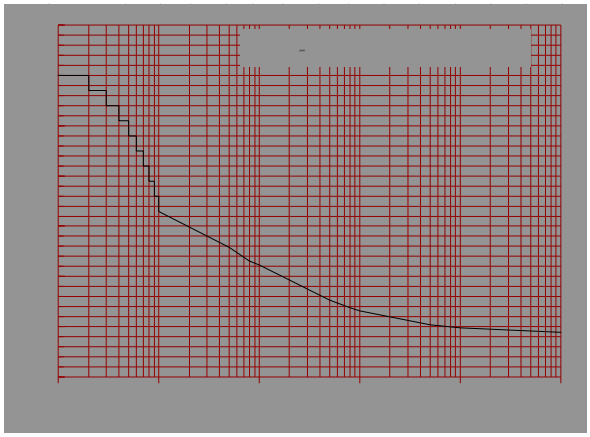


FIG.4: On-state characteristics

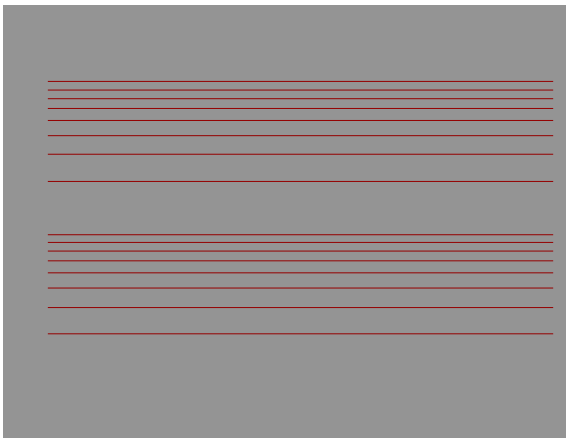
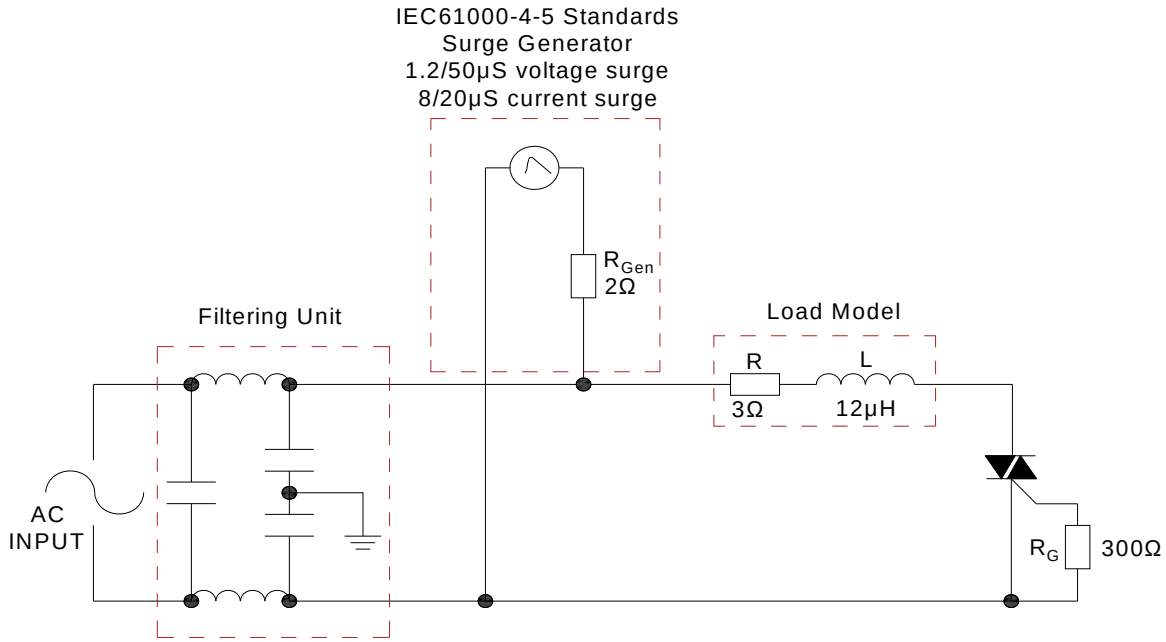


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



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

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		H- I- J			
JST12F-600CW	600	35	TO-220F(Ins)	50	Tube

Document Revision History

Date	Revision	Changes
Apr.11, 2023	A.1.0	Last updated
Oct.13, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA



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