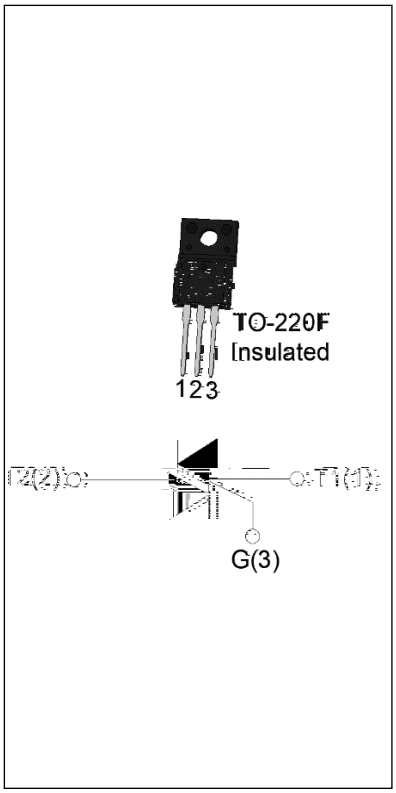
JST24F-600BW 25A TRIAC

Rev.A.1.1

DESCRIPTION:

The JST24F-600BW 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. JST24F-600BW snubberless triac is especially recommended for use on inductive loads. By using an external plastic package, JST24F-600BW provides a rated insulation voltage of 2000 VRMS, 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} / /	50/50/50	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)	V_{DRM}	600	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	600	V
RMS on-state current ($T_C \leq$ 72)	$I_{T(RMS)}$	25	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	250	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		275	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	340	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}	2.5	kV

ELECTRICAL CHARACTERISTICS(T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	V_D =12V R_L =33Ω	- -	MAX.	50	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	V_D =V_{DRM} T_j=125 R_L =3.3kΩ	- -	MIN.	0.2	V
I_L	I_G=1.2I_{GT}	-	MAX.	80	mA
				100	
I_H	I_T =500mA		MAX.	75	mA
dV/dt	V_D=400V Gate Open T_j=125		MIN.	2500	V/μs
(dI/dt)c	(dV/dt)c=20V/μs T_j=125		MIN.	25	A/ms
t_{on}	I_G=80mA I_A=400mA I_R=40mA T_j=25		TYP.	10	μs
t_{off}				70	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM} =35A t_p=380μs	T_j=25	1.5	V
V_{TO}	Threshold voltage	T_j=125	0.75	V
R_D	Dynamic resistance	T_j=125	18	mΩ
I_{DRM}	V_D=$V_{DRM}$$V_R$ =V_{RRM}	T_j=25	5	μA
I_{RRM}		T_j=125	1.5	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit

ORDERING INFORMATION

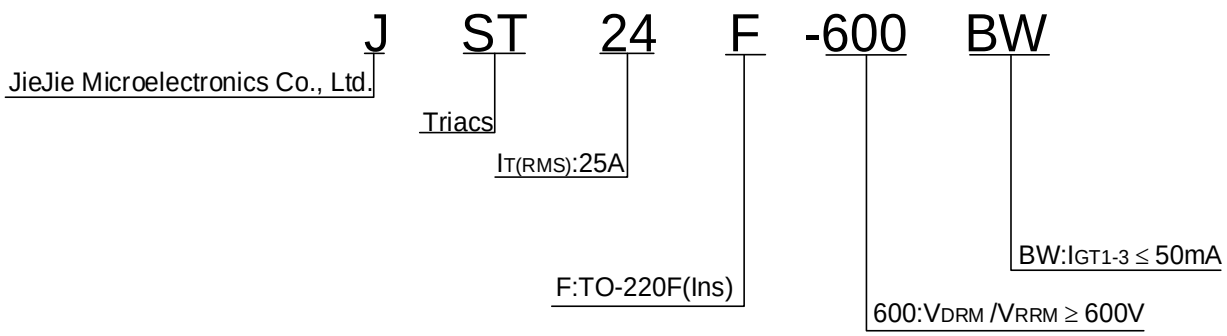
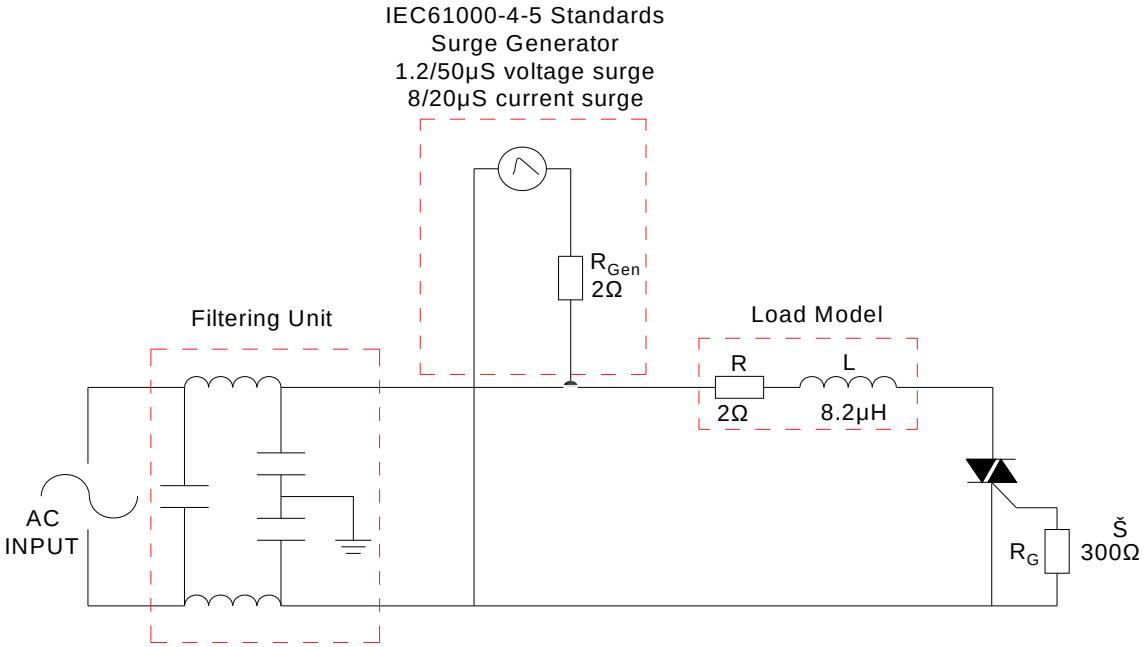


FIG.1: Maximum power dissipation versus RMS on-state current

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

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



ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM}(V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
JST24F-600BW	600	50	TO-220F(Ins)	50	Tube

Document Revision History

Date	Revision	Changes
Apr.12, 2023	A.1.0	Last updated
Oct.13, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA

PACKAGE MECHANICAL DATA } Ł V ű ƨ H } A Ų 3

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