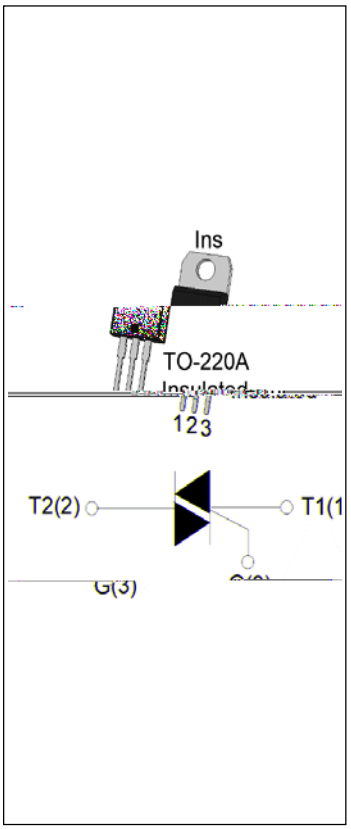
JST12A-600BW 12A TRIAC

Rev.A.1.0

The JST12A-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. JST12A-600BW snubberless triac is especially recommended for use on inductive loads. By using an internal ceramic pad, JST12A-600BW provides a rated insulation voltage of 2500 VRMS, complying with UL standards (File ref: E252906). Package TO-220A is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	12	A
V_{DRM} /V_{RRM}	600	V
I_{GT} / /	50/50/50	mA

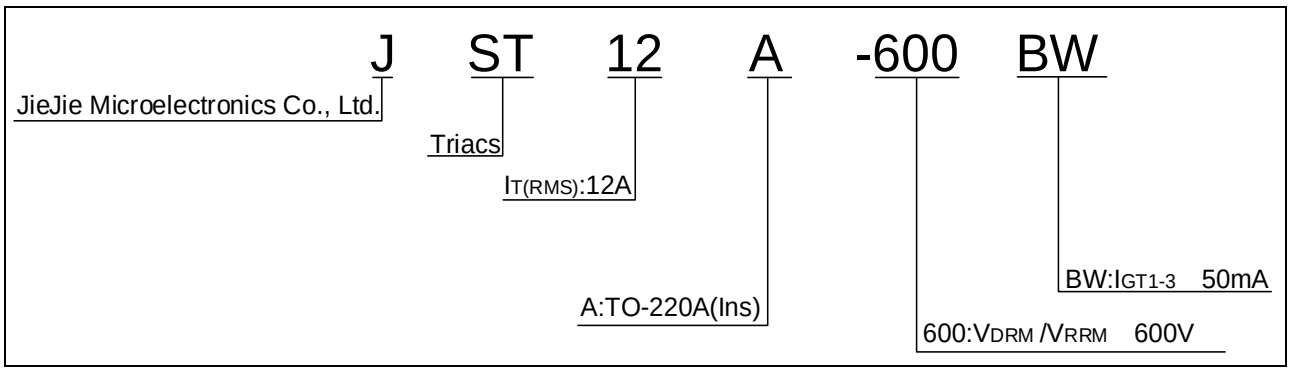
Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-125	
Repetitive peak off-state voltage (T_j=25)	V_{DRM}	600	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	600	V
RMS on-state current (T_C 86)	$I_{T(RMS)}$	12	A
Non repetitive 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 s
Peak gate current (t_p=20 s , 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

(T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	V_D =12V R_L =33	- -	MAX.	50	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	V_D =V_{DRM} T_j =125 R_L =3.3K	- -	MIN.	0.2	V
I_L	I_G =1.2I_{GT}	-	MAX.	70	mA
				90	
I_H	I_T =500mA		MAX.	50	mA
dV/dt	V_D=400V Gate Open T_j =125		MIN.	2000	V s
(dI/dt)c	j=125		MIN.	20	A/ms
t_{on}	I_G=80mA I_A=400mA I_R=40mA T_j=25		TYP.	5	s
t_{off}				50	

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM} =17A t_p=380 s	T_j=25	1.5	V
V_{TO}	Threshold voltage	T_j=125	0.77	V
R_D	Dynamic resistance	T_j=125	35	
I_{DRM}	V_D =V_{DRM} V_R =V_{RRM}	T_j=25		


J
ST
12
A
-600
BW
JieJie Microelectronics Co., Ltd.
Triacs
IT(RMS):12A
A:TO-220A(Ins)
BW:IGT1-3 50mA
600:VDRM /VRRM 600V

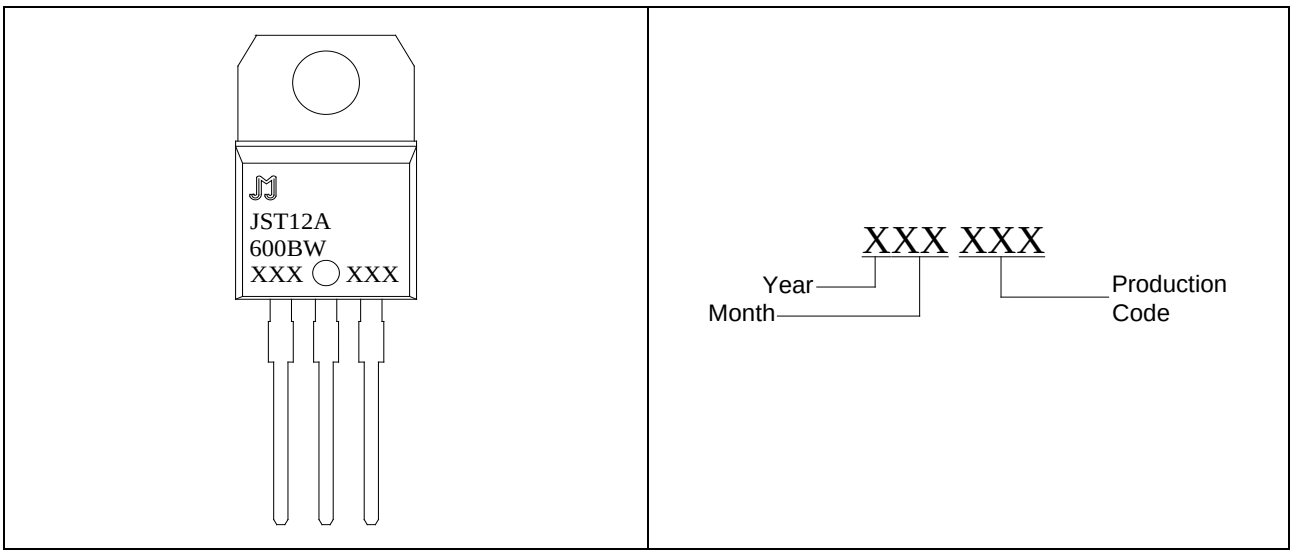
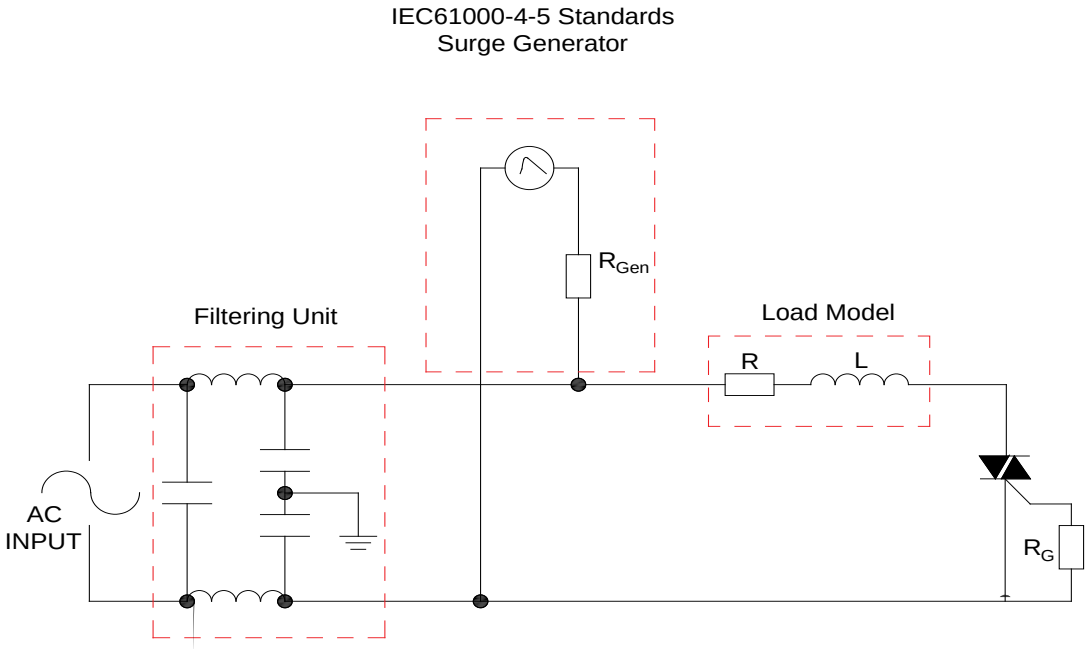

JST12A
600BW
XXX XXX
XXX XXX
Year
Month
Production
Code

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



Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode

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