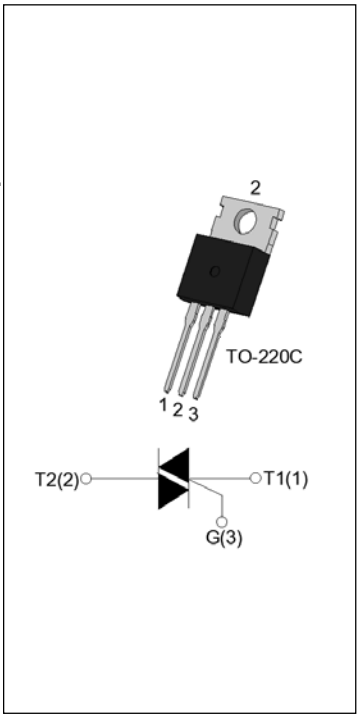
JST10C-600BW 10A TRIAC

Rev.A.1.1

DESCRIPTION:

The JST10C-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. JST10C-600BW snubberless triac is especially recommended for use on inductive loads. From T2 terminals to external heatsink. Package TO-220C is RoHS compliant.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	10	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 010 6)	$I_{T(RMS)}$	10	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	100	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		110	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	50	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

ELECTRICAL CHARACTERISTICS (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.	60	mA
dV/dt	V_D=400V Gate Open T_j =125		MIN.	2000	V s
(dI/dt)c	G 9 G W F j=125 V 7		MIN.	15	A/ms
t_{on}	I_G=80mA I_A=400mA I_R=40mA T_j=25		TYP.	5	s
t_{off}				50	

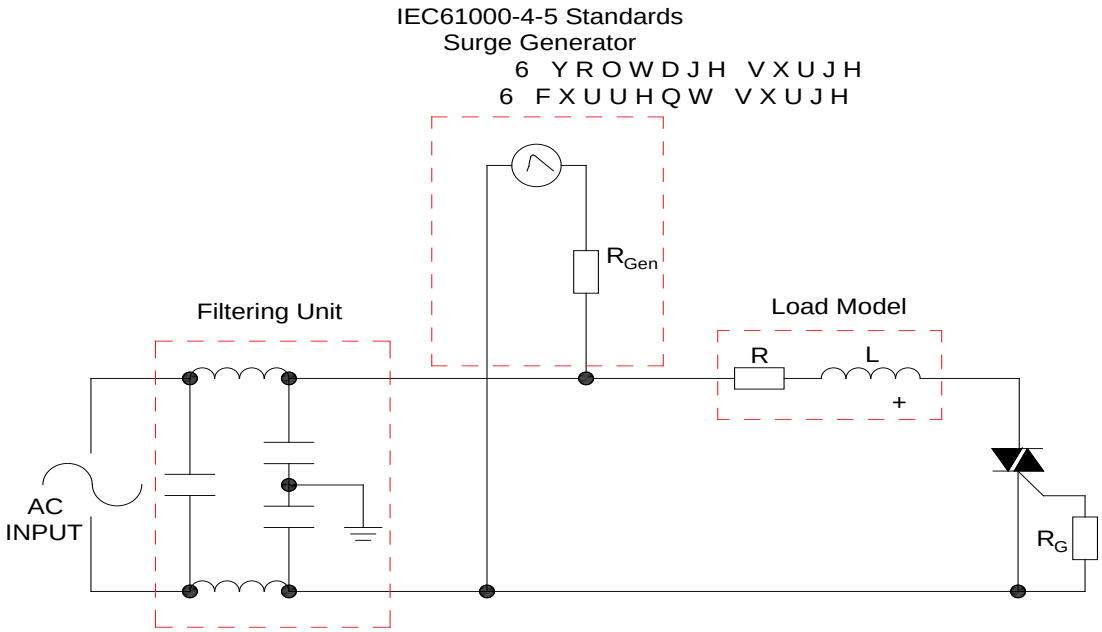
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX .)	Unit
V_{TM}	I_{TM} =16A t_p=380 s	T_j=25	1.5	V
V_{TO}	Threshold voltage	T_j=125	0.77	V

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

FIG.2: RMS on-state current versus case temperature 1012141618024681012P (W)IT(R M

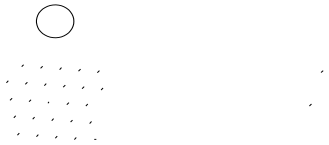
FIG.7 ÖTest circuit for inductive and resistive loads to IEC-61000-4-5 standards



LEAD FORMING AND SOLDERING

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

PACKAGE MECHANICAL DATA



JST10C-600BW