JST30A-1600BW 30A TRIAC

Rev.A.1.1

DESCRIPTION:

The JST30A-1600BW 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. JST30A-1600BW snubberless triac is especially recommended for use on inductive loads. By using an internal ceramic pad, JST30A-1600BW provides a rated insulation voltage of 2500 VRMS, complying with UL standards (File ref: E252906). Package TO-220A is RoHS compliant.

MAIN FEATURES

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}	1600	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	1600	V
RMS on-state current (T_C 067)	$I_{T(RMS)}$	30	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	300	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		330	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	450	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 A

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 =33	- -	MAX.	50	mA
V_{GT}		- -	MAX.	1.3	V
V_{GD}	V_D =V_{DRM} T_j =125 R_L =3.3k	- -	MIN.	0.15	V
I_L	I_G =1.2I_{GT}	-	MAX.	90	mA
				100	
I_H	I_T =500mA		MAX.	80	mA
dV/dt	V_D=1070V Gate Open T_j =125		MIN.	1200	V s
(dI/dt)c	G 9 G W F j=125 V 7		MIN.	28	A/ms
t_{on}	I_G=80mA I_A=400mA I_R=40mA T_j=25		TYP.	10	s
t_{off}				70	

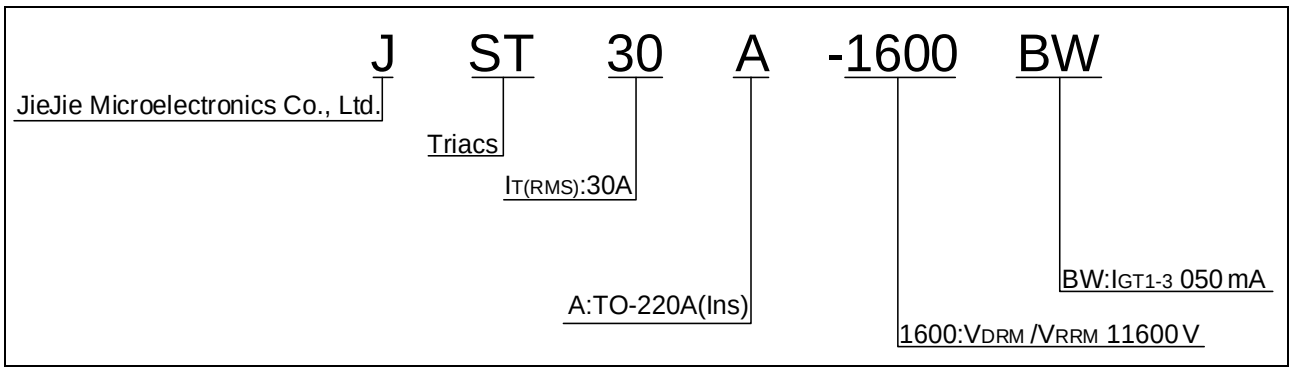
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX .)	Unit
V_{TM}	I_{TM} =42A t_p=380 s	T_j=25	1.8	V
V_{TO}	Threshold voltage	T_j=125	0.77	V
R_D	Dynamic resistance	T_j=125	35	m
I_{DRM}	V_D =V_{DRM} V_R =V_{RRM}	T_j=25	20	A
I_{RRM}		T_j=125	8	mA

THERMAL RESISTANCES

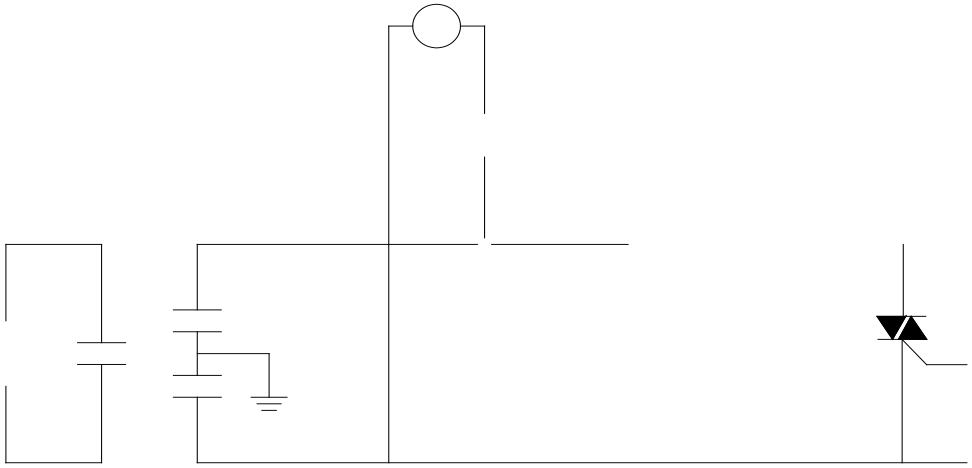
Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	1.2	/W
$R_{th(j-a)}$	junction to ambient (AC)	60	/W

ORDERING INFORMATION



MARKING

FIG.7 ÖTest 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
		H- I- J			
JST30A-1600BW	1600	50	TO-220A(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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