

## 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 ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	1600	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	1600	V
RMS on-state current ( $T_c=67^\circ\text{C}$ )	$I_{T(RMS)}$	30	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I_{TSM}$	300	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$ , $T_j=25^\circ\text{C}$ )		330	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I^2t$	450	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ , $f=100\text{Hz}$ , $T_j=125^\circ\text{C}$ )	$di/dt$	100	$\text{A/s}$

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 (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
$(dI/dt)_c$	$I_G=90mA I_A=400mA I_R=40mA$ $T_j=125 V=7$		MIN.	28	A/ms
$t_{on}$	$I_G=80mA I_A=400mA I_R=40mA$ $T_j=25$		TYP.	10	s
$t_{off}$				70	

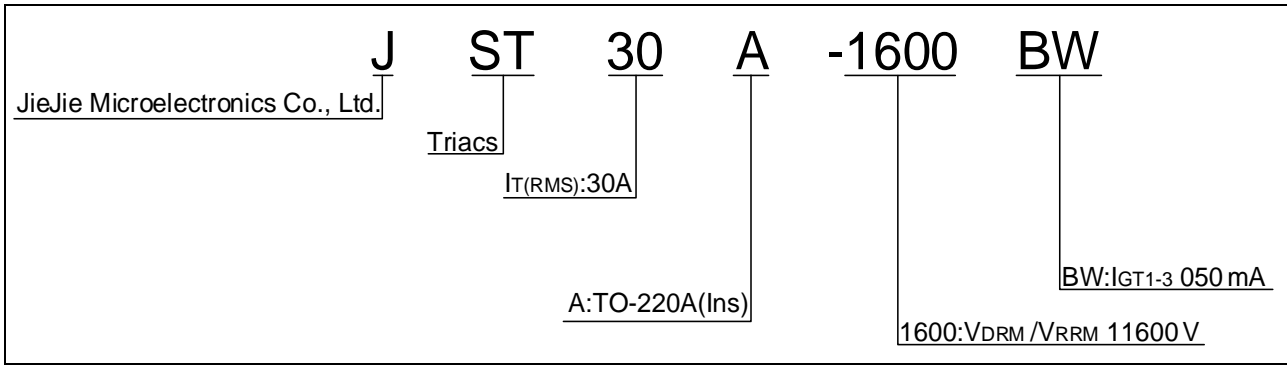
### STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_{TM}=42A t_p=380 \mu s$	$T_j=25$	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	$^{\circ}W$
$R_{th(j-a)}$	junction to ambient (AC)	60	$^{\circ}W$

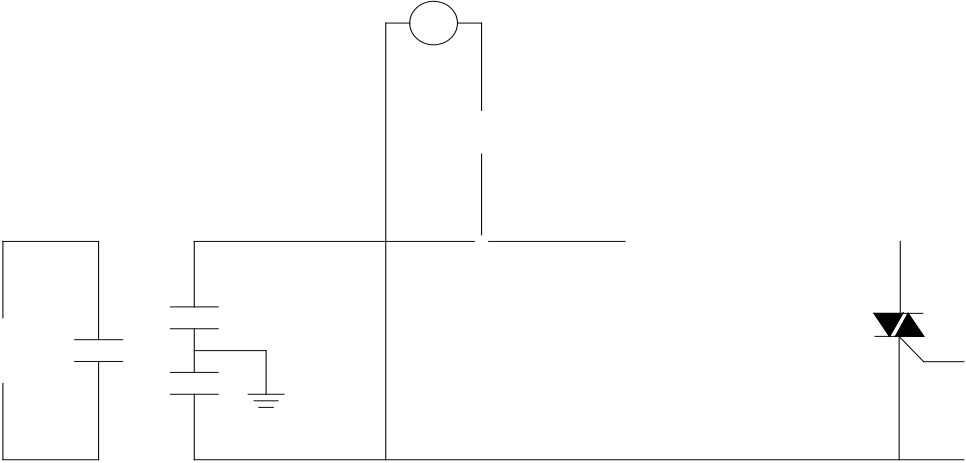
ORDERING INFORMATION



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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