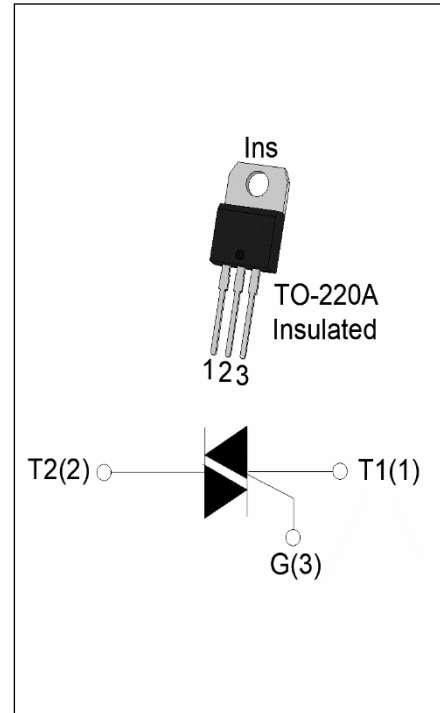


**JST16A-800B 16A TRIAC**

Rev.A.1.0

**DESCRIPTION:**

The JST16A-800B 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. By using an internal ceramic pad, JST16A-800B provides a rated insulation voltage of 2500 VRMS, complying with UL standards (File ref: E252906). Package TO-220A is RoHS compliant.


**MAIN FEATURES**

Symbol	Value	Unit
$I_{T(RMS)}$	16	A
$V_{DRM}/V_{RRM}$	800	V
$I_{GT} / / /$	50/50/50/70	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 ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	800	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	800	V
RMS on-state current ( $T_c = 80^\circ\text{C}$ )	$I_{T(RMS)}$	16	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I_{TSM}$	160	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$ , $T_j=25^\circ\text{C}$ )		176	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I^2t$	128	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 I_{GT}$ , $f=100\text{Hz}$ , $T_j=125^\circ\text{C}$ )	-	100	$\text{A}/\mu\text{s}$
	-	50	
Peak gate current ( $t_p=20\mu\text{s}$ , $T_j=125^\circ\text{C}$ )	$I_{GM}$	4	A
Average gate power dissipation ( $T_j=125^\circ\text{C}$ )	$P_{G(AV)}$	0.5	W
Peak gate power	$P_{GM}$	10	W

Peak pulse voltage ( $T_j=25$ ; non-repetitive,off-state;FIG.7)	$V_{pp}$	1	kV
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**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
				70	
$V_{GT}$		ALL	MAX.	1	V
$V_{GD}$	$V_D=V_{DRM} T_j=125$ $R_L=3.3K$	ALL	MIN.	0.2	V
$I_L$	$I_G=1.2I_{GT}$	- -	MAX.	70	mA
				100	
$I_H$	$I_T=500mA$		MAX.	60	mA
$dV/dt$	$V_D=540V$ Gate Open $T_j=125$		MIN.	1000	$V/\mu s$
$(dV/dt)_c$	$(dI/dt)_c=7A/ms, T_j=125$		MIN.	12	$V/\mu s$
$t_{on}$	$I_G=80mA I_A=400mA I_R=40mA$ $T_j=25$		TYP.	5	$\mu s$
$t_{off}$				50	

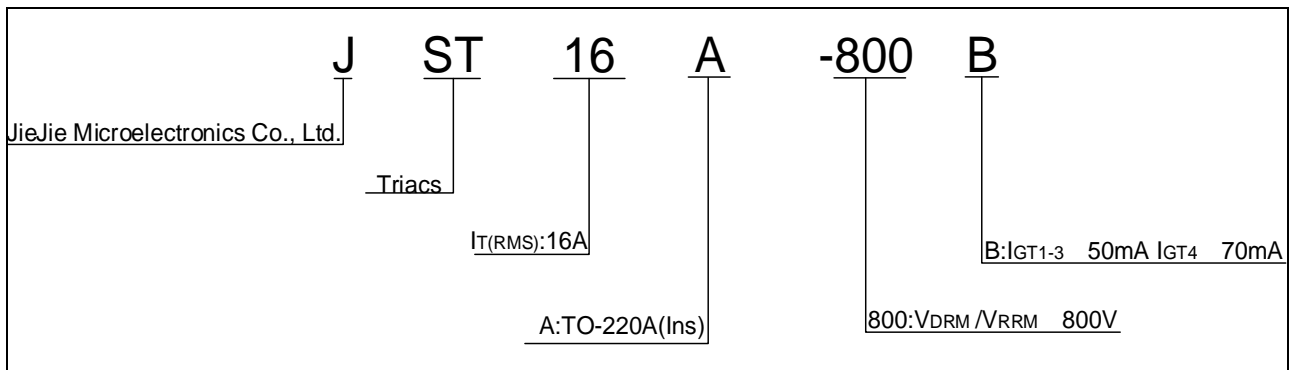
**STATIC CHARACTERISTICS**

Symbol	Parameter	Value(MAX.)	Unit	
$V_{TM}$	$I_{TM}=22.5A t_p=380\mu s$ $T_j=25$	1.5	V	
$V_{TO}$	Threshold voltage $T_j=125$	0.77	V	
$R_D$	Dynamic resistance $T_j=125$	30	m	
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	$\mu A$
$I_{RRM}$		$T_j=125$	0.5	mA

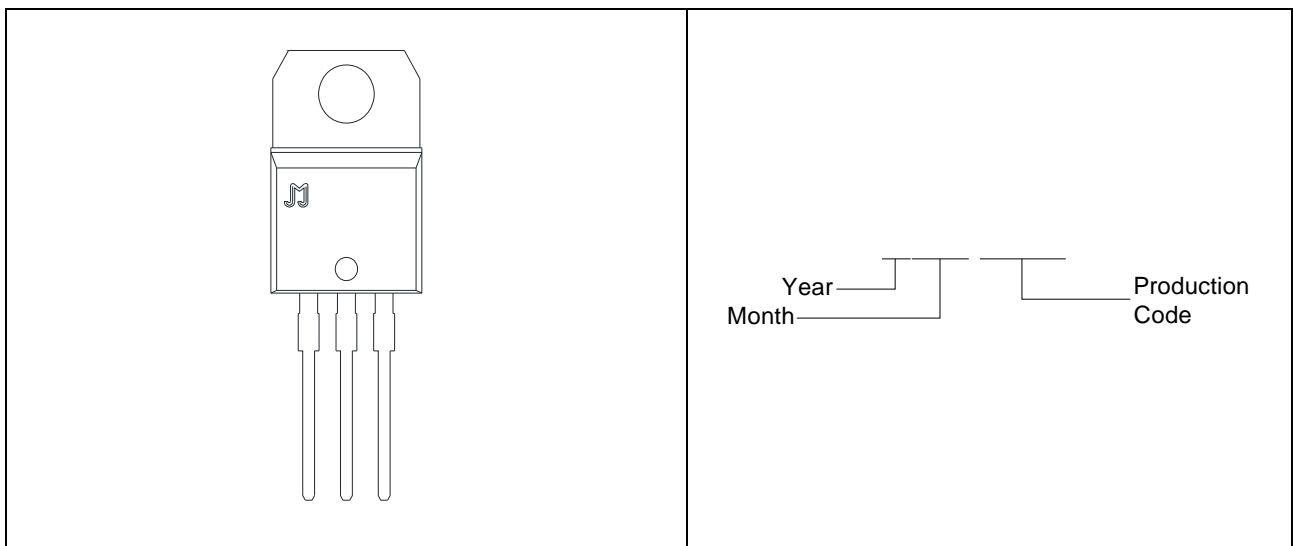
**THERMAL RESISTANCES**

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	2.0	/W
$R_{th(j-a)}$	junction to ambient (AC)	60	/W

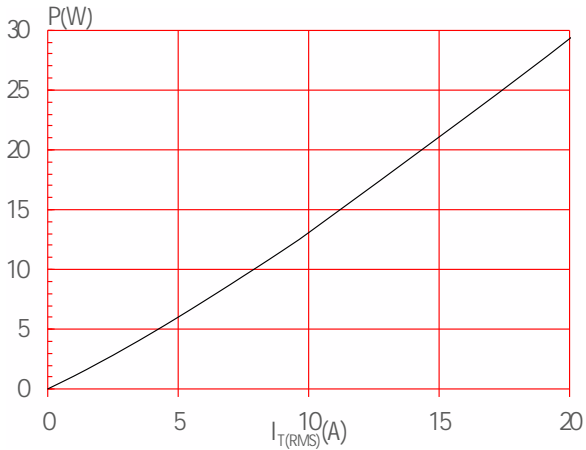
ORDERING INFORMATION



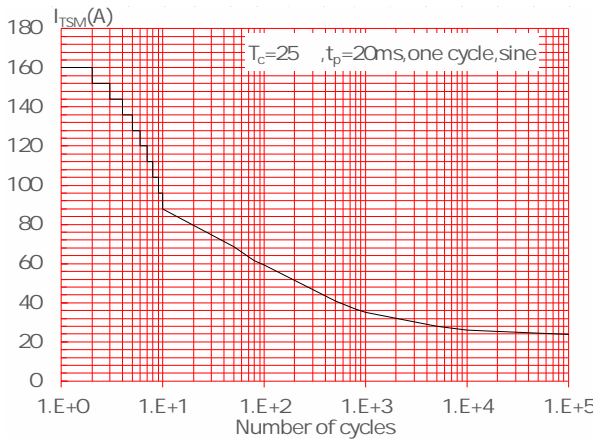
MARKING



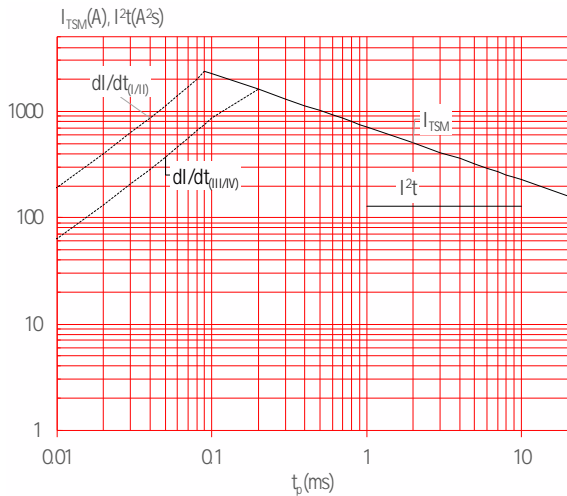
**FIG.1** Maximum power dissipation versus RMS on-state current



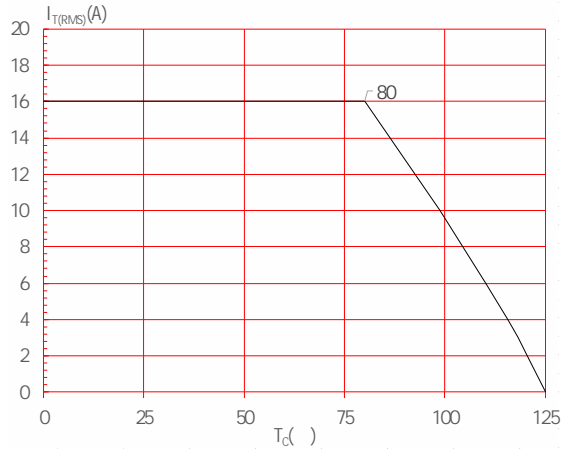
**FIG.3:** Surge peak on-state current versus number of cycles



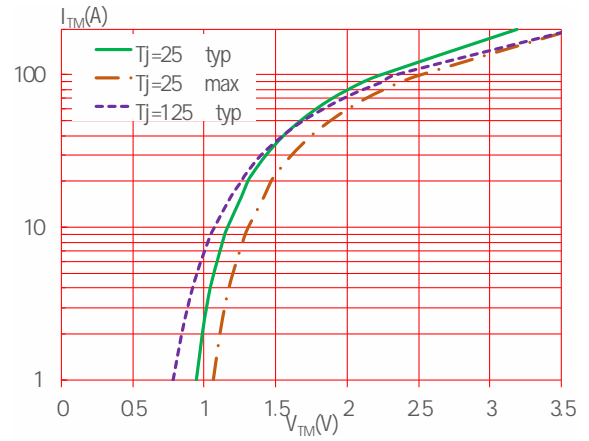
**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I^2t$  ( - - :  $di/dt < 100\text{A}/\mu\text{s}$ ; - :  $di/dt < 50\text{A}/\mu\text{s}$ )



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



**FIG.4:** On-state characteristics



**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature

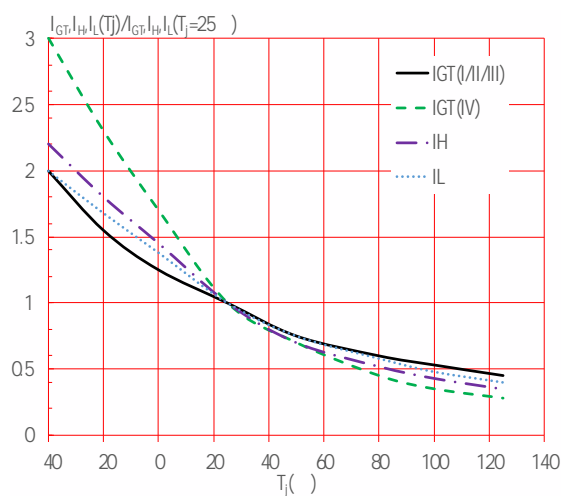
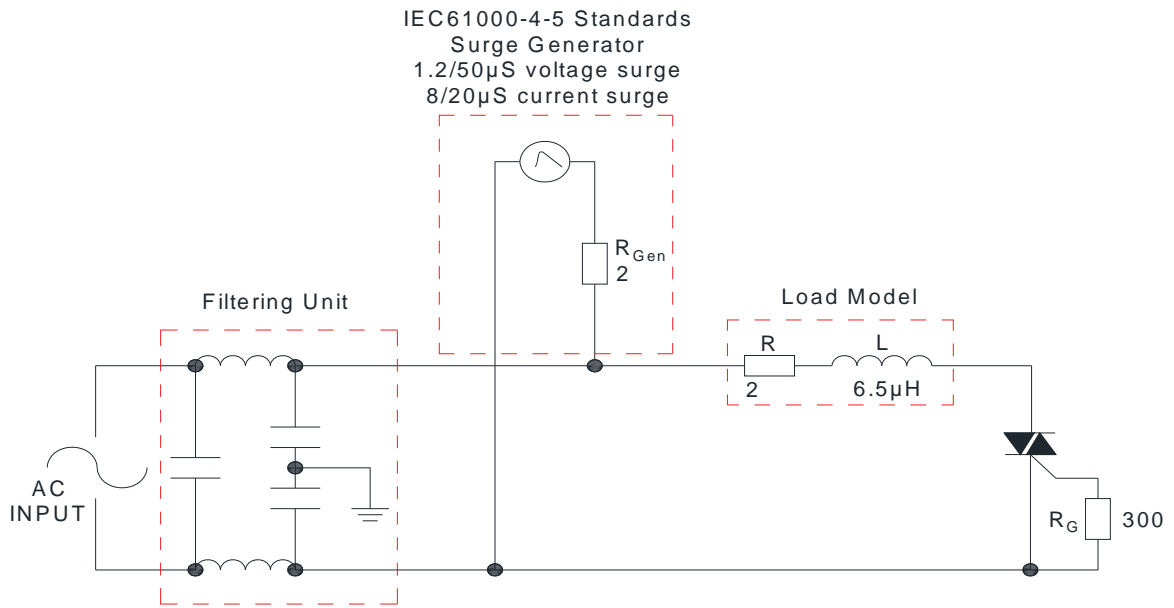


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



## SHAPING AND SOLDERING PARAMETERS

Refer to Instructions for installation of plastic-sealed in-line power devices released by JieJie.

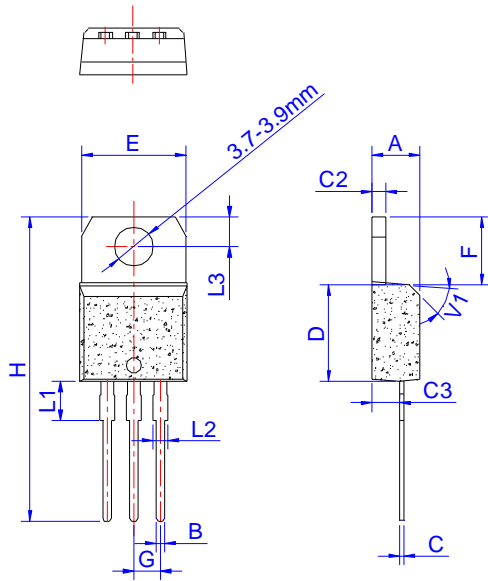
**ORDERING INFORMATION**

Order code	Voltage V <sub>DRM</sub> /V <sub>RRM</sub> (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		-	-			
<b>JST16A-800B</b>	<b>800</b>	<b>50</b>	<b>70</b>	<b>TO-220A(Ins)</b>	<b>50</b>	<b>Tube</b>

**Document Revision History**

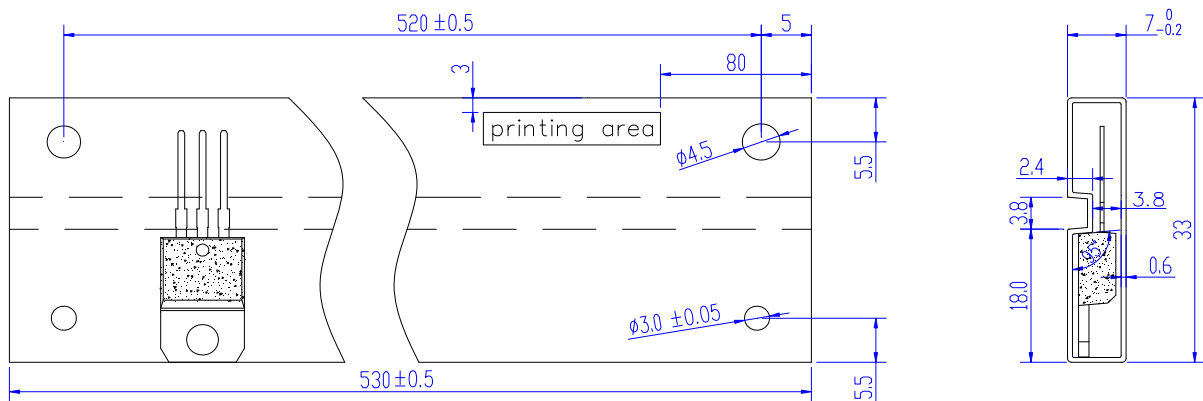
Date	Revision	Changes
Apr.14, 2023	A.1.0	Last updated

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.25		6.85	0.246		0.270
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	3.45		4.05	0.136		0.159
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220A	TUBE	50	1,000	5,000

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