



## JST16F-800B 16A TRIAC

Rev.A.1.1

### DESCRIPTION:

The JST16F-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 external plastic package, JST16F-800B provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.

### MAIN FEATURES

### RATINGS

Parameter	Symbol	Value	Unit
Storage temperature range	$T_{stg}$	-40-150	
Operating temperature range	$T_j$	-40-125	
Reverse blocking voltage ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	800	V
Reverse repetitive blocking voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	800	V
Rated RMS current ( $T_c=73^\circ\text{C}$ )	$I_{T(RMS)}$	16	A
Peak on-state current ( $T_j=25^\circ\text{C}$ )	$I_{TSM}$	160	A
Peak on-state current ( $T_j=25^\circ\text{C}$ )		176	
Surge current ( $t=10\text{ms}, T_j=25^\circ\text{C}$ )	$I^2t$	128	$\text{A}^2\text{s}$
Peak off-state current ( $T_j=125^\circ\text{C}$ )	-	100	$\text{A}/\mu\text{s}$
	$di/dt$		

Peak gate power	$P_{GM}$	10	W
Peak pulse voltage ( $T_j=25$ ; non-repetitive, off-state; FIG.7)	$V_{pp}$	1	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
				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) <sub>c</sub>	(dI/dt) <sub>c</sub> =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**

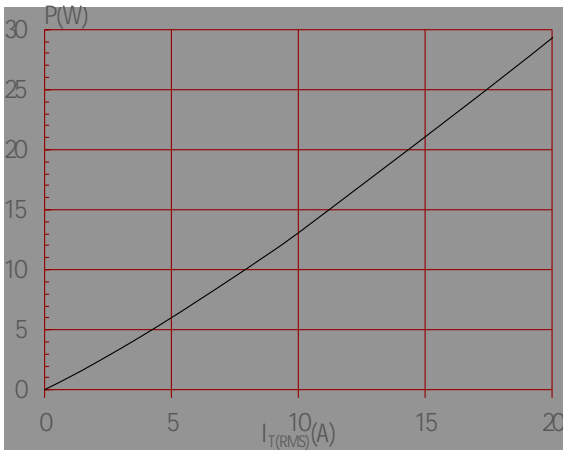
Symbol	Parameter	Value(MAX.)	Unit	
$V_{TM}$	$I_{TM}=22.5A$ $t_p=380\mu s$ $T_j=25$	1.5	V	
$V_{TO}$	Threshold voltage $T_j=125$	0.77	V	
$R_D$	Dynamic resistance $T_j=125$	30	m	
$I_{DRM}$	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	5	$\mu A$
$I_{RRM}$		$T_j=125$	0.5	mA

**THERMAL RESISTANCES**

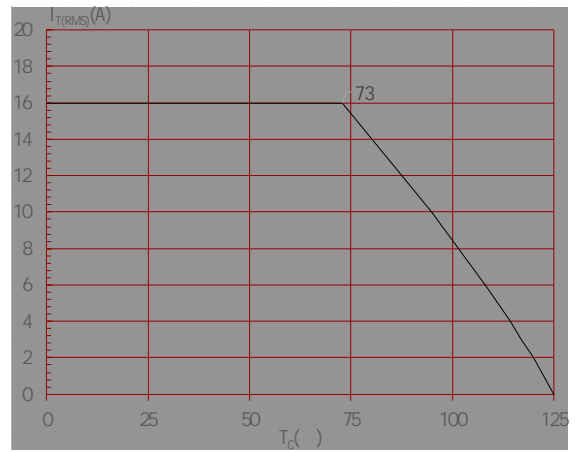
Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	2.3	/W
$R_{th(j-a)}$	junction to ambient (AC)	60	/W



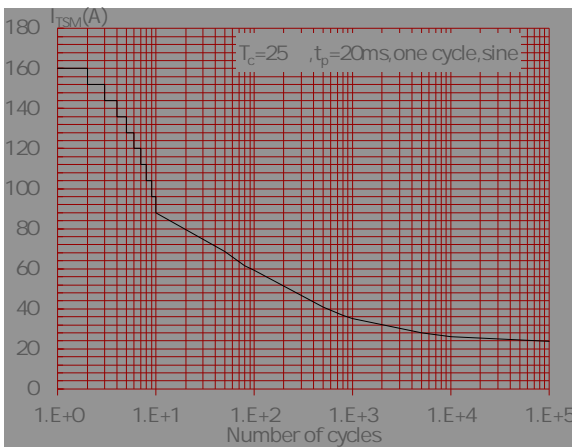
**FIG.1:** Maximum power dissipation versus RMS on-state current



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

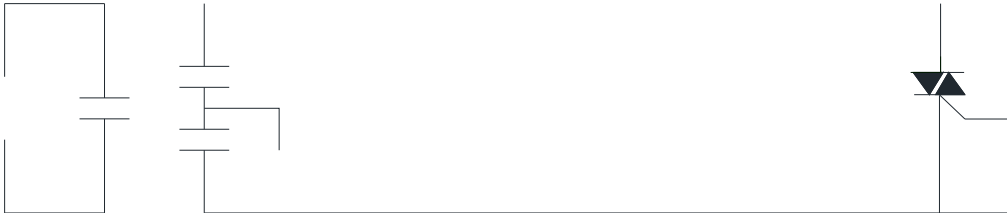


**FIG.3:** Surge peak on-state current versus number of cycles



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

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








PACKAGE MECHANICAL

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