



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	
Peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	800	V
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	800	V
Rated RMS current ($T_c \leq 73^\circ\text{C}$)	$I_{T(RMS)}$	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 ($t \leq 10\text{ms}, T_j=25^\circ\text{C}$)	I^2t	128	A^2s
Peak on-state current ($T_j=125^\circ\text{C}$)	di/dt	100	$\text{A}/\mu\text{s}$

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}	$V_D=12V$ $R_L=33\Omega$	- -	MAX.	50	mA
				70	
V_{GT}		ALL	MAX.	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125$ $R_L=3.3k\Omega$	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/ μs
$(dV/dt)_c$	$(dI/dt)_c=7A/ms$, $T_j=125$		MIN.	12	V/ μs
t_{on}	$I_G=80mA$ $I_A=400mA$ $I_R=40mA$ $T_j=25$		TYP.	5	μs
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 Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	5	μA
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

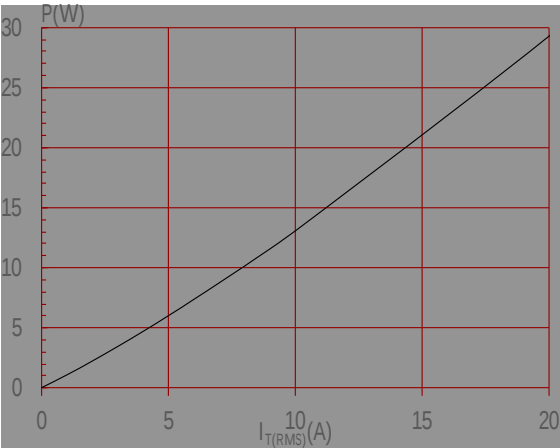


FIG.3: Surge peak on-state current versus number of cycles

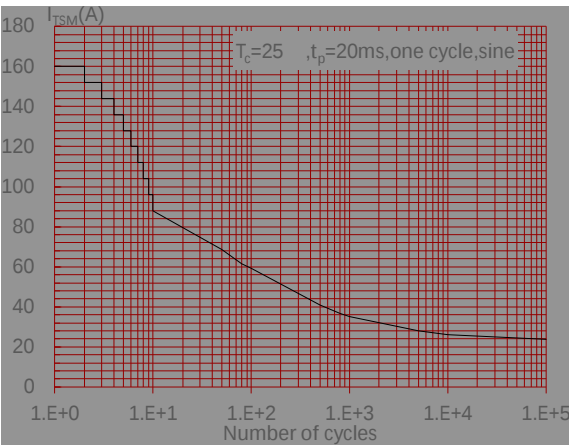


FIG.2: RMS on-state current versus case temperature

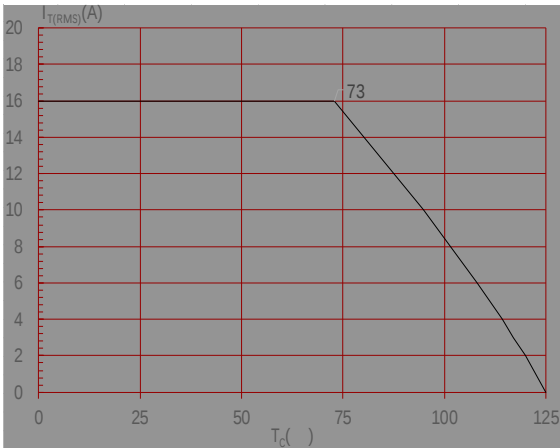
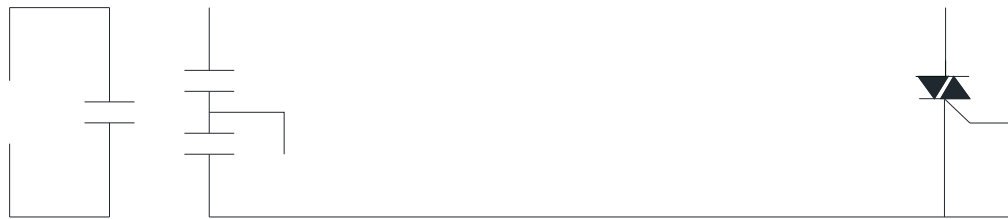


FIG.4: On-state characteristics



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







PACKAGE MECHANICAL



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