JST16E-800TW 16A TRIAC

Rev.A.1.2

The JST16E-800TW 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. JST16E-800TW snubberless triac is especially recommended for use on inductive loads. It can be driven directly through the MCU I/O port. Package TO-263 is RoHS compliant.

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}	800	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	800	V
RMS on-state current ($T_C \leq$ 98)	$I_{T(RMS)}$	16	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	190	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		209	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	180	A^2s
Critical rate of rise of on-state current (I_G=2 × I_{GT} , f=100Hz , T_j=125)	dI/dt	50	A/μs
Peak gate current (t_p=20μs , T_j=125)	I_{GM}	4	A
Average gate power dissipation (T_j=125)	P 50		

Peak pulse voltage (T_j=25 ; non-repetitive,off-state;FIG.8)	V_{pp}	3	kV

(T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	V_D =12V R_L =33Ω	- -	MAX.	5	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	V_D =V_{DRM} T_j =125 R_L =3.3kΩ	- -	MIN.	0.2	V
I_L	I_G =1.2I_{GT}	-	MAX.	15	mA
				20	
I_H	I_T =500mA		MAX.	15	mA
dV/dt	V_D=540V Gate Open T_j =125		MIN.	240	V/μs
(dI/dt)c	(dV/dt)c=10V/μs T_j=125		MIN.	1.5	A/ms
t_{on}	I_G=10mA I_A=200mA I_R=20mA T_j=25		TYP.	3	μs
t_{off}				25	

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

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to ce (AC)	1.2	/W
$R_{th(j-a)}$	junction to ambient (AC, in free air, S=2cm^2)	45	/W

J ST 16 E -800 TW -/

- J: JieJie Microelectronics Co., Ltd.
- ST: Triacs
- 16: $I_{T(RMS)}$:16A
- E: E:TO-263
- -800: 800:V_{DRM} /V_{RRM} ≥ 800V
- TW: TW:I_{GT1-3} ≤ 5mA
- -/: Blank:Tube; -TR:Tape &Reel

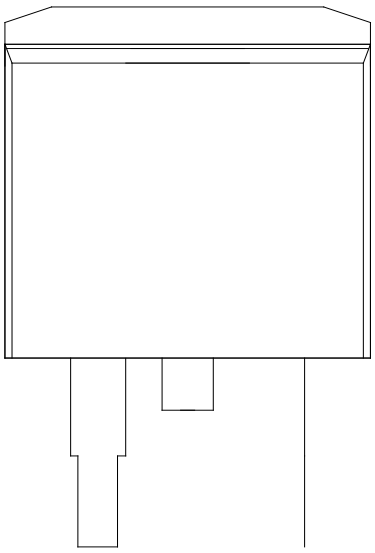


FIG.1: Maximum power dissipation versus RMS on-state current



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



FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

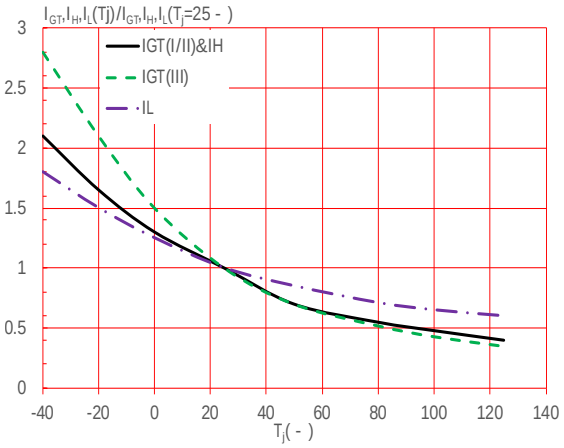
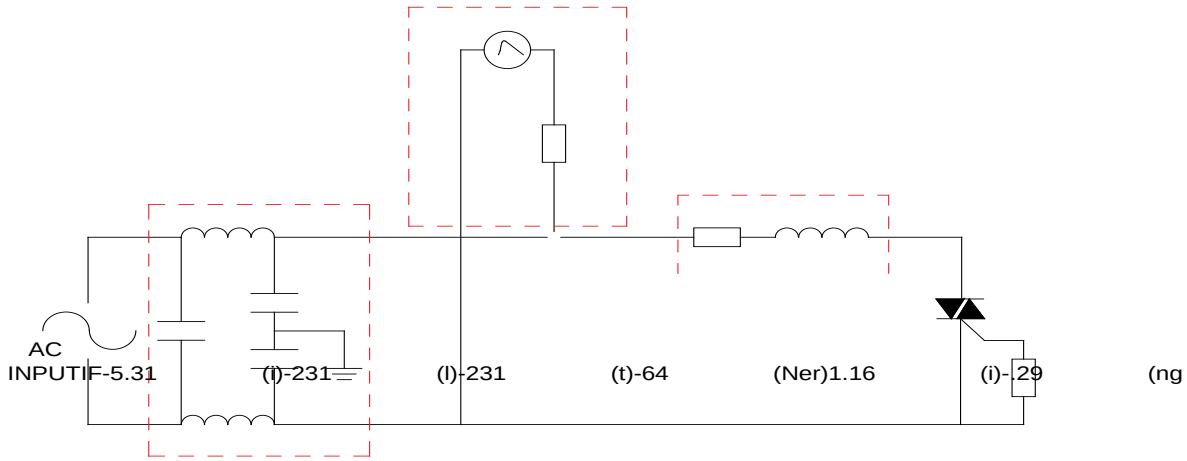


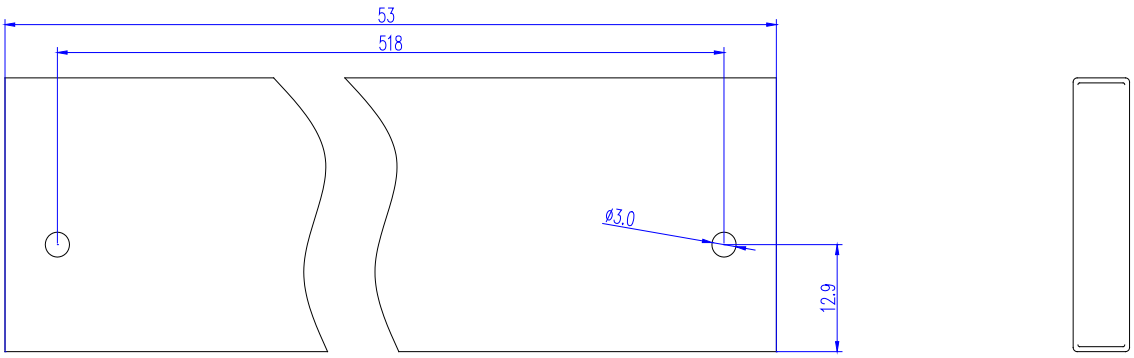
FIG.8: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		H- I- J			
JST16E-800TW	800	5	TO-263	50	Tube
JST16E-800TW-TR				800	Tape & Reel

Document Revision History

Date	Revision	Changes
Apr.12, 2023	A.1.0	Last updated
Oct.20, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA
Sept.16, 2026	A.1.2	Revise I_{TSM}, dV/dt


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