



JST16E-600TW 16A TRIAC

Rev.A.1.1

DESCRIPTION:

The JST16E-600TW 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-600TW 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.

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}	600	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	600	V
RMS on-state current ($T_C \leq 98^\circ\text{C}$)	$I_{T(RMS)}$	16	A

Non repetitive surge peak on-state current
 $I_{TSM} \leq 120\text{A}$ (200ms)
Non repetitive surge peak off-state current
 $I_{RSM} \leq 120\text{A}$ (200ms)

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

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	$V_D=12V$ $R_L=33\Omega$	- -	MAX.	5	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125$ $R_L=3.3k\Omega$	- -	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	$V_D=400V$ Gate Open $T_j=125$		MIN.	100	V/ μs
$(dI/dt)_c$	$(dV/dt)_c=10V/\mu s$ $T_j=125$		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	

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}		$T_j=125$	0.4	mA

THERMAL RESISTANCES

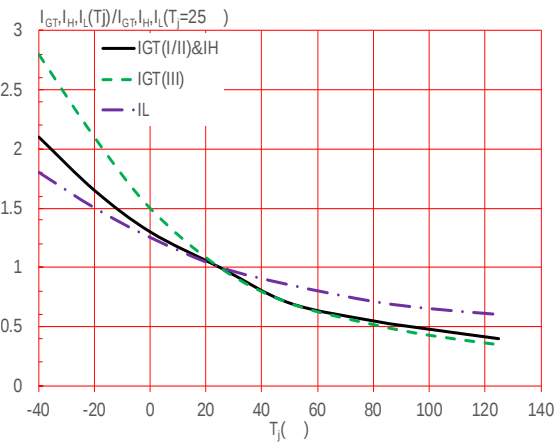
Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	1.2	/W
$R_{th(j-a)}$	junction to ambient (AC, in free air, $S=2cm^2$)	45	/W

ORDERING INFORMATION

J ST 16 E -600 TW -/
JieJie Microelectronics Co., Ltd. Triacs

600:V_{DRM} /V_{RRM}

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



ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
JST16E-600TW	600	5	TO-263	50	Tube
JST16E-600TW-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

PACKAGE MECHANICAL DATA

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A						
B						
C						

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