

**JST131N2-600E 1A TRIAC**

Rev.A.1.1

DESCRIPTION:

The JST131N2-600E 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. Package SOT-89-2L 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℃)		V _{DRM}	600	V
Repetitive peak reverse voltage (T _j =25℃)		V _{RRM}	600	V
RMS on-state current (T _C ≤ 58℃)		I _{T(RMS)}	1	A
Non repetitive surge peak on-state current (full cycle , t _p =20ms , T _j =25℃)		I _{TSM}	16.5	A
Non repetitive surge peak on-state current (full cycle , t _p =16.6ms , T _j =25℃)			18	
I ² t value for fusing (t _p =10ms , T _j =25℃)		I ² t	1.36	A ² s
Critical rate of rise of on-state current (I _G =2 I _{GT} , f=100Hz , T _j =125℃)	- -	di/dt	70	A/μs
			40	
Peak gate current (t _p =20μs , T _j =125℃)		I _{GM}	2	A
Average gate power dissipation (T _j =125℃)		P _{G(AV)}	0.5	W

Peak gate power

ELECTRICAL CHARACTERISTICS ($T_j=25$ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I _{GT}	V _D =12V R _L =33Ω	- -	MAX.	10	mA
				25	
V _{GT}		ALL	MAX.	1.3	V
V _{GD}	V _D =V _{DRM} T _j =125 R _L =3.3kΩ	ALL	MIN.	0.2	V
I _L	I _G =1.2I _{GT}	- -	MAX.	15	mA
				30	
I _H	I _T =50mA		MAX.	15	mA
dV/dt	V _D =400V Gate Open T _j =110		MIN.	250	V/μs
(dV/dt) _c	(dI/dt) _c =0.44A/ms, T _j =110		MIN.	6	V/μs
t _{on}	I _G =40mA I _A =200mA I _R =20mA T _j =25		TYP.	3	μs
t _{off}				30	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=1.4A$ $t_p=380\mu s$	$T_j=25$	1.45	V
V_{TO}	Threshold voltage	$T_j=125$	0.96	V
R_D	Dynamic resistance	$T_j=125$	225	m Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	5	μA
I_{RRM}		$T_j=125$	0.2	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	50	/W
$R_{th(j-a)}$	junction to ambient (AC, in free air, $S=5cm^2$)	100	/W

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

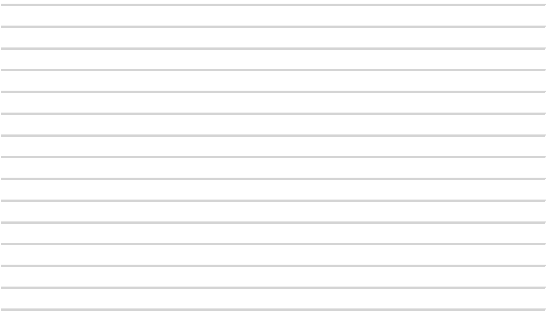
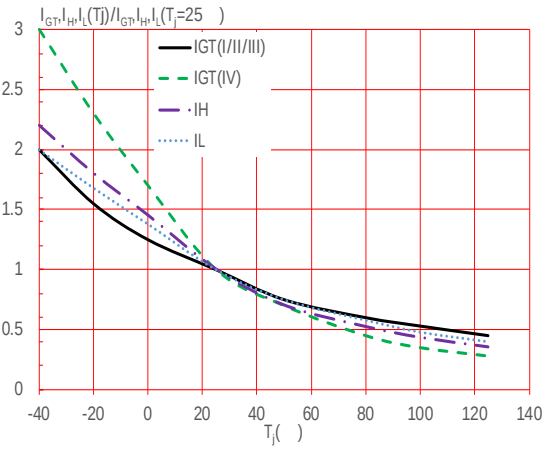


FIG.2: RMS on-state current versus case temperature

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



ORDERING INFORMATION

Order code	Voltage V _{DRM} /V _{RRM} (V)	
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