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 ($T_C \leq 58$)	$I_{T(RMS)}$	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^2t value for fusing (t_p=10ms , T_j=25)	I^2t	1.36	A^2s
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=380μs	T_j=25	1.45	V
V_{TO}	Threshold voltage	T_j=125	0.96	V
R_D	Dynamic resistance	T_j=125	225	mΩ
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25	5	μA
I_{RRM}		T_j=125	0.2	mA

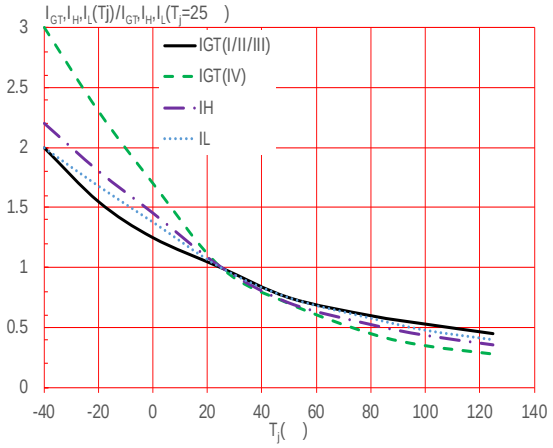
THERMAL RESISTANCES

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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