JST16A-600TW 16A TRIAC

Rev.A.1.3

DESCRIPTION:

The JST16A-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. JST16A-600TW snubberless triac is especially recommended for use on inductive loads. It can be driven directly through the MCU I/O port. By using an internal ceramic pad, JST16A-600TW provides a rated insulation voltage of 2500 VRMS, complying with UL standards (File ref: E252906). Package TO-220A is RoHS compliant.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	16	A
V_{DRM} /V_{RRM}	600	V

I_{GT} /

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 102)	$I_{T(RMS)}$	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)	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	10	W
Peak pulse voltage (T_j=25 ; non-repetitive,off-state;FIG.7)	V_{pp}	3	kV

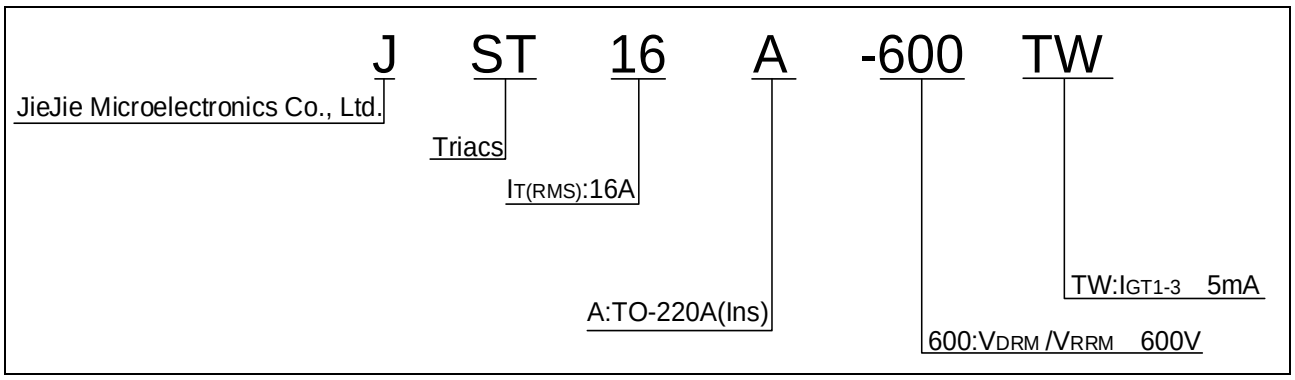
ELECTRICAL CHARACTERISTICS (T_j=25 unless otherwise specified)

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=400V Gate Open T_j =125		MIN.	300	V/μs
(dI/dt)c	(dV/dt)c=10V/μs T_j=125		MIN.	1.5	A/ms
t_{on}	I_G=10mA I_T=200mA I_R=30mA		TYP.	3	μs
t_{off}	T_j=25			25	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM} =22.5A t_p=380μs	T_j=25	1.5	V

ORDERING INFORMATION



MARKING

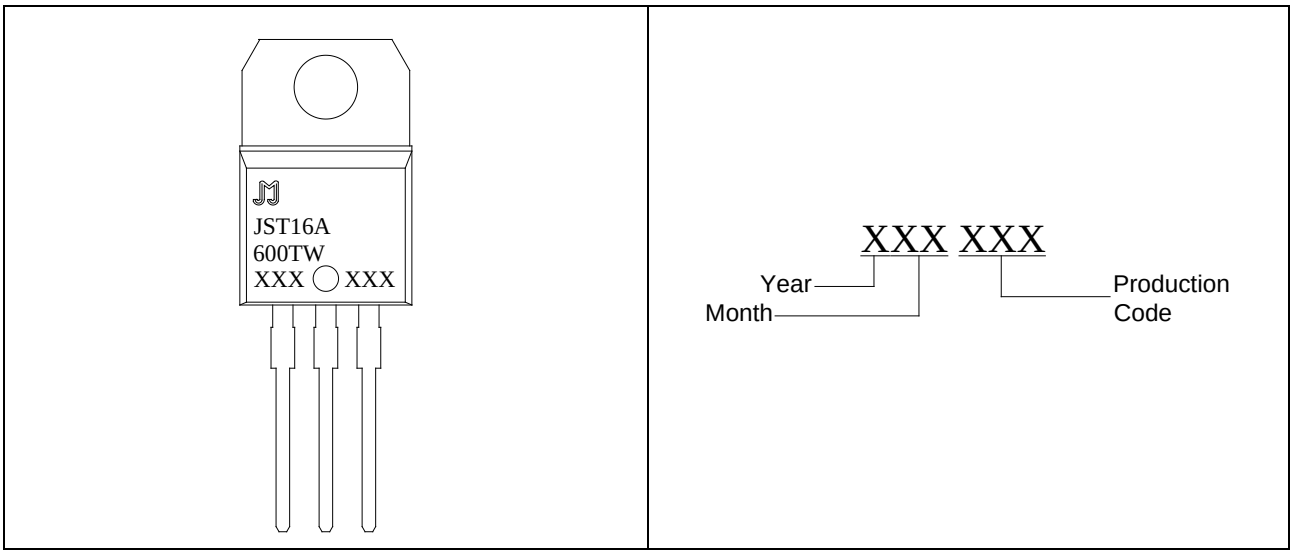


FIG.1: Maximum power dissipation versus RMS on-state current

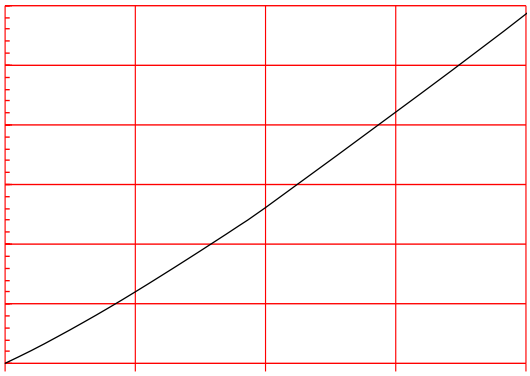


FIG.2: RMS on-state current versus case temperature

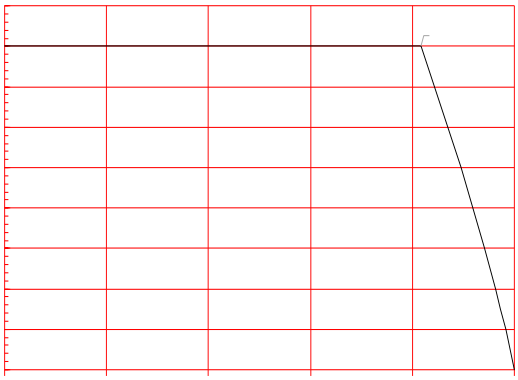


FIG.3: Surge peak on-state current versus number of cycles

FIG.4: On-state characteristics

ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery

716.1 (oq)-