



DESCRIPTION:

The JST04F-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. JST04F-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 external plastic package, JST04F-600TW provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM}/V_{RRM}	600	V

$I_{GT} / /$

ABSOLUTE MAXIMUM RATINGS

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 ($T_C \leq 97^\circ\text{C}$)	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	40	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$)		44	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I^2t	8	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100\text{Hz}$, $T_j=125^\circ\text{C}$)	di/dt	50	$\text{A}/\mu\text{s}$



Peak gate current ($t_p=20\mu s$, $T_j=125^\circ C$)	I_{GM}	4	A
Average gate power dissipation ($T_j=125^\circ C$)	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	10	W
Peak pulse voltage ($T_j=25^\circ C$; non-repetitive, off-state; FIG. 7)	V_{pp}	4	kV

ELECTRICAL CHARACTERISTICS ($T_j=25^\circ C$ unless otherwise specified)

I_{GT}	$V_D=12V$ $R_L=33\Omega$	- -	MAX.	5	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125^\circ C$ $R_L=3.3k\Omega$	- -	MIN.	0.2	V
I_L	$I_G=1.2I_{GT}$	-	MAX.	10	mA
				15	
I_H	$I_T=100mA$		MAX.	10	mA
dV/dt	$V_D=400V$ Gate Open $T_j=125^\circ C$		MIN.	150	V/ μs
$(dI/dt)_C$	$(dV/dt)_C=10V/\mu s$, $T_j=125^\circ C$		MIN.	1	A/ms
t_{on}	$I_G=10mA$ $I_A=200mA$ $I_R=20mA$ $T_j=25^\circ C$		TYP.	2	μs
t_{off}				20	

STATIC CHARACTERISTICS

V_{TM}	$I_{TM}=5A$ $t_p=380\mu s$	$T_j=25^\circ C$	1.65	V
V_{TO}	Threshold voltage	$T_j=125^\circ C$	0.799	V
R_D	Dynamic resistance	$T_j=125^\circ C$	151	$m\Omega$
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ C$	5	μA
I_{RRM}		$T_j=125^\circ C$	0.2	mA

THERMAL RESISTANCES

$R_{th(j-c)}$	junction to case (AC)	4.5	/W
$R_{th(j-a)}$	junction to ambient (AC)	60	/W



ORDERING INFORMATION

J	ST	04	F	-600	TW
JieJie Microelectronics Co., Ltd.	Triacs	IT(RMS):4A	F:TO-220F(Ins)	600:VDRM /VRRM	TW:IGT1-3

MARKING

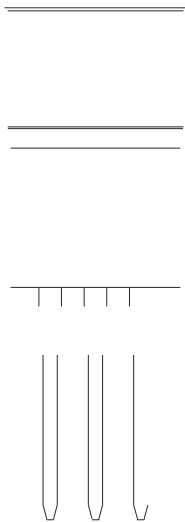
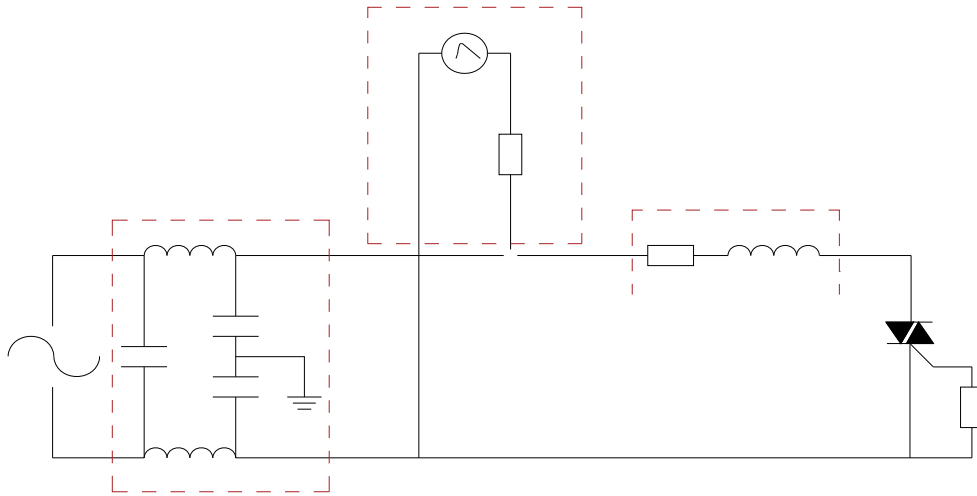




FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards





ORDERING INFORMATION

Date	Revision	Changes
Apr.11, 2023	A.1.0	Last updated
Oct.10, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA



PACKAGE MECHANICAL DATA



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