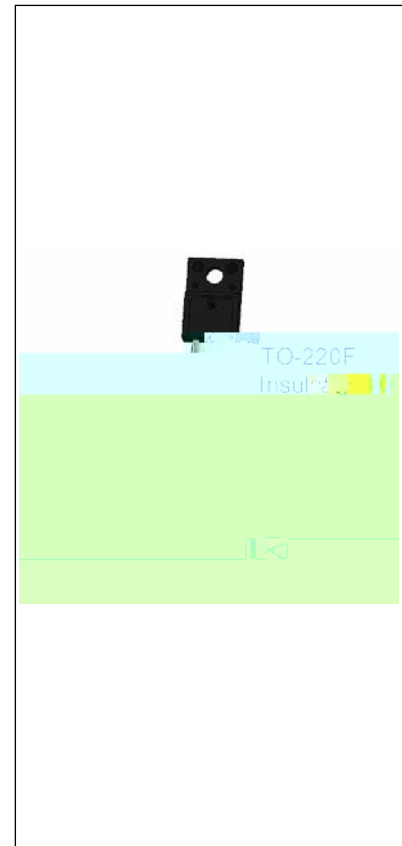




JST30F-600CW 30A TRIAC

Rev.A.1.1

The JST30F-600CW 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. JST30F-600CW snubberless triac is especially recommended for use on inductive loads. By using an external plastic package, JST30F-600CW provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	30	A
V_{DRM}/V_{RRM}	600	V
$I_{GT} / /$	35/35/35	mA

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 ($T_j=25^\circ C$)	V_{DRM}	600	V
Repetitive peak reverse voltage ($T_j=25^\circ C$)	V_{RRM}	600	V
RMS on-state current ($T_c = 71^\circ C$)	$I_{T(RMS)}$	30	A
Non repetitive surge peak on-state current (full cycle, $t_p=20ms$, $T_j=25^\circ C$)	I_{TSM}	300	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6ms$, $T_j=25^\circ C$)		330	
I^2t value for fusing ($t_p=10ms$, $T_j=25^\circ C$)	I^2t	450	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100Hz$, $T_j=125^\circ C$)	di/dt	100	$A/\mu s$
Peak gate current ($t_p=20\mu s$, $T_j=125^\circ C$)	I_{GM}	4	A

Average gate power dissipation ($T_j=125$)	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	10	W
Peak pulse voltage ($T_j=25$; non-repetitive,off-state;FIG.7)	V_{pp}	2.5	kV

($T_j=25$ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	$V_D=12V R_L=33$	- -	MAX.	35	mA
V_{GT}		- -	MAX.	1.3	V
V_{GD}	$V_D=V_{DRM} T_j=125$ $R_L=3.3k$	- -	MIN.	0.15	V
I_L	$I_G=1.2I_{GT}$	-	MAX.	70	mA
				80	
I_H	$I_T=500mA$		MAX.	50	mA
dV/dt	$V_D=400V$ Gate Open $T_j=125$		MIN.	1500	V/ μs
$(dI/dt)_c$	$(dV/dt)_c=20V/\mu s T_j=125$		MIN.	15	A/ms
t_{on}	$I_G=40mA I_A=200mA I_R=20mA$ $T_j=25$		TYP.	7	μs
t_{off}				50	

T_e

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=42A t_p=380\mu s$	$T_j=25$	1.5	V
V_{TO}	Threshold voltage	$T_j=125$	0.72	V
R_D	Dynamic resistanceV	$T_j=125$		

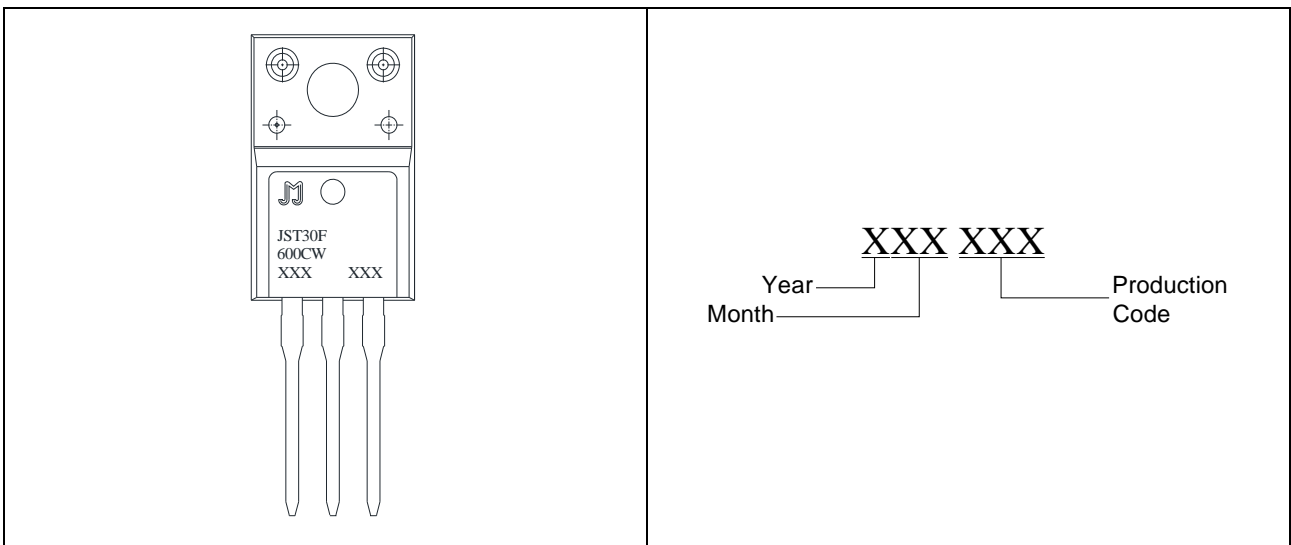
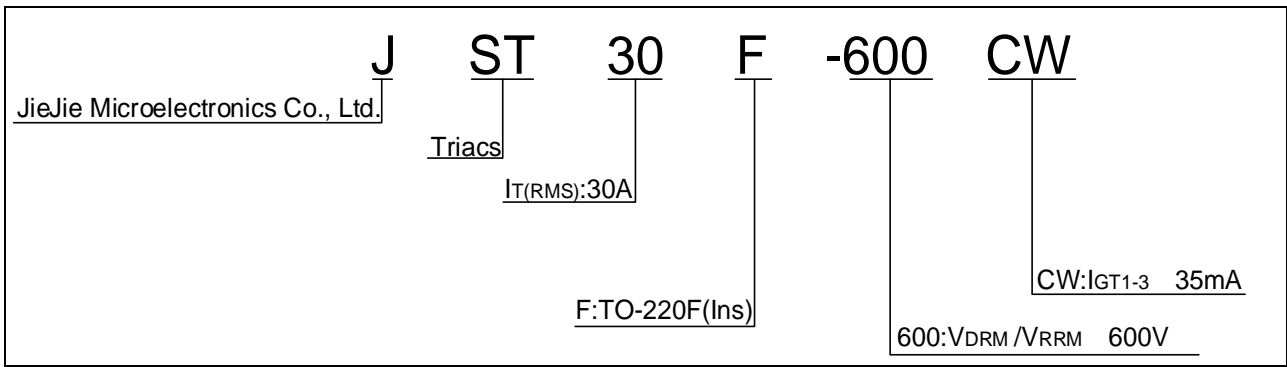


FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards F

