



JST12F-600SW 12A TRIAC

Rev.A.1.1

The JST12F-600SW 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. JST12F-600SW 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, JST12F-600SW provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-125	



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

($T_j=25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	$V_D=12V\ R_L=33\Omega$	- -	MAX.	10	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	$V_D=V_{DRM}\ T_j=125\text{ }^{\circ}\text{C}$ $R_L=3.3k\Omega$	- -	MIN.	0.2	V
I_L	$I_G=1.2I_{GT}$	-	MAX.	25	mA
				30	
I_H	$I_T=500mA$		MAX.	15	mA
dV/dt	$V_D=400V$ Gate Open $T_j=125\text{ }^{\circ}\text{C}$		MIN.	500	V/ μs
$(dI/dt)_C$	$(dV/dt)_C=10V/\mu s\ T_j=125\text{ }^{\circ}\text{C}$		MIN.	3	A/ms

t_{on} $I_G=20mA\ I_A=200mA\ I_R=20mA$
 $T\ N$

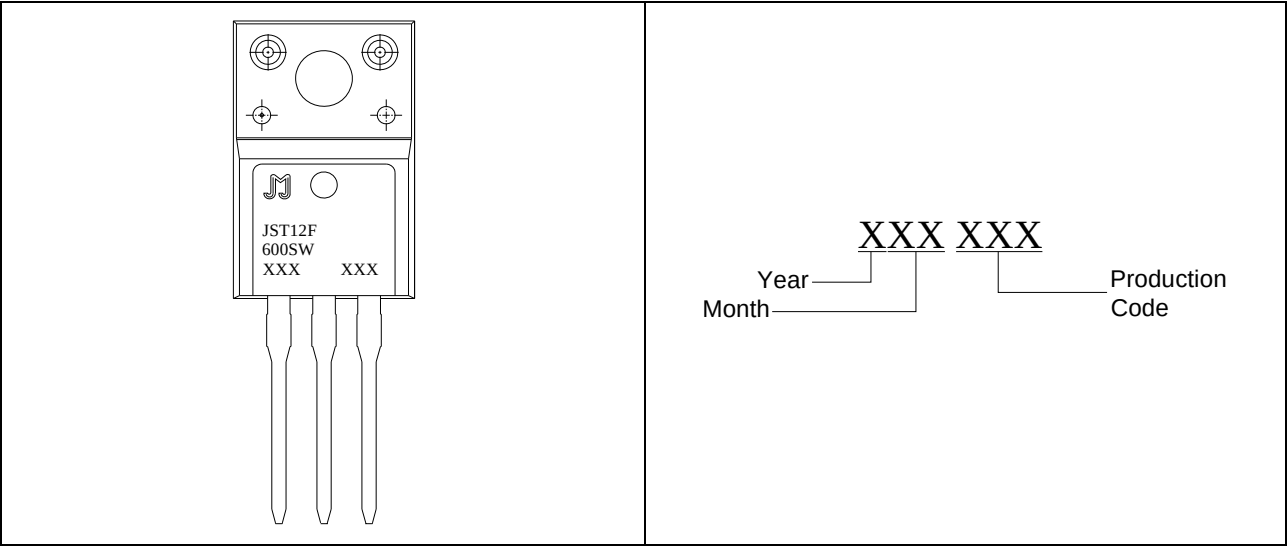
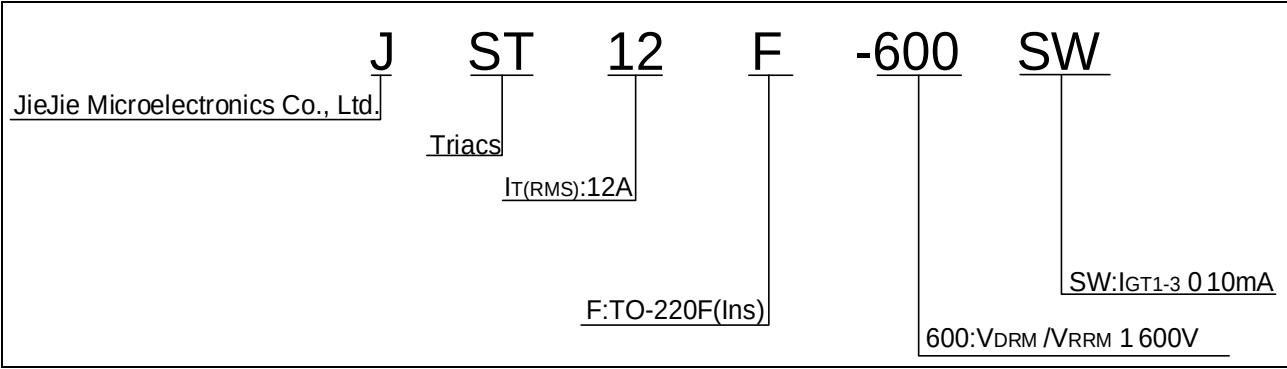


FIG.1: Maximum power dissipation versus RMS on-state current

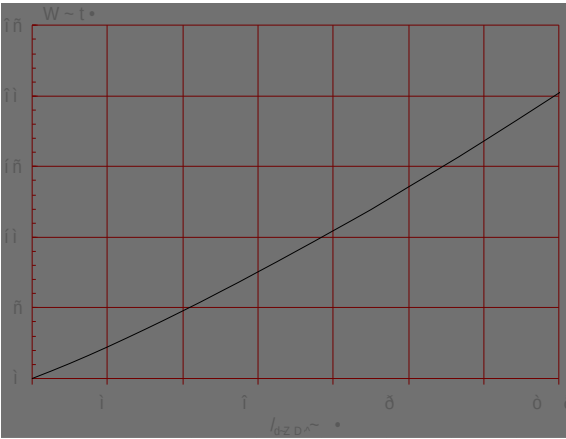
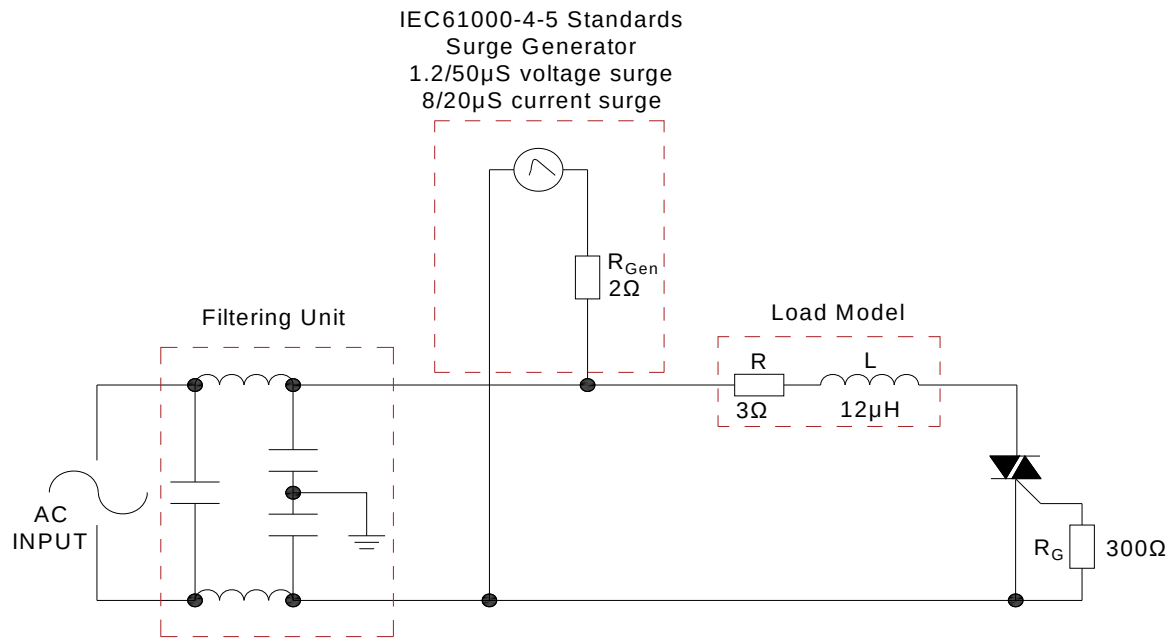


FIG.2: RMS on-state current versus case temperature



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



Refer to the application note “Assembly Instructions for Thyristors in Through-hole Package” released by JieJie



Order code	Voltage V _{DRM} /V _{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		t _{on} - t _{off}			
JST12F-600SW	600	10	TO-220F(Ins)	50	Tube

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