



## DESCRIPTION:

The JST12F-1200SW 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-1200SW 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-1200SW provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant..

## MAIN FEATURES

## ABSOLUTE MAXIMUM RATINGS

Storage junction temperature range	$T_{stg}$	-40-150	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)	$V_{pp}$	4	kV

### ELECTRICAL CHARACTERISTICS ( $T_j=25$ unless otherwise specified)

$I_{GT}$	$V_D=12V R_L=33$	- -	MAX.	10	mA
$V_{GT}$		- -	MAX.	1	V
$V_{GD}$	$V_D=V_{DRM} T_j=125$ $R_L=3.3k$	- -	MIN.	0.2	V
$I_L$	$I_G=1.2I_{GT}$	-	MAX.	25	mA
				30	
$I_H$	$I_T=500mA$		MAX.	15	mA
$dV/dt$	$V_D=800V$ Gate Open $T_j=125$		MIN.	100	V/ $\mu s$
$(dI/dt)_c$	$(dV/dt)_c=10V/\mu s T_j=125$		MIN.	3	A/ms
$t_{on}$	$I_G=20mA I_A=200mA I_R=20mA$ $T_j=25$		TYP.	2.5	$\mu s$
$t_{off}$				25	

### STATIC CHARACTERISTICS

$V_{TM}$	$I_{TM}=17A t_p=380\mu s$	$T_j=25$	1.5	V
$V_{TO}$	Threshold voltage	$T_j=125$	0.78	V
$R_D$	Dynamic resistance	$T_j=125$	37	m
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	10	$\mu A$
$I_{RRM}$		$T_j=125$	2	mA

### THERMAL RESISTANCES

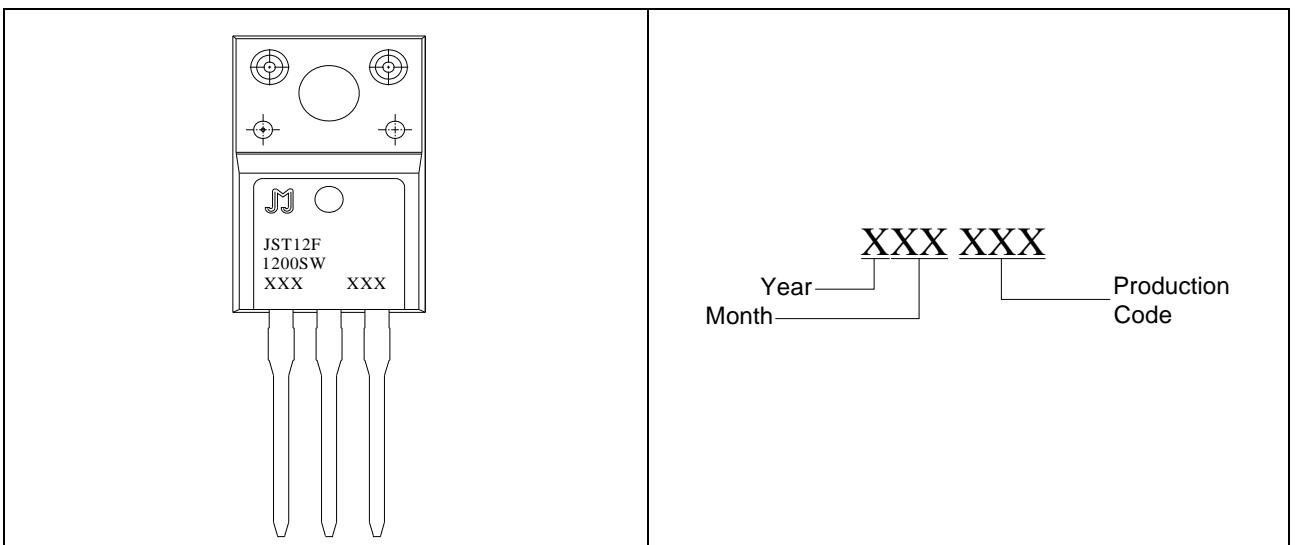
$R_{th(j-c)}$	junction to case (AC)	2.4	/W
$R_{th(j-a)}$	junction to ambient (AC)	60	/W



## ORDERING INFORMATION

<b>J</b>	<b>ST</b>	<b>12</b>	<b>F</b>	<b>-1200</b>	<b>SW</b>
JieJie Microelectronics Co., Ltd.	Triacs	$I_{T(RMS)}:12A$	F:TO-220F(Ins)	1200:V <sub>DRM</sub> /V <sub>RRM</sub> 1200V	SW:IGT1-3 10mA

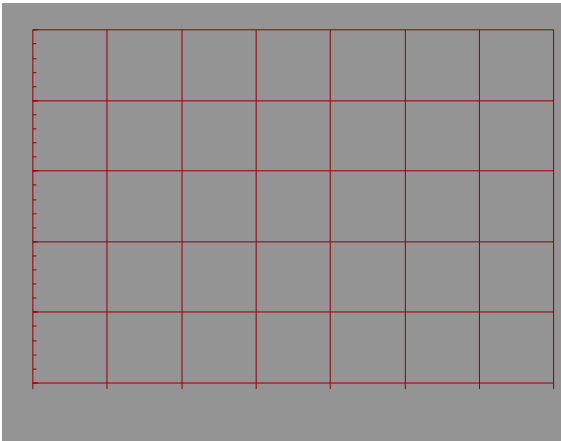
## MARKING





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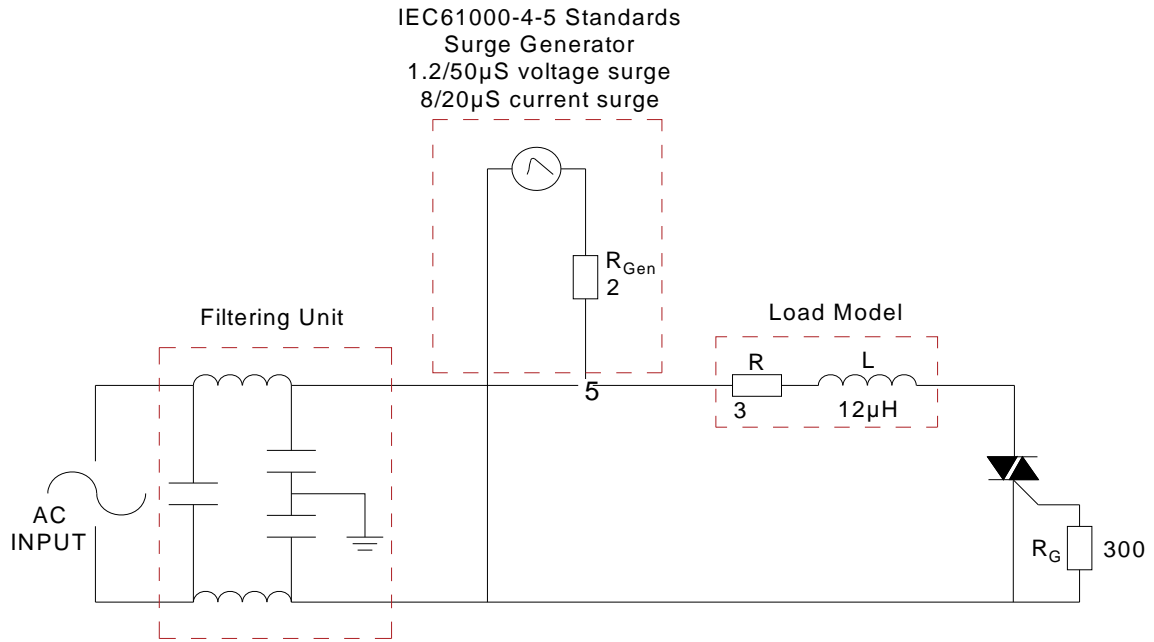
Maximum power dissipation versus RMS  
on-state current

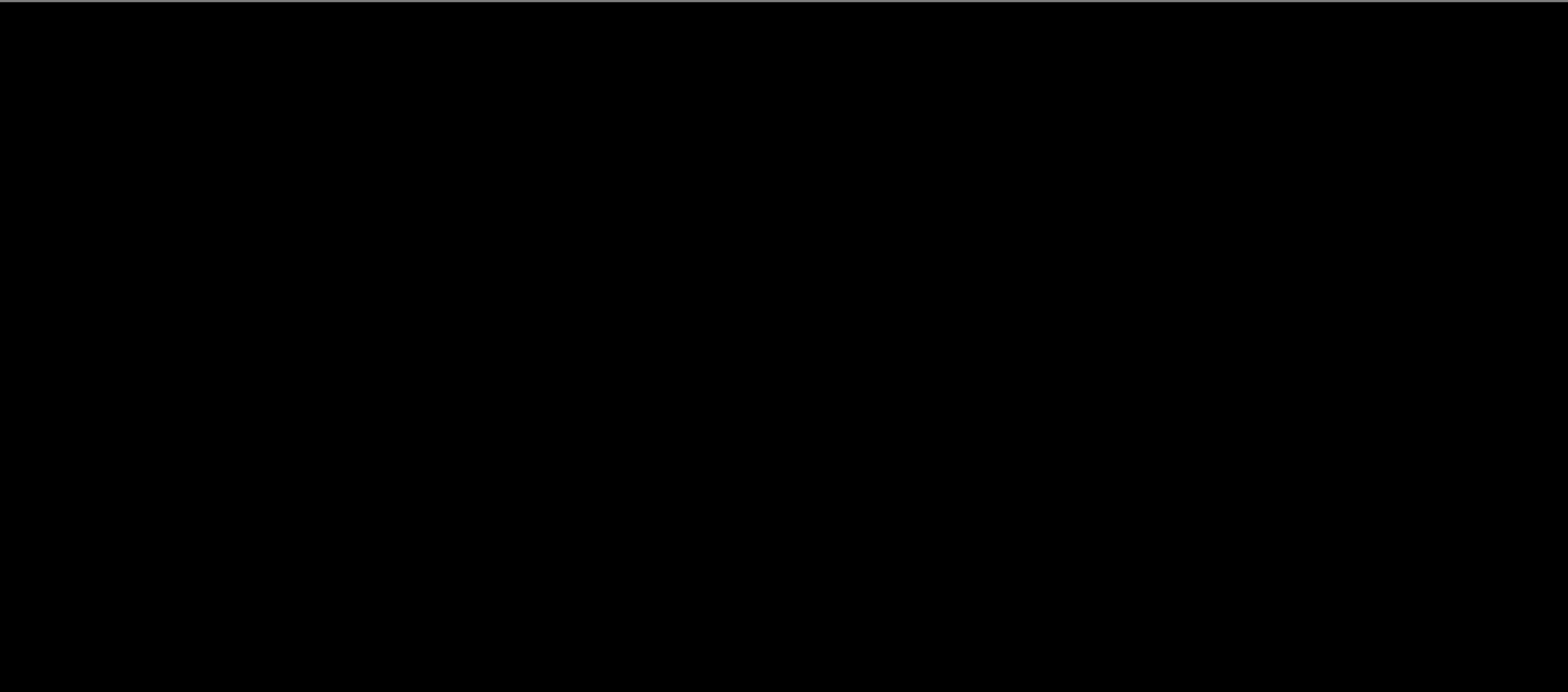


RMS on-state current versus case  
temperature



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









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