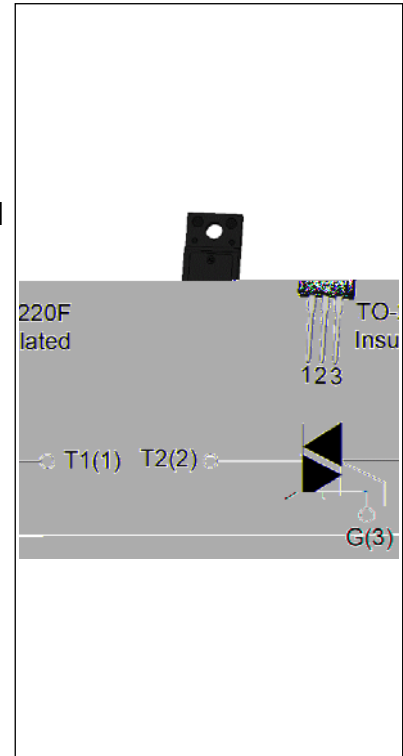


## JST08X-1000CW 8A TRIAC

Rev.A.1.0



The JST08X-1000CW triac is suitable for general purpose AC switching. It is more suitable for the switch functions of washing machines' water valve, positive inversion of motor, heat pump...JST08X-1000CW snubberless triac is especially recommended for use on inductive loads. By using an external plastic package, JST08X-1000CW provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	8	A
$V_{DRM}/V_{RRM}$	1000	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 ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	1000	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	1000	V
RMS on-state current ( $T_c = 94^\circ\text{C}$ )	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I_{TSM}$	85	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$ , $T_j=25^\circ\text{C}$ )		90	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I^2t$	36.125	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 I_{GT}$ , $f=100\text{Hz}$ , $T_j=125^\circ\text{C}$ )	$di/dt$	100	$\text{A}/\mu\text{s}$
Peak gate current ( $t_p=20\mu\text{s}$ , $T_j=125^\circ\text{C}$ )	$I_{GM}$	4	A
Average gate power dissipation ( $T_j=125^\circ\text{C}$ )	$P_{G(AV)}$	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
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Symbol	Test Condition	Quadrant	Value		Unit
I <sub>GT</sub>	V <sub>D</sub> =12V R <sub>L</sub> =33	- -	MAX.	35	mA
V <sub>GT</sub>		- -	MAX.	1	V
V <sub>GD</sub>	V <sub>D</sub> =V <sub>DRM</sub> T <sub>j</sub> =125 R <sub>L</sub> =3.3K	- -	MIN.	0.2	V
I <sub>L</sub>	I <sub>G</sub> =1.2I <sub>GT</sub>	-	MAX.	50	mA
				60	
I <sub>H</sub>	I <sub>T</sub> =100mA		MAX.	40	mA
dV/dt	V <sub>D</sub> =670V Gate Open T <sub>j</sub> =125		MIN.	1000	V/μs
(dI/dt) <sub>c</sub>	(dV/dt) <sub>c</sub> =20V/μs, T <sub>j</sub> =125		MIN.	12	A/ms
t <sub>on</sub>	I <sub>G</sub> =40mA I <sub>A</sub> =200mA I <sub>R</sub> =20mA T <sub>j</sub> =25		TYP.	3	μs
t <sub>off</sub>				30	

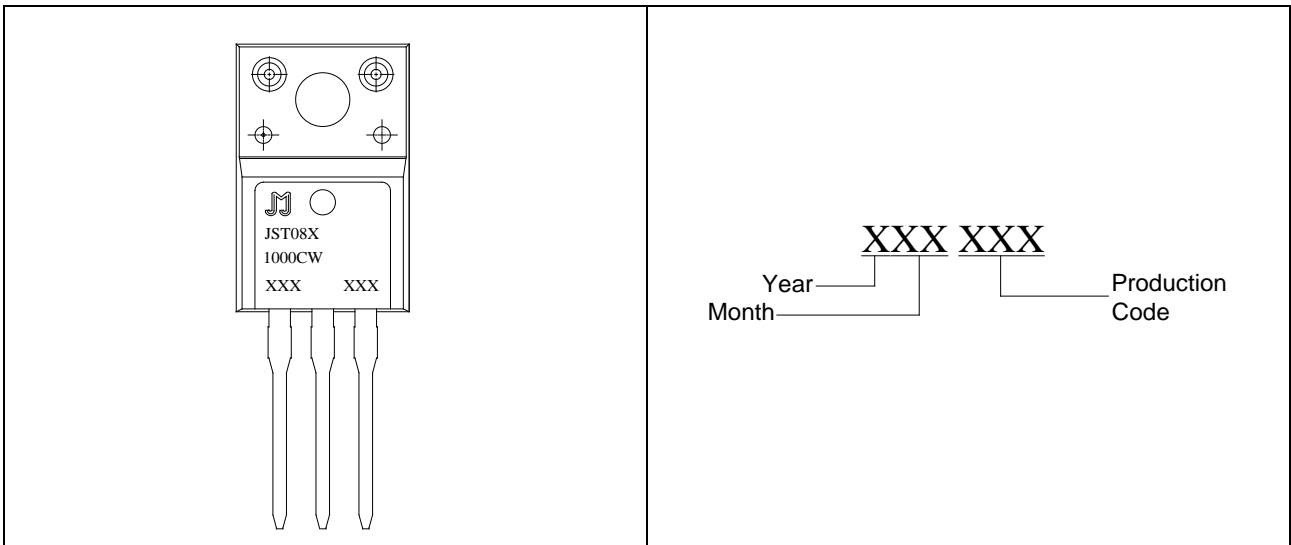
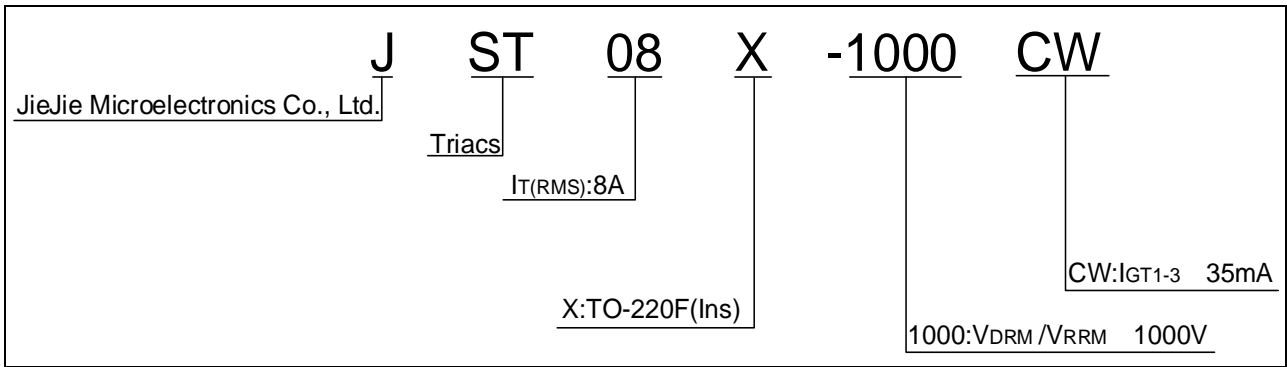
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Symbol	Parameter		Value(MAX.)	Unit
V <sub>TM</sub>	I <sub>TM</sub> =12A t <sub>p</sub> =380μs	T <sub>j</sub> =25	1.5	V
V <sub>TO</sub>	Threshold voltage	T <sub>j</sub> =125	0.81	V
R <sub>D</sub>	Dynamic resistance	T <sub>j</sub> =125	44	m
I <sub>DRM</sub>	V <sub>D</sub> =V <sub>DRM</sub> V <sub>R</sub> =V <sub>RDM</sub>	T <sub>j</sub> =25	5	μA
I <sub>RDM</sub>		T <sub>j</sub> =125	0.5	mA

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Symbol	Parameter	Value	Unit
R <sub>th(j-c)</sub>	junction to case (AC)	2.8	/W
R <sub>th(j-a)</sub>	junction to ambient (AC)	60	/W

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



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

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

