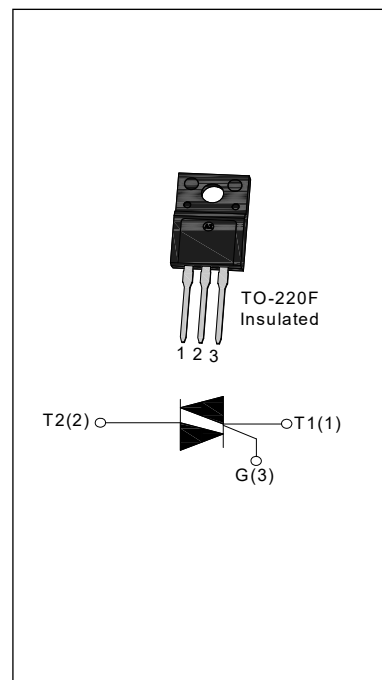




DESCRIPTION:

JST08X-1000CW provide high dv/dt rate with strong resistance to electromagnetic interface. They are especially recommended for use on home appliances such as motor control of washing machine. From all three terminals to external heatsink, JST08X-1000CW provides a rated insulation voltage of 2000 V_{RMS}, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.(2011/65/EU)



MAIN FEATURES

Symbol	Value	Unit
I _{T(RMS)}	8	A
V _{DSM} / V _{RSM}	1000	V

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T _{stg}	-40-150	°C
Operating junction temperature range	T _j	-40-125	°C
Repetitive peak off-state voltage(T _j =25°C)	V _{DRM}	1000	V
Repetitive peak reverse voltage(T _j =25°C)	V _{RPM}	1000	V
RMS on-state current	I _{T(RMS)}	8	A
TO-220F(Ins) (T _C =90°C)			
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I _{TSM}	80	A
I ² t value for fusing (tp=10ms)	I ² t	32	A ² s
Critical rate of rise of on-state current (I _G =2×I _{GT} , T _j =110°C)	di/dt	80	A/μs
Peak gate current	I _{GM}	4	A
Average gate power dissipation	P _{G(AV)}	1	W
Peak gate power	P _{GM}	5	W

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

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	I - II -III	MAX	35	mA
V_{GT}		I - II -III	MAX	1.5	V
V_{GD}	$V_D=V_{DRM} T_j=125^{\circ}\text{C}$ $R_L=3.3\text{K}\Omega$	I - II -III	MIN	0.2	V
I_L	$I_G=1.2I_{GT}$	I -III	MAX	50	mA
		II		60	
I_H	$I_T=100\text{mA}$		MAX	40	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	1000	V/ μs

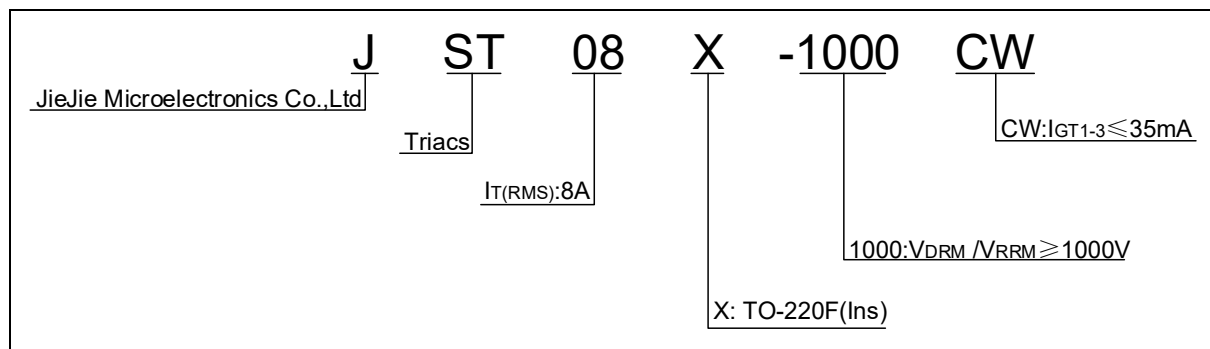
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=12\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.6	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=125^{\circ}\text{C}$	1	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220F(Ins)	2.9	$^{\circ}\text{C/W}$

ORDERING INFORMATION



MARKING

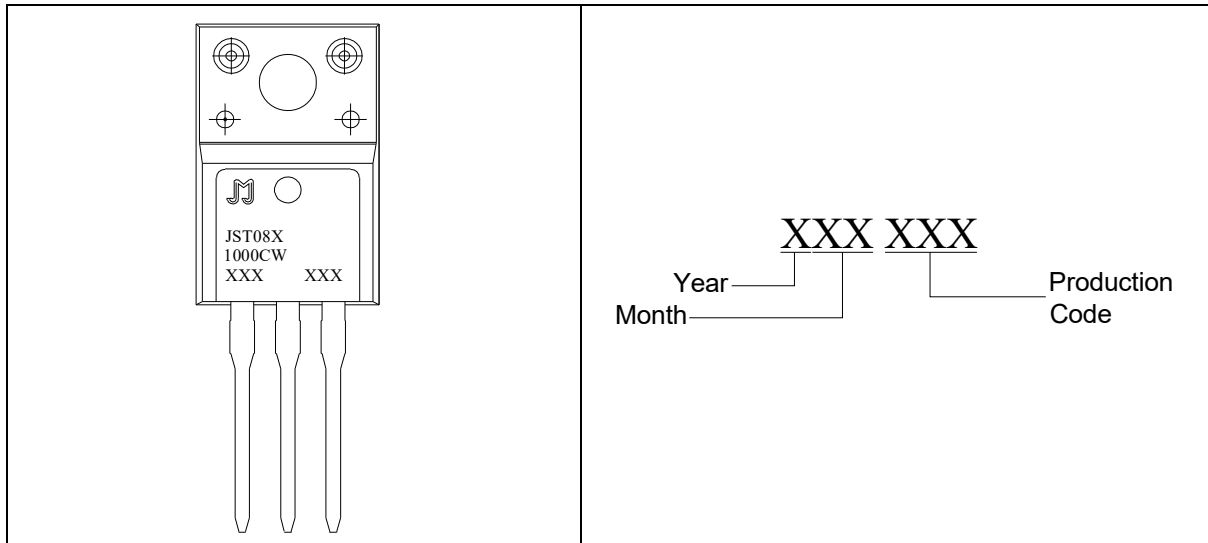


FIG.1: Maximum power dissipation versus RMS on-state current

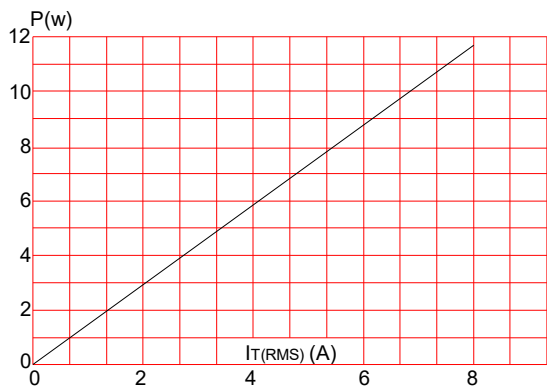


FIG.2: RMS on-state current versus case temperature

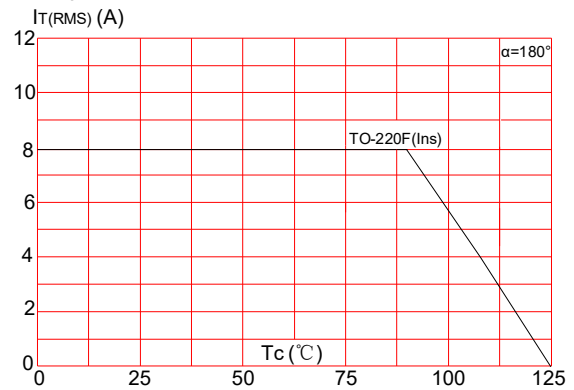


FIG.3: Surge peak on-state current versus number of cycles

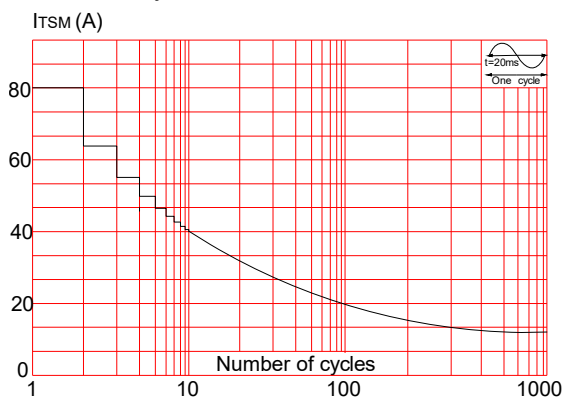


FIG.4: On-state characteristics (maximum values)

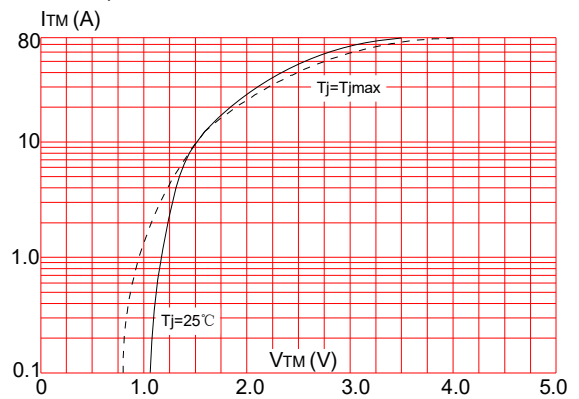


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$ and corresponding value of f_t ($di/dt < 80\text{A}/\mu\text{s}$)

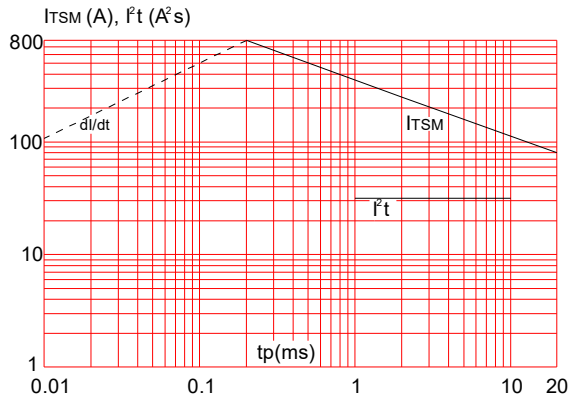
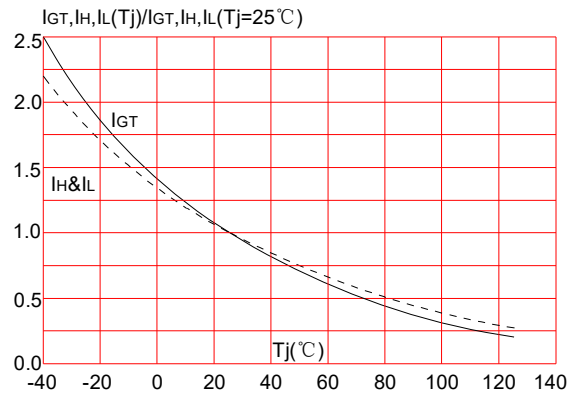


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



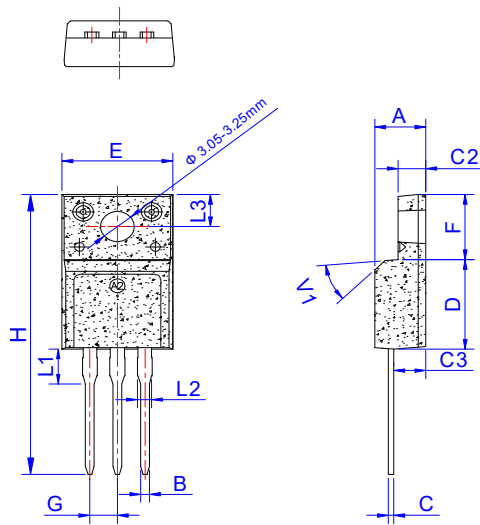
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		I - II - III			
JST08X-1000CW	1000	35	TO-220F(Ins)	50	Tube

Document Revision History

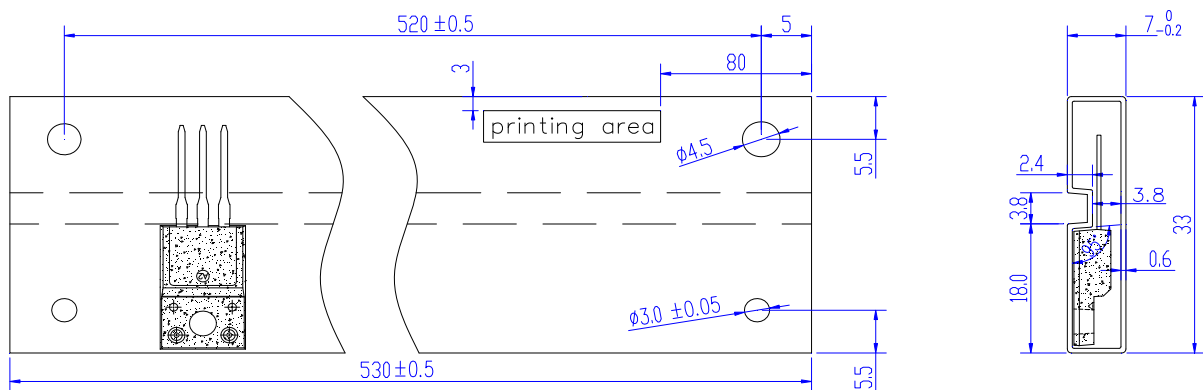
Date	Revision	Changes
Jun 24, 2022	1.1	Last update

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	3.20		3.80	0.126		0.150
L2	1.14		1.70	0.045		0.067
L3	3.20		3.60	0.126		0.142
V1		45°			45°	

DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220F	TUBE	50	1,000	5,000



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