

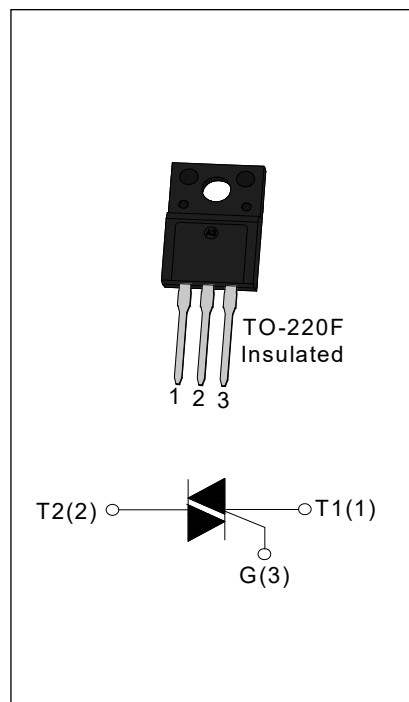


## JST04F-800CW 4A TRIACs

Rev.1

### DESCRIPTION:

With high ability to withstand the shock loading of large current, JST04F-800CW triacs provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, especially recommended for use on inductive load. From all three terminals to external heatsink, JST04F-800CW provides a rated insulation voltage of 2000 V<sub>RMS</sub>, complying with UL standards (Fileref:E252906). Package TO-220F is RoHS compliant. (2011/65/EU)



### MAIN FEATURES

Symbol	Value	Unit
V <sub>DRM</sub> / V <sub>RRM</sub>	800	V
I <sub>T(RMS)</sub>	4	A

### ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T <sub>stg</sub>	-40 - 150	°C
Operating junction temperature range		T <sub>j</sub>	-40 - 125	°C
Repetitive peak off-state voltage (T <sub>j</sub> =25°C)		V <sub>DRM</sub>	800	V
Repetitive peak reverse voltage (T <sub>j</sub> =25°C)		V <sub>RRM</sub>	800	V
RMS on-state current	TO-220F(Ins) (T <sub>c</sub> =100°C)	I <sub>T(RMS)</sub>	4	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I <sub>TSM</sub>	40	A
I <sup>2</sup> t value for fusing (tp=10ms)		I <sup>2</sup> t	8	A <sup>2</sup> s
Critical rate of rise of on-state current (I <sub>G</sub> = 2 × I <sub>GT</sub> )		di/dt	50	A/μs
Peak gate current		I <sub>GM</sub>	4	A
Average gate power dissipation		P <sub>G(AV)</sub>	1	W
Peak gate power		P <sub>GM</sub>	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	35	mA
dv/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	400	V/ $\mu\text{s}$

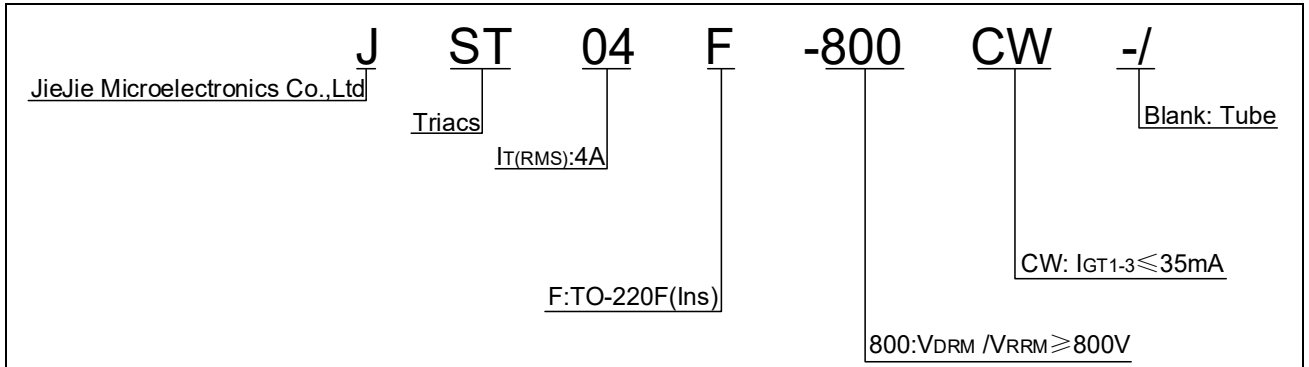
## STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=5.5\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.5	V
$V_{TO}$	Threshold voltage	$T_j=125^\circ\text{C}$	0.93	V
$R_d$	Dynamic resistance	$T_j=125^\circ\text{C}$	97	m $\Omega$
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	$\mu\text{A}$
$I_{RRM}$		$T_j=125^\circ\text{C}$	0.75	mA

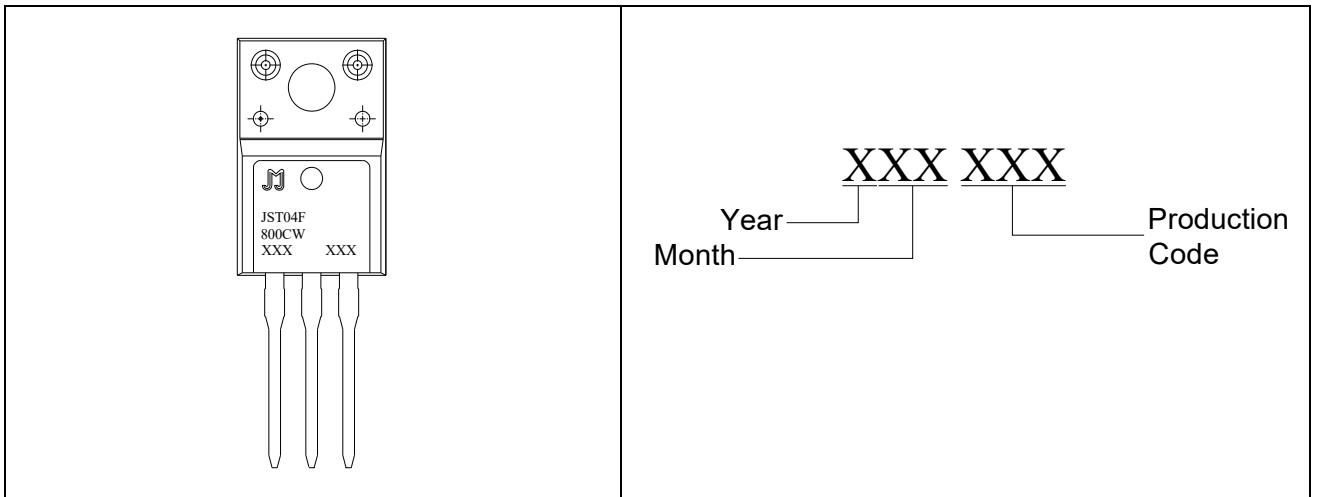
## THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220F(Ins)	3.0	$^\circ\text{C}/\text{W}$

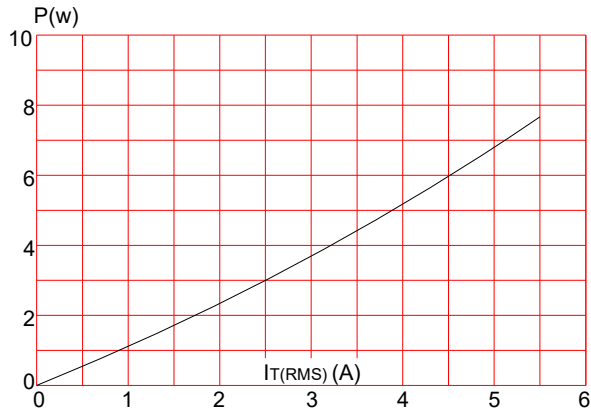
**ORDERING INFORMATION**



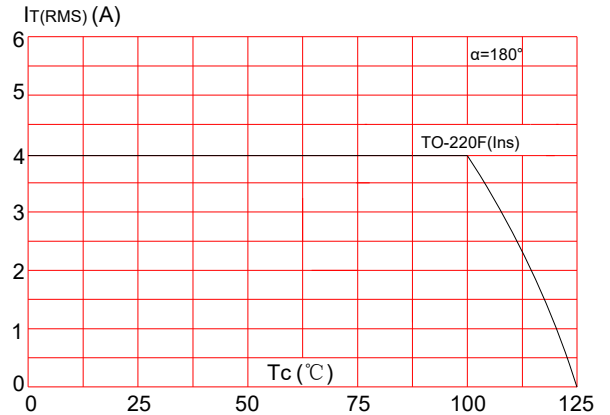
**MARKING**



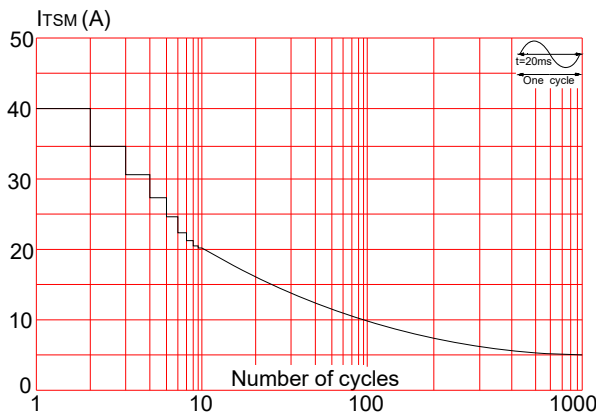
**FIG.1:** Maximum power dissipation versus RMS on-state current



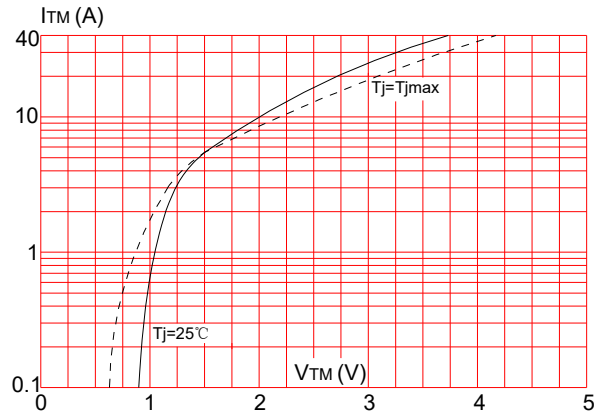
**FIG.2:** RMS on-state current versus case temperature



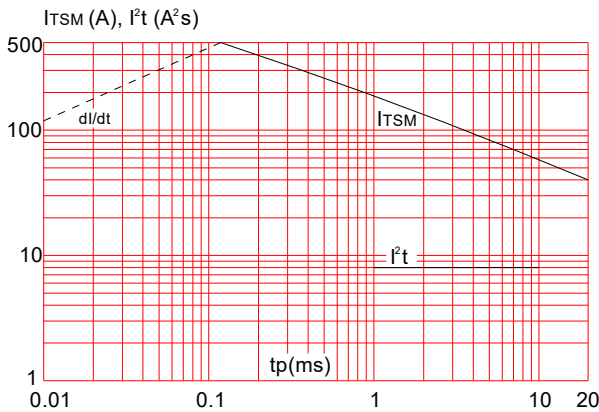
**FIG.3:** Surge peak on-state current versus number of cycles



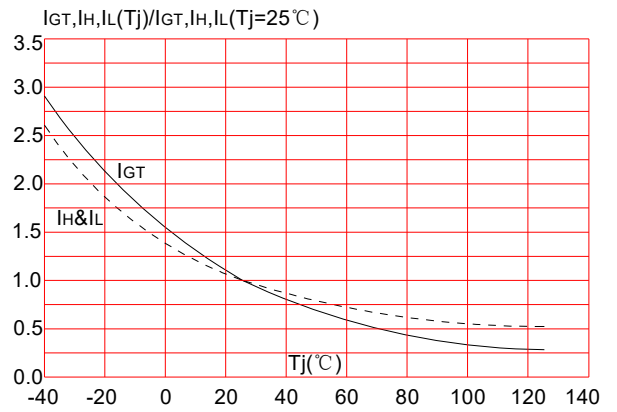
**FIG.4:** On-state characteristics (maximum values)



**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$  and corresponding value of  $I^2t$  ( $di/dt < 50\text{A}/\mu\text{s}$ )



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



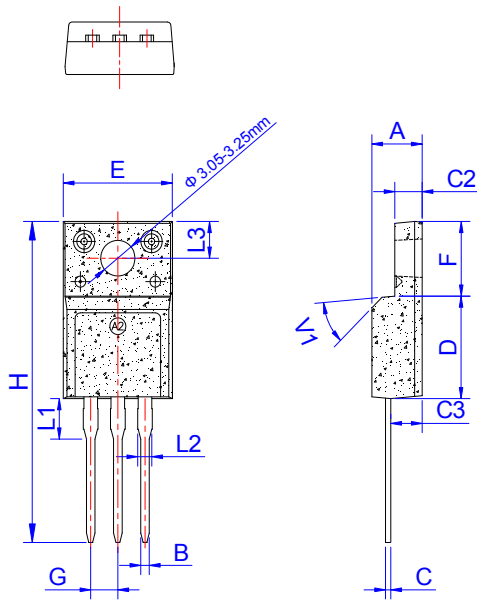
**ORDERING INFORMATION**

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JST04F-800CW	800	35	TO-220F(Ins)	50	Tube

**Document Revision History**

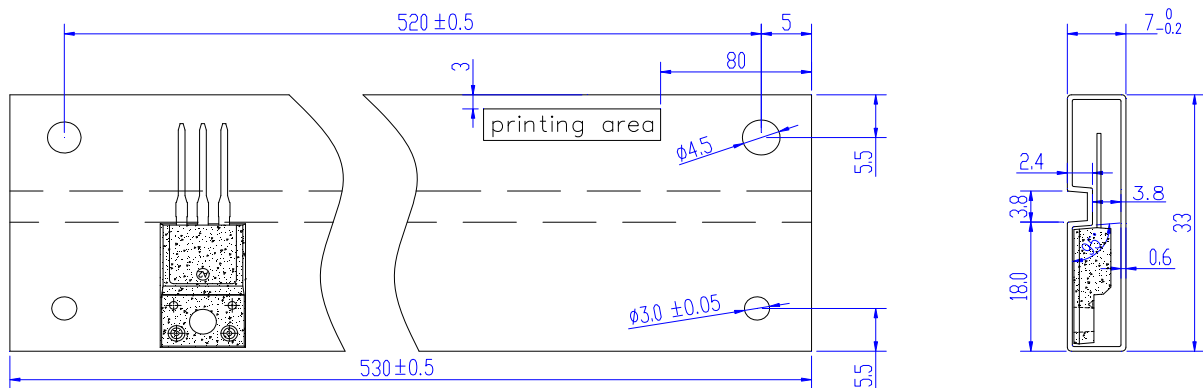
Date	Revision	Changes
Mar 27, 2022	1	Last update

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		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
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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