

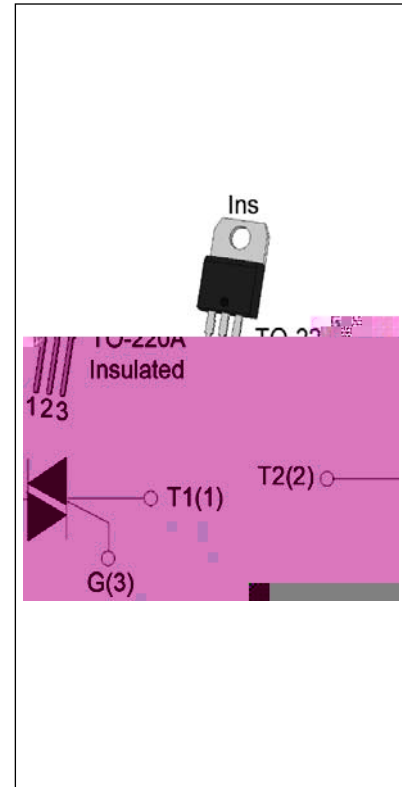


## JST24A-1200CW 25A TRIAC

Rev.A.1.0

### DESCRIPTION:

The JST24A-1200CW 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. JST24A-1200CW snubberless triac is especially recommended for use on inductive loads. By using an internal ceramic pad, JST24A-1200CW provides a rated insulation voltage of 2500 VRMS, complying with UL standards (File ref: E252906). Package TO-220A is RoHS compliant.



### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	25	A
$V_{DRM}/V_{RRM}$	1200	V
$I_{GT} / /$	35/35/35	mA

### ABSOLUTE MAXIMUM RATINGS

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 ( $T_j=25^\circ C$ )	$V_{DRM}$	1200	V
Repetitive peak reverse voltage ( $T_j=25^\circ C$ )	$V_{RRM}$	1200	V
RMS on-state current ( $T_c = 79^\circ C$ )	$I_{T(RMS)}$	25	A
Non repetitive surge peak on-state current (full cycle, $t_p=20ms$ , $T_j=25^\circ C$ )	$I_{TSM}$	250	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6ms$ , $T_j=25^\circ C$ )		275	
$I^2t$ value for fusing ( $t_p=10ms$ , $T_j=25^\circ C$ )	$I^2t$	340	$A^2s$
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ , $f=100Hz$ , $T_j=125^\circ C$ )	$di/dt$	100	$A/\mu s$
Peak gate current ( $t_p=20\mu s$ , $T_j=125^\circ C$ )	$I_{GM}$	4	A
Average gate power dissipation ( $T_j=125^\circ C$ )	$P_{G(AV)}$	0.5	W

Peak gate power	$P_{GM}$	10	W
Peak pulse voltage ( $T_j=25$ ; non-repetitive, off-state; FIG.7)	$V_{pp}$	2.5	kV

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

Symbol	Test Condition	Quadrant	Value		Unit
$I_{GT}$	$V_D=12V R_L=33$	- -	MAX.	35	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.	70	mA
				80	
$I_H$	$I_T=500mA$		MAX.	60	mA
dV/dt	$V_D=800V$ Gate Open $T_j=125$		MIN.	1000	V/ $\mu s$
(dI/dt) <sub>c</sub>	(dV/dt) <sub>c</sub> =20V/ $\mu s$ $T_j=125$		MIN.	15	A/ms
$t_{on}$	$I_G=40mA I_A=200mA I_R=20mA$ $T_j=25$		TYP.	2	$\mu s$
$t_{off}$				60	

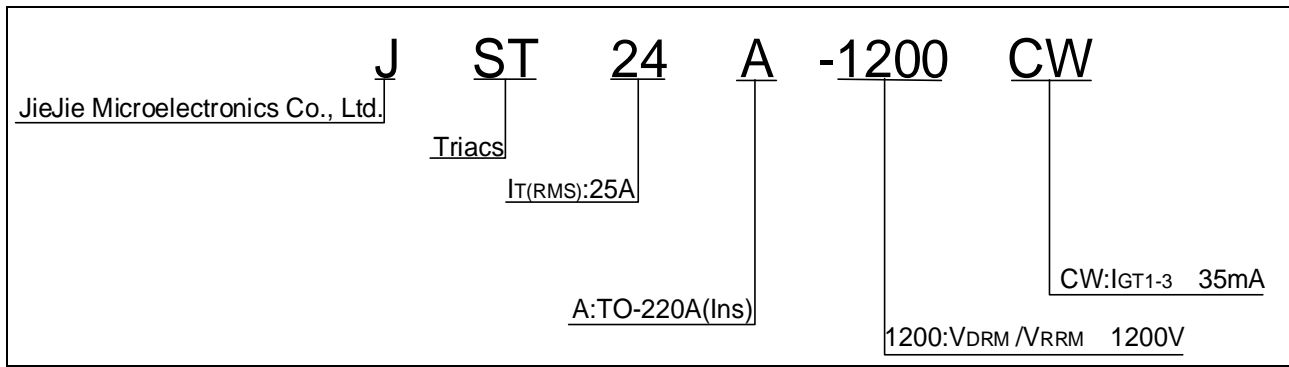
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_{TM}=35A t_p=380\mu s$	$T_j=25$	1.5	V
$V_{TO}$	Threshold voltage	$T_j=125$	0.76	V
$R_D$	Dynamic resistance	$T_j=125$	26	m
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	10	$\mu A$
$I_{RRM}$		$T_j=125$	4	mA

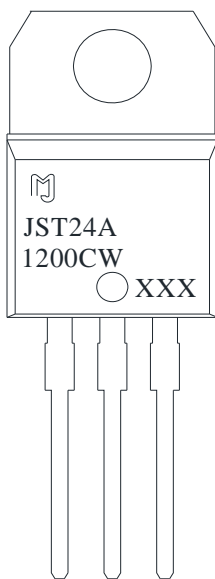
**THERMAL RESISTANCES**

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	1.3	/W
$R_{th(j-a)}$	junction to ambient (AC)	60	/W

## ORDERING INFORMATION

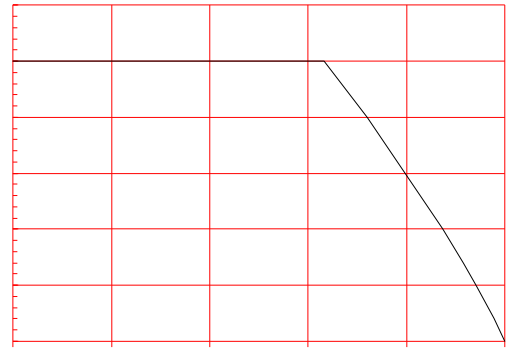


## MARKING



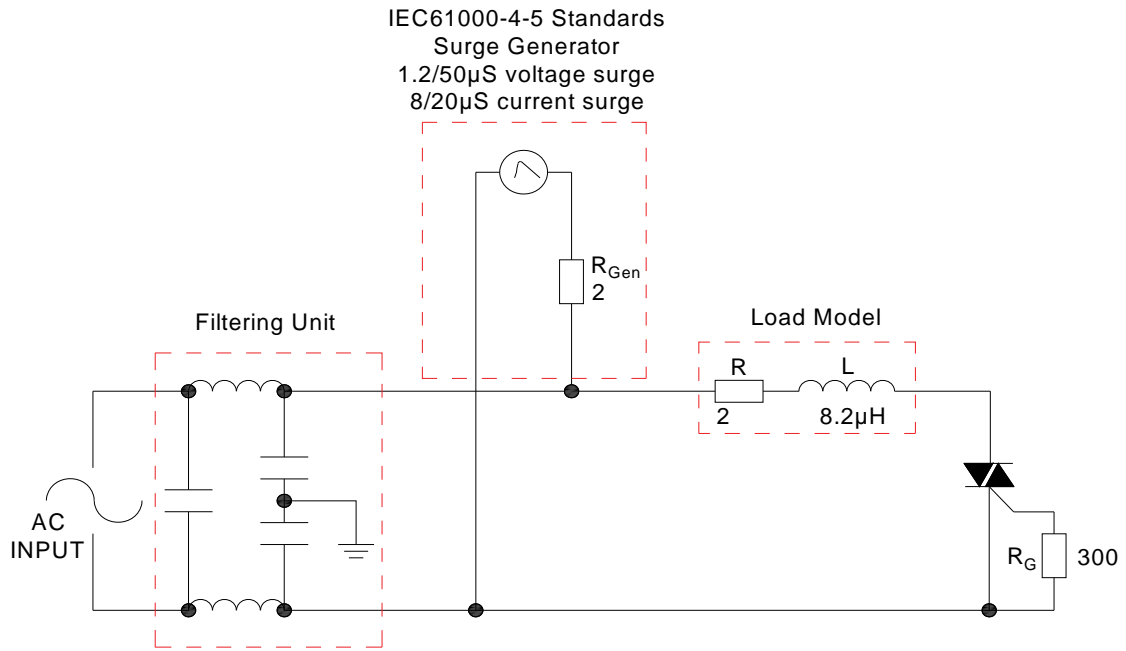
RMS

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



**FIG.4:** On-state characteristics

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



### SHAPING AND SOLDERING PARAMETERS

Refer to Instructions for installation of plastic-sealed in-line power devices released by JieJie

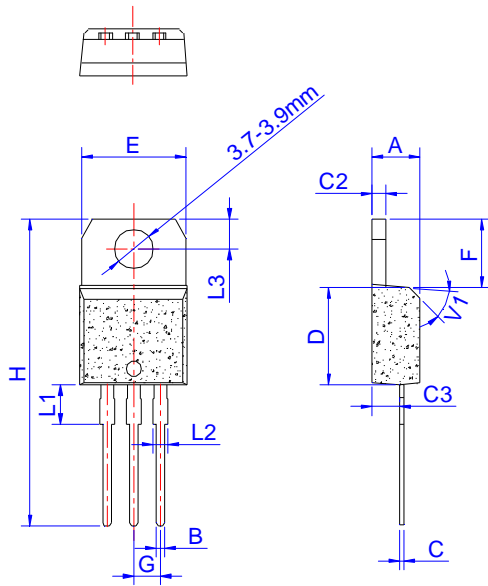
**ORDERING INFORMATION**

Order code	Voltage V <sub>DRM</sub> /V <sub>R<sub>RRM</sub></sub> (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
<b>JST24A-1200CW</b>	<b>1200</b>	<b>35</b>	<b>TO-220A(Ins)</b>	<b>50</b>	<b>Tube</b>

**Document Revision History**

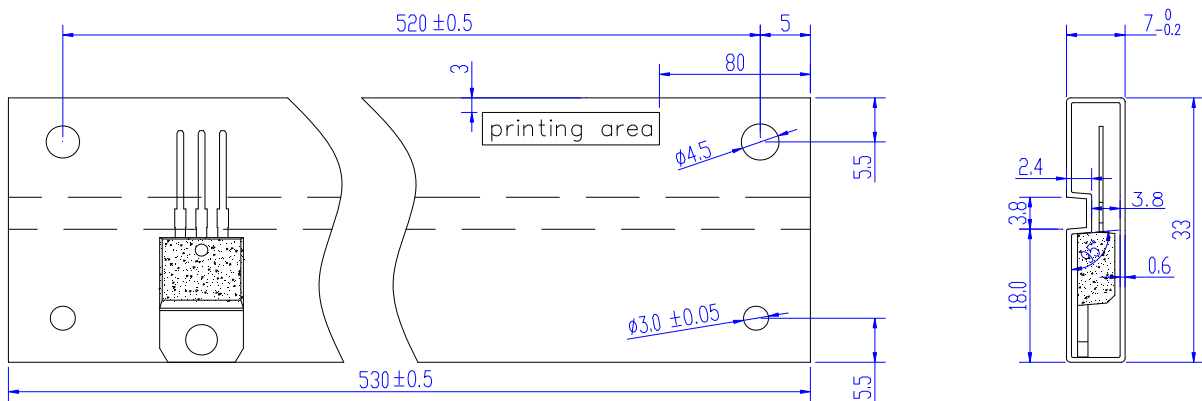
Apr	Revision	Changes
Apr.12, 2023	A.1.0	Last updated

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.25		6.85	0.246		0.270
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	3.45		4.05	0.136		0.159
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

DELIVERY MODE



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

