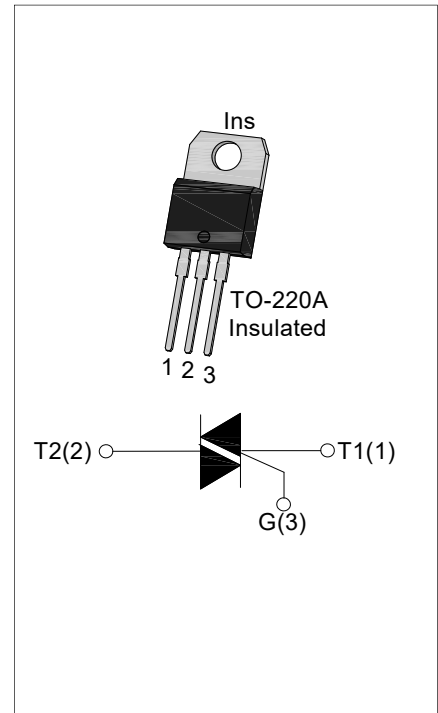




DESCRIPTION:

With high ability to withstand the shock loading of large current, JST16A-1200BW triac 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, JST16A-1200BW provides a rated insulation voltage of 2500 V_{RMS}, complying with UL standards (File ref: E252906). Package TO-220A is RoHS compliant. (2011/65/EU)



MAIN FEATURES

Symbol	Value	Unit
I _{T(RMS)}	16	A
V _{DRM} / V _{RRM}	1200	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}	1200	V
Repetitive peak reverse voltage (T _j =25°C)		V _{RRM}	1200	V
Non repetitive surge peak Off-state voltage		V _{DSM}	V _{DRM} +100	V
Non repetitive peak reverse voltage		V _{RSM}	V _{RRM} +100	V
RMS on-state current	TO-220A(Ins) (T _C =90°C)	I _{T(RMS)}	16	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I _{TSM}	160	A
I ² t value for fusing (tp=10ms)		I ² t	128	A ² s
Critical rate of rise of on-state current (I _G =2×I _{GT})		di/dt	50	A/μs
Peak gate current tp=20uS		I _{GM}	4	A
Average gate power dissipation		P _{G(AV)}	1	W
Peak gate power tp=20uS		P _{GM}	5	W

Peak pulse voltage ($T_j=25^{\circ}\text{C}$; non-repetitive, off-state; FIG.7)	Vpp	2	kV
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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	50	mA
V_{GT}		I - II -III	MAX	1.3	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	70	mA
		II		80	
I_H	$I_T=100\text{mA}$		MAX	60	mA
dv/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	1500	V/ μs
t_{on}	$I_G=20\text{mA } I_A=200\text{mA } I_R=20\text{mA}$ $T_j=25^{\circ}\text{C}$		TYP	10	μs
t_{off}			TYP	50	μs

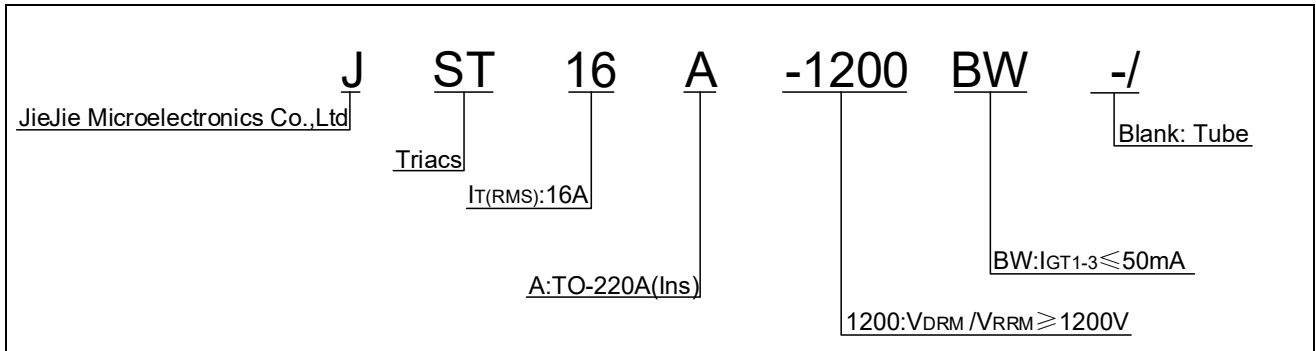
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=22.5\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
V_{TO}	Threshold voltage	$T_j=125^{\circ}\text{C}$	0.94	V
Rd	Dynamic resistance	$T_j=125^{\circ}\text{C}$	19	m Ω
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-220A(Ins)	1.68	$^{\circ}\text{C/W}$

ORDERING INFORMATION



MARKING

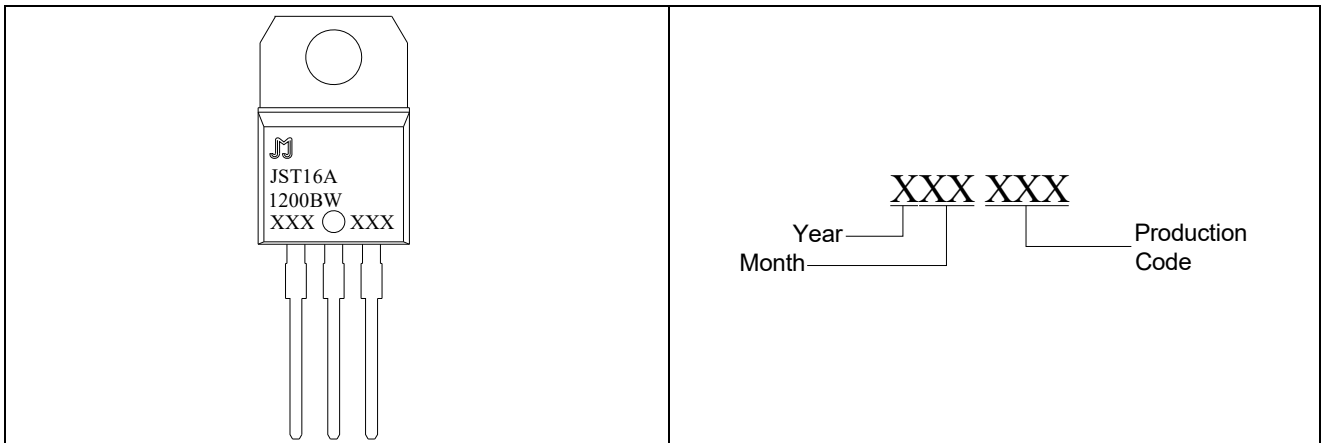


FIG.1: Maximum power dissipation versus RMS on-state current

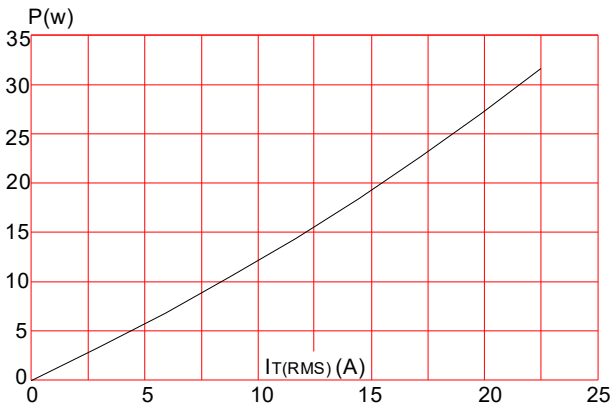


FIG.3: Surge peak on-state current versus number of cycles

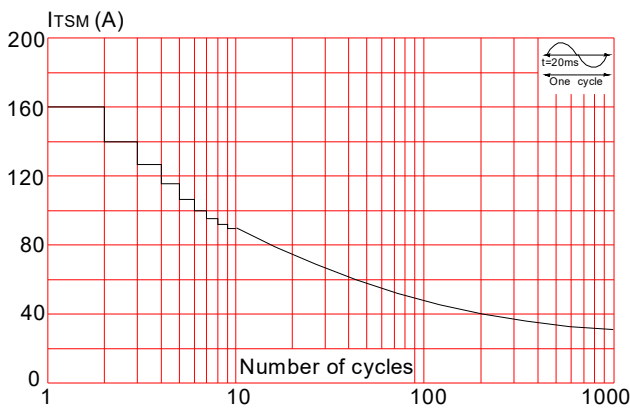


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\mu s$, and corresponding value of I^2t ($di/dt < 50A/\mu s$)

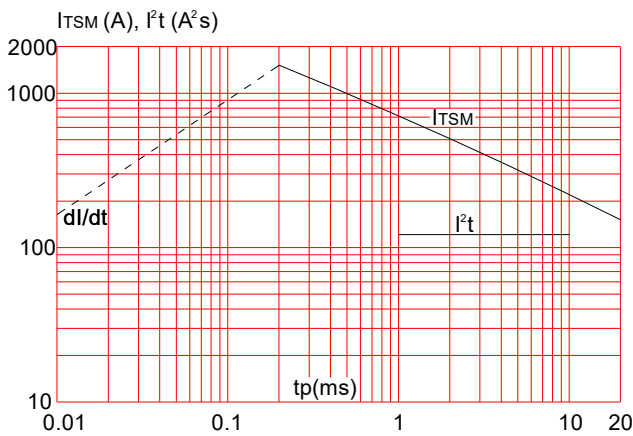


FIG.2: RMS on-state current versus case temperature

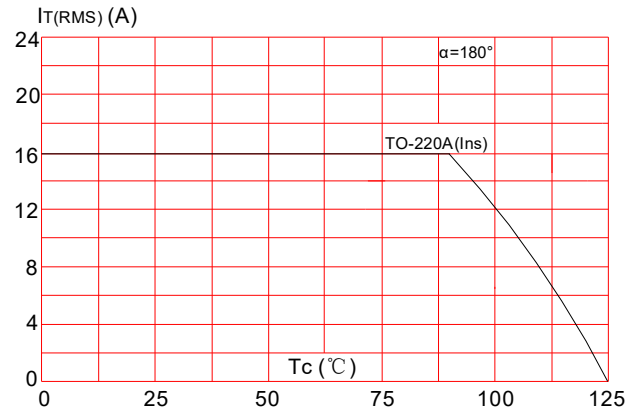


FIG.4: On-state characteristics (maximum values)

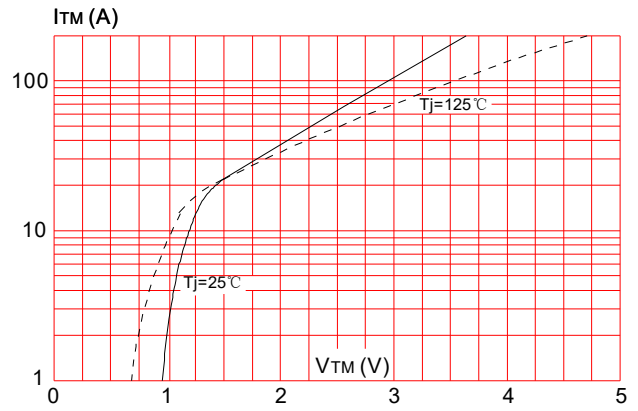


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

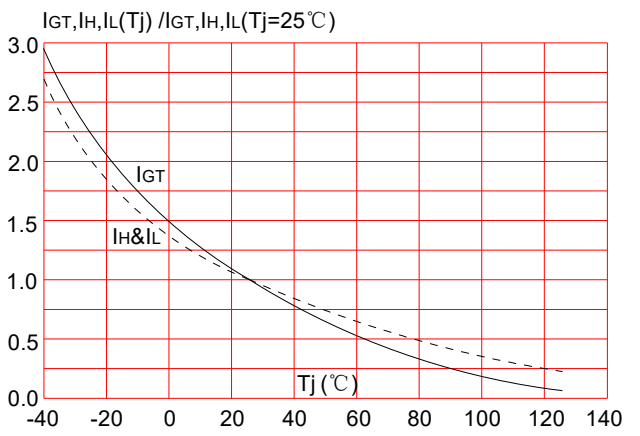
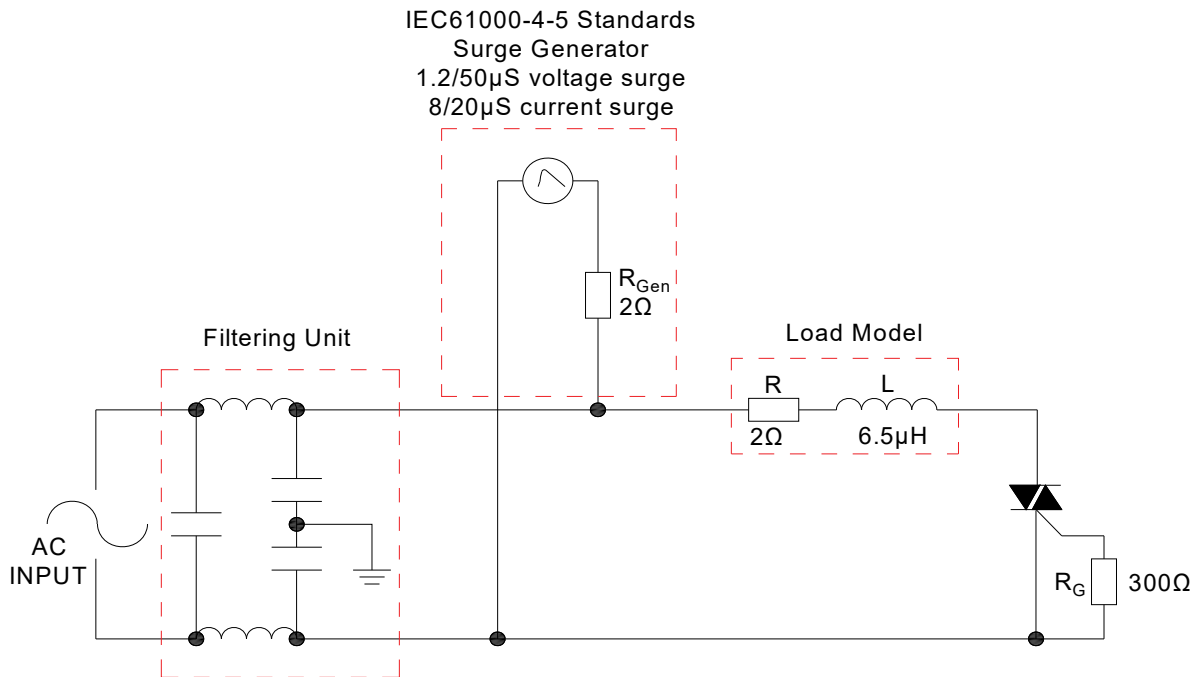


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



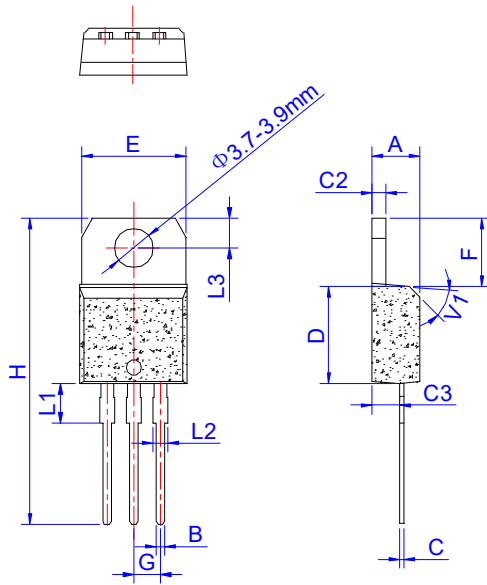
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Deliver y mode
JST16A-1200BW	1200	50	TO-220A(Ins)	50	Tube

Document Revision History

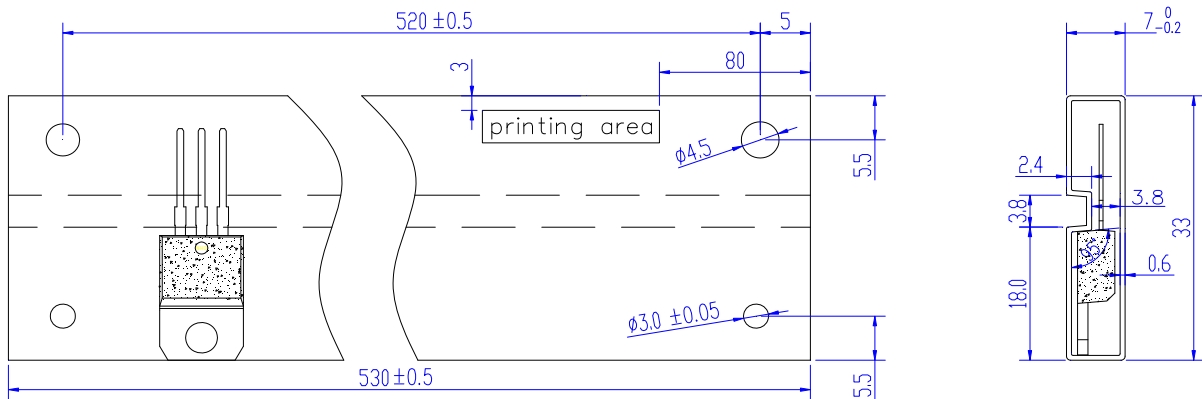
Date	Revision	Changes
Mar 18, 2022	1	Last update
May 26, 2022	2	Add V_{pp} & t_{on} & t_{off}

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



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