



JST06A-600BW 6A TRIACs

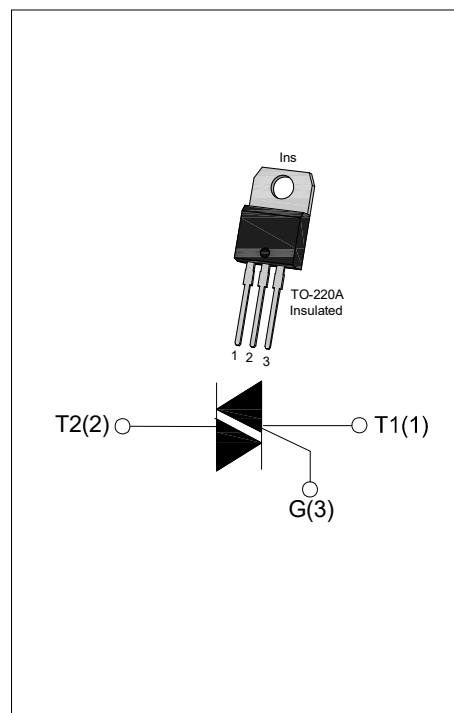
Rev.1

DESCRIPTION:

With high ability to withstand the shock loading of large current, JST06A-600BW triacs provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, the products especially recommended for use on inductive load. From all three terminals to external heatsink, JST06A -600BW 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
$I_{T(RMS)}$	6	A
V_{DRM}/V_{RRM}	600	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 ($T_j=25^{\circ}\text{C}$)		V_{DRM}	600	V
Repetitive peak reverse voltage ($T_j=25^{\circ}\text{C}$)		V_{RRM}	600	V
RMS on-state current	TO-220A(Ins) ($T_C=100^{\circ}\text{C}$)	$I_{T(RMS)}$	6	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I_{TSM}	60	A
I^2t value for fusing ($t_p=10\text{ms}$)		I^2t	18	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	I - II - III	dI/dt	50	$\text{A}/\mu\text{s}$
	IV		10	
Peak gate current		I_{GM}	2	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}	$V_D=12\text{V } R_L=30\Omega$	I - II -III	MAX	50	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	70	mA
		II		80	
I_H	$I_{TM}=0.2\text{A}$		MAX	60	mA
dv/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	1000	V/ μs
(di/dt)c	Without sunbber $T_j=125^{\circ}\text{C}$		MIN	5.3	A/ms

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=8.5\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
V_{TO}	Threshold voltage	$T_j=125^{\circ}\text{C}$	0.93	V
R_d	Dynamic resistance	$T_j=125^{\circ}\text{C}$	45	m Ω
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	mA
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)	2.9	$^{\circ}\text{C/W}$

ORDERING INFORMATION

J	ST	06	A	-600	BW	-/
JieJie Microelectronics Co.,Ltd	Triacs	$I_{T(RMS)}:6A$	A:TO-220A(Ins)	600: $V_{DRM}/V_{RRM} \geq 600V$	BW: $I_{GT1-3} \leq 50mA$	Blank: Tube

MARKING

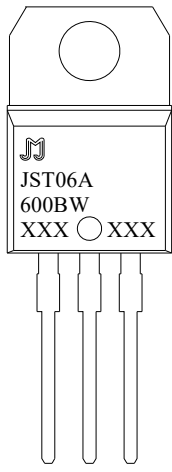
 Diagram showing the marking on the component: JST06A, 600BW, XXX ○ XXX.	Year — XXX XXX Month — Production code
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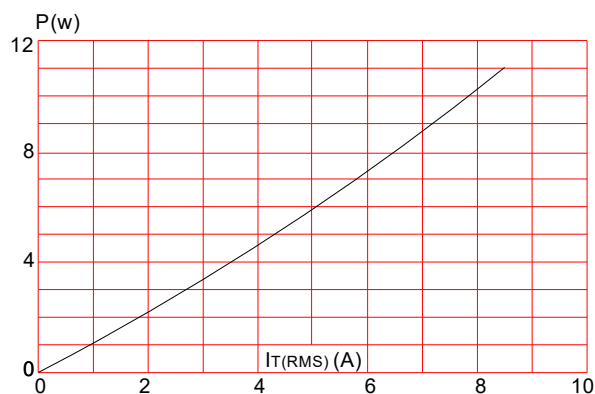
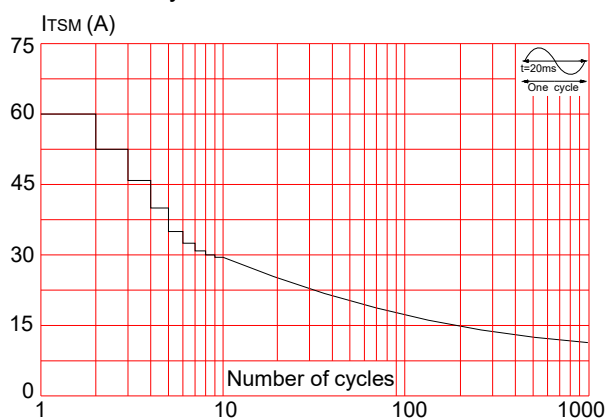
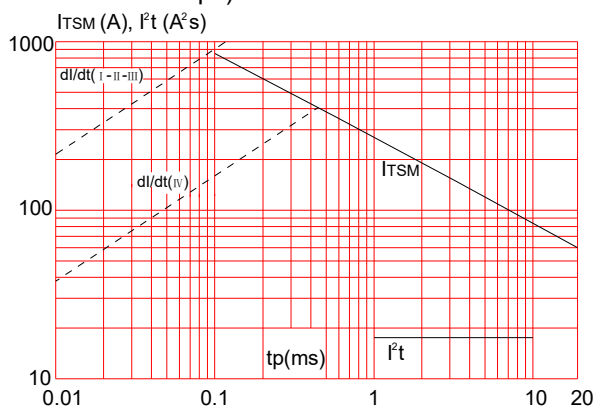
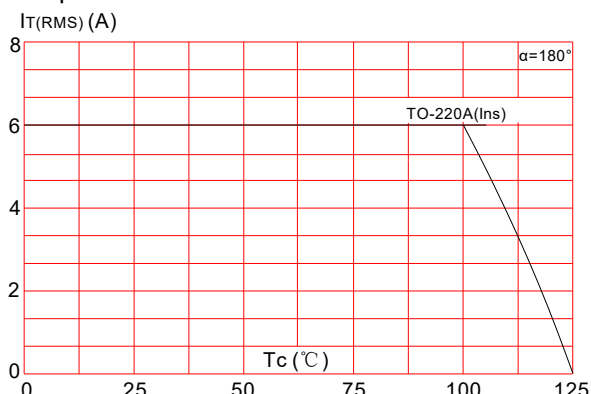
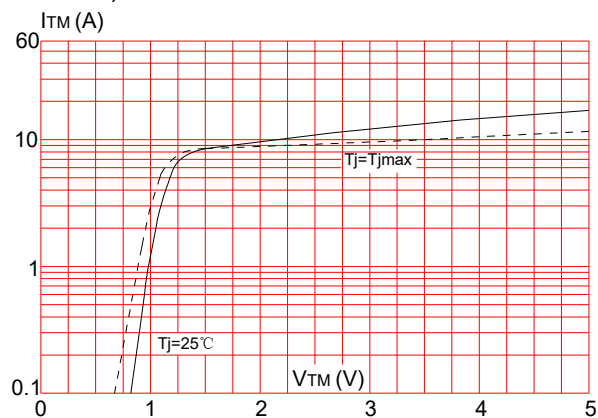
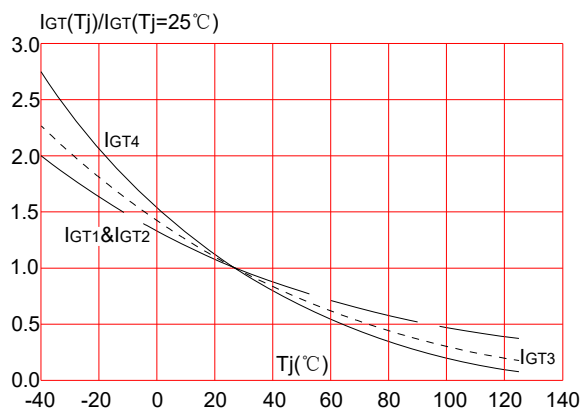
FIG.1: Maximum power dissipation versus RMS on-state current**FIG.3:** Surge peak on-state current versus number of cycles**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t (I - II - III: $di/dt < 50\text{A}/\mu\text{s}$; IV: $di/dt < 10\text{A}/\mu\text{s}$)**FIG.2:** RMS on-state current versus case temperature**FIG.4:** On-state characteristics (maximum values)**FIG.6:** Relative variations of gate trigger current versus junction temperature

FIG.7: Relative variations of holding current versus junction temperature

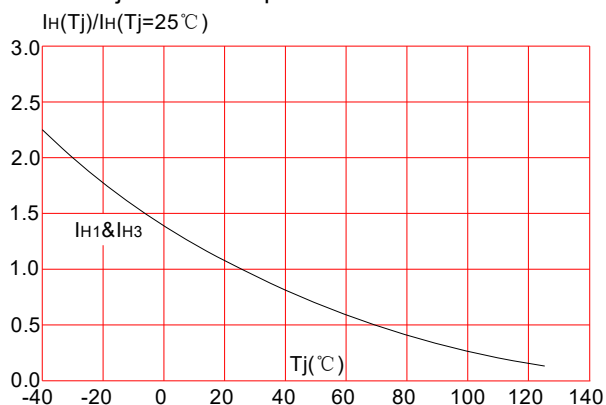
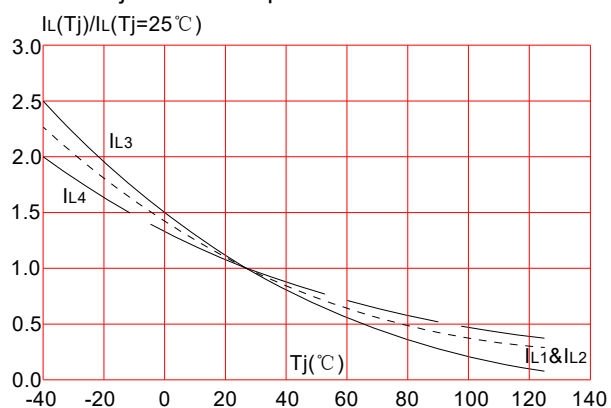


FIG.8: Relative variations of latching current versus junction temperature



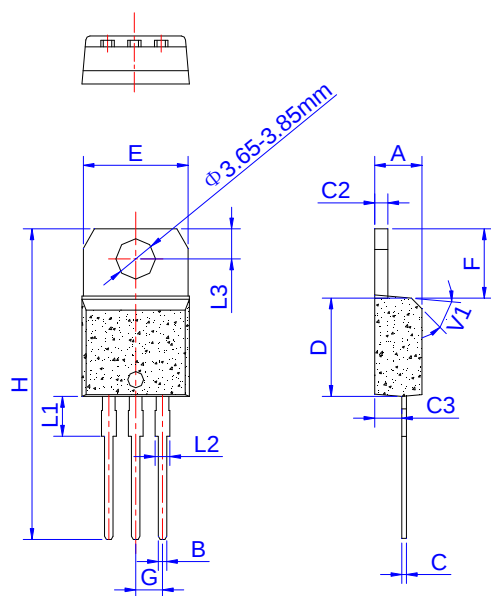
ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JST06A-600BW	600	50	TO-220A(Ins)	50	Tube

Document Revision History

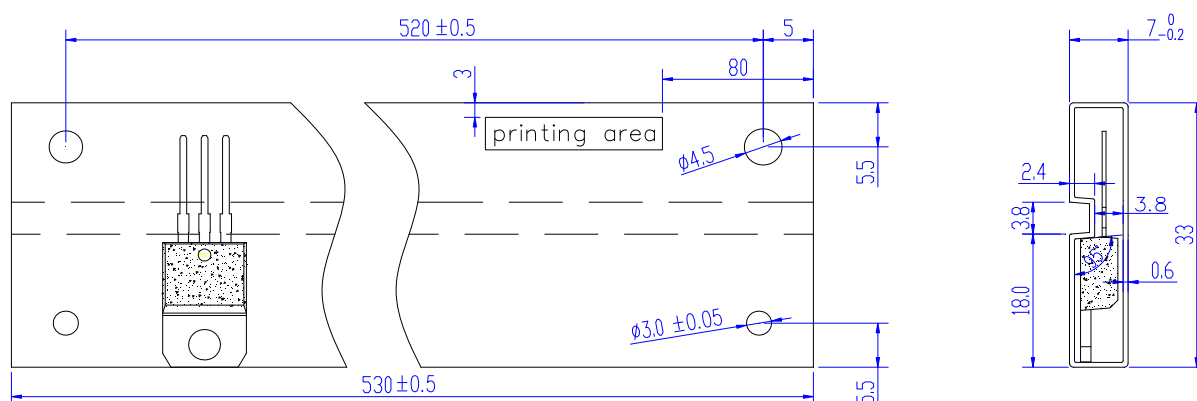
Date	Revision	Changes
Mar 22, 2022	1	Last update

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	6.55		6.95	0.258		0.274
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
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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