



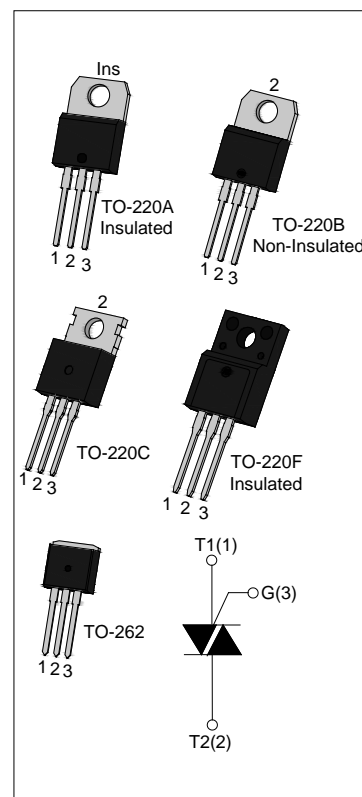
DESCRIPTION:

With high ability to withstand the shock loading of large current, JST16 series triacs provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, 3 quadrants products especially recommended for use on inductive load.

From all three terminals to external heatsink, JST16A provides a rated insulation voltage of 2500 V_{RMS}, and JST16F provides a rated insulation voltage of 2000V_{RMS}, complying with UL standards (File ref: E252906). All the packages are RoHS compliant. (2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
I _{T(RMS)}	16	A
V _{DRM} / V _{RSM}	600/800/1200	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}	600/800/1200	V
Repetitive peak reverse voltage (T _j =25°C)		V _{RSM}	600/800/1200	V
Non repetitive surge peak Off-state voltage		V _{DSM}	V _{DRM} +100	V
Non repetitive peak reverse voltage		V _{RSM}	V _{RSM} +100	V
RMS on-state current	TO-220A(Ins) (T _c =86°C)	I _{T(RMS)}	16	A
	TO-220B(Non-Ins)/ TO-220C (T _c =107°C)			
	TO-263 (T _c =80°C)			
	TO-220F(Ins) (T _c =90°C)			

Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	160	A
I^2t value for fusing ($t_p=10ms$)	I^2t	128	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	50	$A/\mu s$
Peak gate current $t_p=20\mu s$	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power $t_p=20\mu s$	P_{GM}	5	W

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

3 Quadrants

Symbol	Test Condition	Quadrant		Value				Unit
				BW	CW	SW	TW	
I_{GT}	$V_D=12V R_L=33\Omega$	I - II -III	MAX	50	35	10	5	mA
V_{GT}		I - II -III	MAX	1.3				V
V_{GD}	$V_D=V_{DRM} T_j=125^\circ C$ $R_L=3.3K\Omega$	I - II -III	MIN	0.2				V
I_L	$I_G=1.2I_{GT}$	I -III	MAX	70	50	30	15	mA
		II		80	60	40	20	
I_H	$I_T=100mA$		MAX	60	40	25	15	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ C$		MIN	1000	500	200	100	$V/\mu s$

4 Quadrants

Symbol	Test Condition	Quadrant		Value		Unit
				B	C	
I_{GT}	$V_D=12V R_L=33\Omega$	I - II -III	MAX	50	25	mA
		IV		70	50	
V_{GT}		ALL	MAX	1.5		V
V_{GD}	$V_D=V_{DRM} T_j=125^\circ C$ $R_L=3.3K\Omega$	ALL	MIN	0.2		V
I_L	$I_G=1.2I_{GT}$	I -III-IV	MAX	70	50	mA
		II		100	80	
I_H	$I_T=100mA$		MAX	60	40	mA

dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$	MIN	500	200	V/ μs
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STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)			Unit
			-600V	-800V	-1200V	
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	$T_j=125^\circ\text{C}$	0.92			V
R_d	Dynamic resistance	$T_j=125^\circ\text{C}$	21			m Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	5	10	μA
I_{RRM}		$T_j=125^\circ\text{C}$	1	1	2	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220A(Ins)	2.1	$^\circ\text{C}/\text{W}$
		TO-220B(Non-Ins)/ TO-220C	1.2	
		TO-220F(Ins)	2.3	
		TO-262	2.5	

ORDERING INFORMATION

J	ST	16	A	-600	BW	-/
JieJie Microelectronics Co.,Ltd	Triacs	$I_{T(RMS)}:16\text{A}$				Blank: Tube
		D:TO-262 C:TO-220C A:TO-220A(Ins) F:TO-220F(Ins) B:TO-220B(Non-Ins)				BW: $I_{GT1-3} \leq 50\text{mA}$ CW: $I_{GT1-3} \leq 35\text{mA}$ SW: $I_{GT1-3} \leq 10\text{mA}$ TW: $I_{GT1-3} \leq 5\text{mA}$ B: $I_{GT1-3} \leq 50\text{mA}$ $I_{GT4} \leq 70\text{mA}$ C: $I_{GT1-3} \leq 25\text{mA}$ $I_{GT4} \leq 50\text{mA}$
				600: $V_{DRM}/V_{RRM} \geq 600\text{V}$ 800: $V_{DRM}/V_{RRM} \geq 800\text{V}$ 1200: $V_{DRM}/V_{RRM} \geq 1200\text{V}$		

MARKING

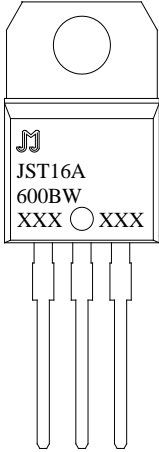

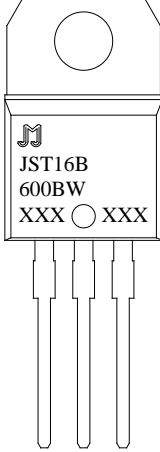

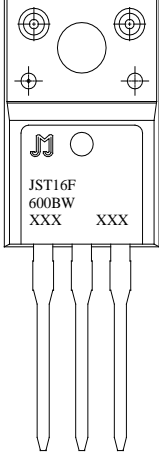

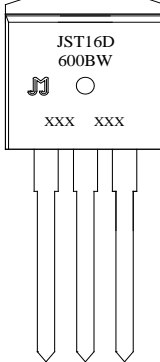

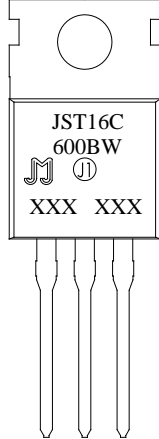

 <p>  JST16A 600BW XXX ○ XXX </p>	 <p>  JST16B 600BW XXX ○ XXX </p>
 <p>  JST16F 600BW XXX ○ XXX </p>	 <p> JST16D 600BW  ○ XXX ○ XXX </p>
 <p> JST16C 600BW  ① XXX ○ XXX </p>	<p style="text-align: center;"> <u>XXX</u> <u>XXX</u> </p> <p> Year _____ Production Code Month _____ </p>



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

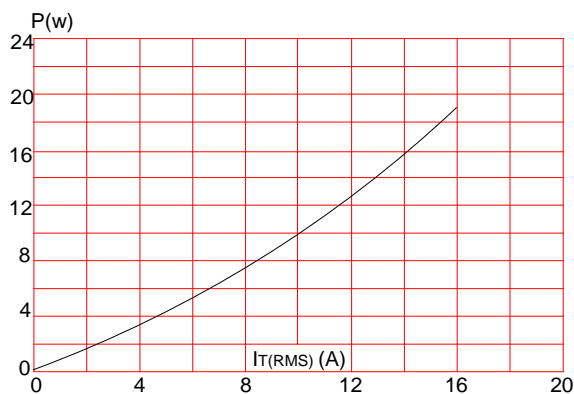


FIG.3: Surge peak on-state current versus number of cycles

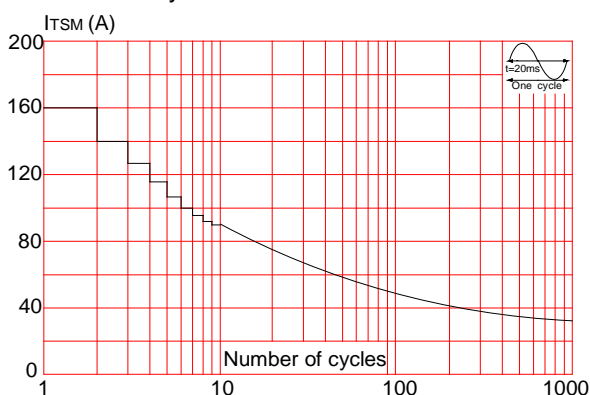


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

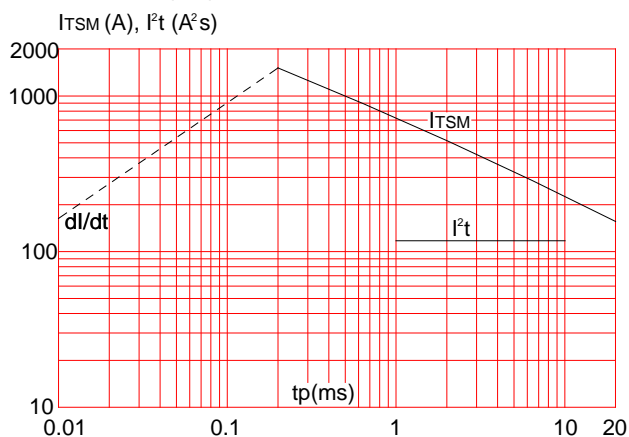


FIG.2: RMS on-state current versus case temperature

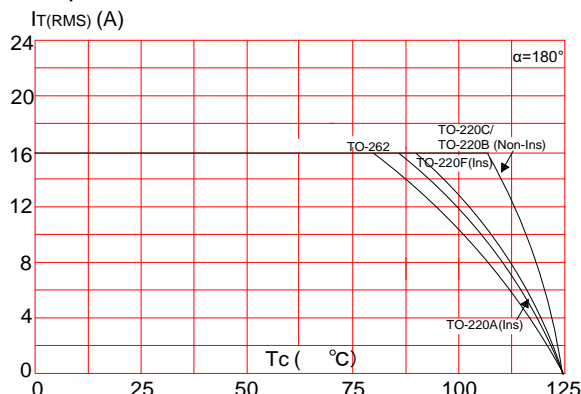


FIG.4: On-state characteristics (maximum values)

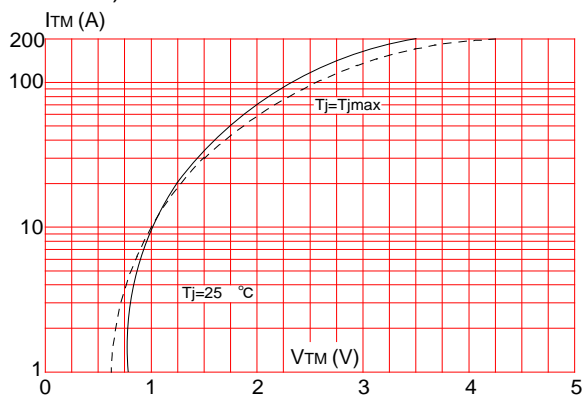
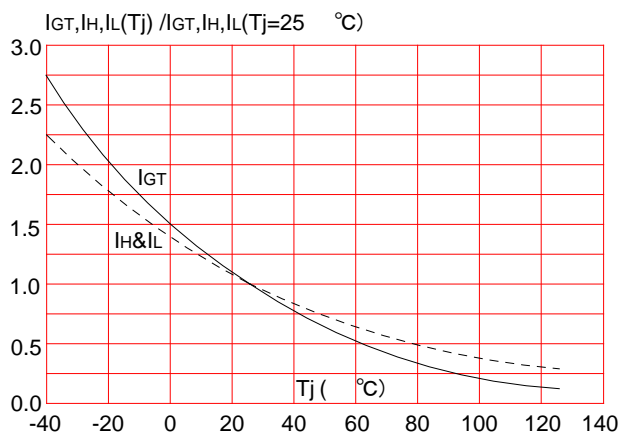


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



ORDERING INFORMATION

Order code	Voltage V _{DRM} /V _{RRM} (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		I - II-III	IV			
JST16A-600/800/1200B	600/800/1200	50	70	TO-220A(Ins)	50	Tube
JST16A-600/800/1200C		25	50			
JST16B-600/800/1200B		50	70	TO-220B(Non-Ins)		
JST16B-600/800/1200C		25	50			
JST16C-600/800/1200B		50	70	TO-220C		
JST16C-600/800/1200C		25	50			
JST16F-600/800/1200B		50	70	TO-220F(Ins)		
JST16F-600/800/1200C		25	50			
JST16D-600/800/1200B		50	70	TO-262		
JST16D-600/800/1200C		25	50			
Order code	Voltage V _{DRM} /V _{RRM} (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
JST16A-600/800/1200TW	600/800/1200	5		TO-220A(Ins)	50	Tube
JST16A-600/800/1200SW		10				
JST16A-600/800/1200CW		35				
JST16A-600/800/1200BW		50				
JST16B-600/800/1200TW		5		TO-220B(Non-Ins)		
JST16B-600/800/1200SW		10				
JST16B-600/800/1200CW		35				
JST16B-600/800/1200BW		50				
JST16C-600/800/1200TW		5		TO-220C		
JST16C-600/800/1200SW		10				
JST16C-600/800/1200CW		35				
JST16C-600/800/1200BW		50				

JST16 Series

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JST16F-600/800/1200TW	600/800/1200	5	TO-220F(Ins)	50	Tube
JST16F-600/800/1200SW		10			
JST16F-600/800/1200CW		35			
JST16F-600/800/1200BW		50			
JST16D-600/800/1200TW		5	TO-262		
JST16D-600/800/1200SW		10			
JST16D-600/800/1200CW		35			
JST16D-600/800/1200BW		50			

Document Revision History

Date	Revision	Changes
July 9, 2021	7	Last update