



JST16 Series 16A TRIACs

Rev.7.0

DESCRIPTION:

JST16 series provide high dv/dt rate with strong resistance to electromagnetic interface.

They are especially recommended for use on home appliances such as motor control of washing machine.

From all three terminals to external heatsink, JST16i provides insulation voltage rated at 2500V RMS, and JST16X provides insulation voltage rated at 2000V RMS, complying with UL standards (File ref: E252906). Packages TO-220A&F are RoHS compliant. (2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	16	A
V_{DRM}/V_{RRM}	800	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($T_j=25^{\circ}C$)	V_{DRM}	800	V	
Repetitive peak reverse voltage($T_j=25^{\circ}C$)	V_{RRM}	800	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)/ TO-220F(Ins) ($T_C=75^{\circ}C$)	$I_{T(RMS)}$	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
Rate of rise of on-state current (I _G =2×I _{GT})	Di/dt	100	A/μs
Peak gate current	I _{GM}	4	A
Average gate power dissipation	P _{G(AV)}	1	W
Peak gate power	P _{GM}	5	W

ELECTRICAL CHARACTERISTICS (T_j=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant		Value			Unit
				SW	CW	BW	
I _{GT}	V _D =12V R _L =33Ω	I - II -III	MAX	10	35	50	Ma
V _{GT}		I - II -III	MAX	1.3			V
V _{GD}	V _D =V _{DRM} T _j =125°C R _L =3.3KΩ	I - II -III	MIN	0.2			V
I _L	I _G =1.2I _{GT}	I -III	MAX	30	50	70	mA
		II		40	60	100	
I _H	I _T =100Ma		MAX	25	40	60	mA
dV/dt	V _D =2/3V _{DRM} Gate Open T _j =125°C		MIN	500	1000	1500	V/μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V _{TM}	I _{TM} =24A tp=380μs	T _j =25°C	1.5	V
I _{DRM}	V _D =V _{DRM} V _R =V _{RRM}	T _j =25°C	5	μA
I _{RRM}		T _j =125°C	0.5	mA

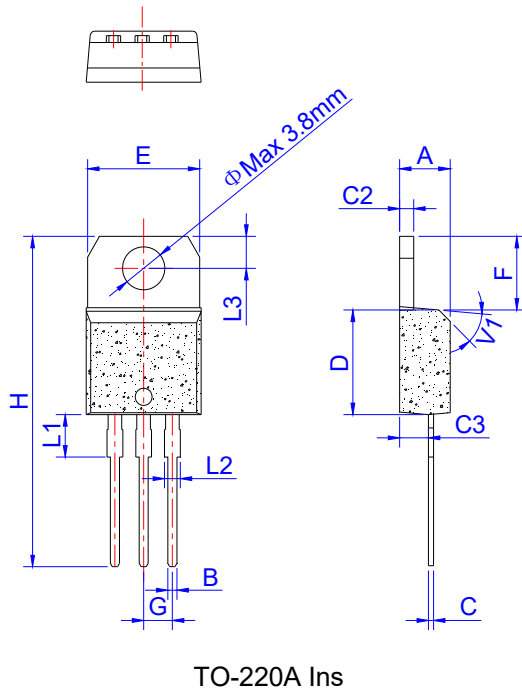
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R _{th(j-c)}	junction to case(AC)	TO-220A Ins	2.1	°C/W
		TO-220F Ins	2.3	

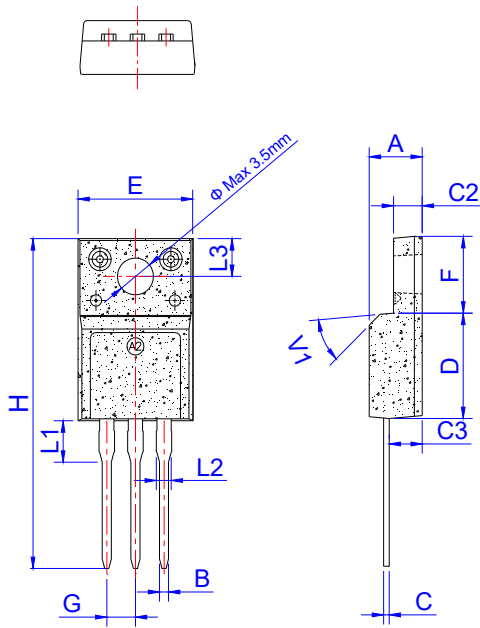
ORDERING INFORMATION

JieJie Microelectronics Co.,Ltd	J Triacs	ST $I_{T(RMS)}: 16A$	16	i i : TO-220A Ins X: TO-220F Ins	-800 $800: V_{DRM} / V_{RRM} \geq 800V$	BW SW: $I_{GT1-3} \leq 10mA$ CW: $I_{GT1-3} \leq 35mA$ BW: $I_{GT1-3} \leq 50mA$
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PACKAGE MECHANICAL DATA



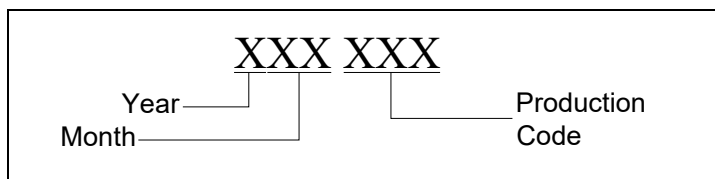
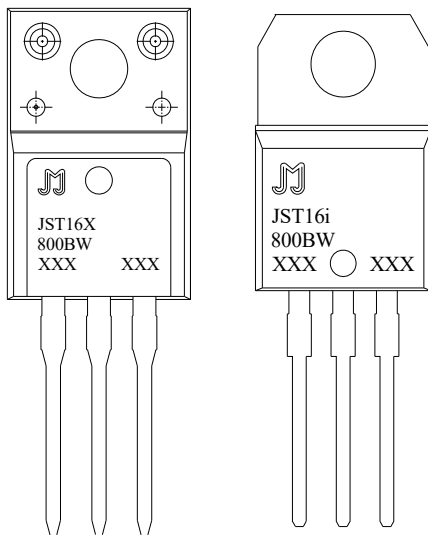
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
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°	



TO-220F Ins

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		2.54			0.1	
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°	

MARKING



PACKAGE INFORMATION

PACKAGE	WEIGHT (PER PCS)	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220A	2.308g	TUBE	50	1,000	8,000
TO-220F	2.093g	TUBE	50	1,000	8,000

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

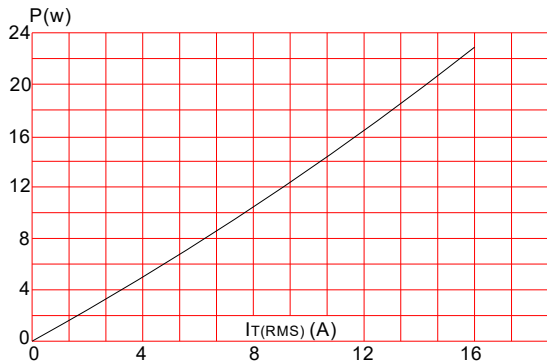


FIG.2: RMS on-state current versus case temperature

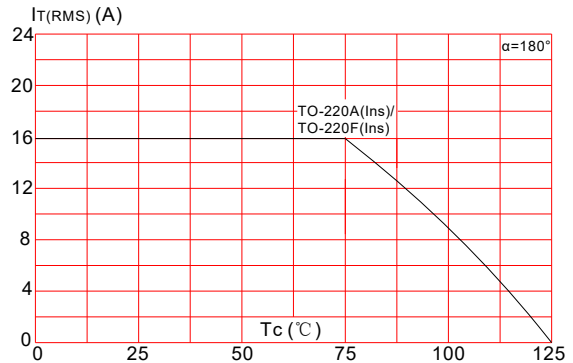


FIG.3: Surge peak on-state current versus number of cycles

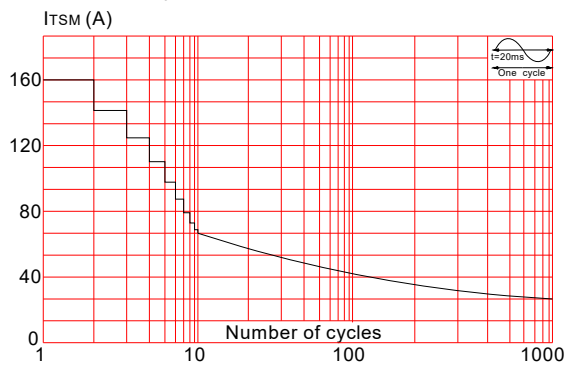


FIG.4: On-state characteristics (maximum values)

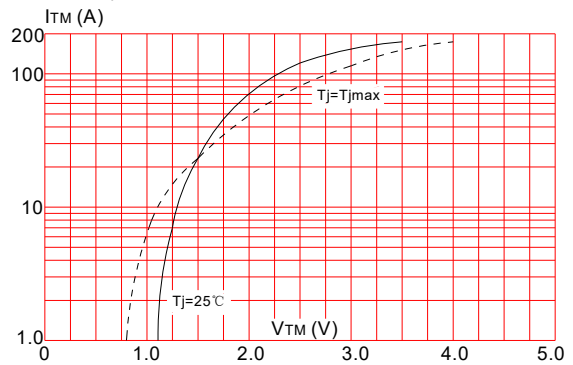


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms and corresponding value of I²t (di/dt < 100A/μs)

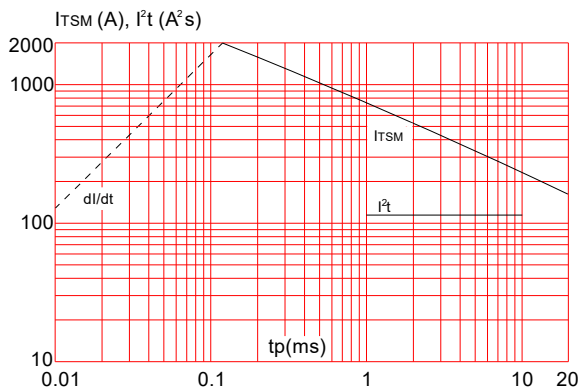
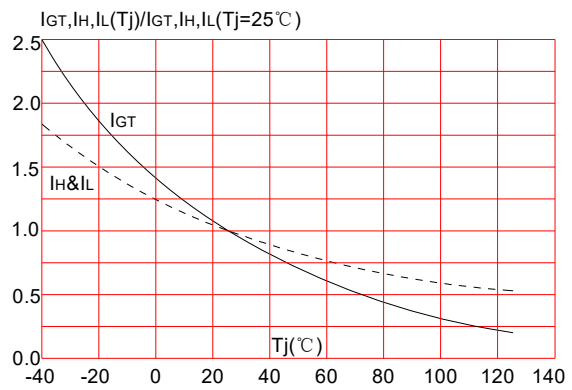



FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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