

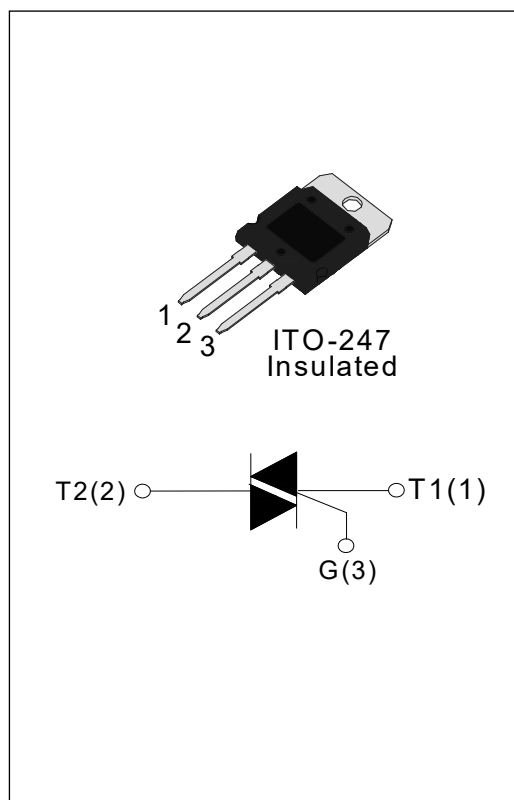


JST100IS-1600BW 100A TRIACs

Rev.1

DESCRIPTION:

JST100IS-1600BW triac provides good commutation capability, which is suitable for general purpose AC switching and voltage regulation, and can be used in static relays, heating regulation, induction motor starting circuits. From all three pins to external heatsink, JST100IS-1600BW triac provides an insulation voltage of 2500 VRMS. Package ITO-247 is RoHS compliant. (2011/65/EU)



MAIN FEATURES

Symbol	Value	Unit
V_{DRM}/V_{RRM}	1600	V
$I_{T(RMS)}$	100	A
I_{GT1-3}	≤ 50	mA

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit	
Storage junction temperature range	T_{stg}	-40-150	$^{\circ}C$	
Operating junction temperature range	T_j	-40-125	$^{\circ}C$	
Repetitive peak off-state voltage ($T_j=25^{\circ}C$)	V_{DRM}	1600	V	
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	1600	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	$I_{T(RMS)}$	ITO-247(Ins) ($T_c=70^{\circ}C$)	100	A
Non repetitive surge peak on-state current (tp=20ms)		I_{TSM}	1100	A
I^2t value for fusing (tp=10ms)	I^2t	5500	A^2s	
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di/dt	100	$A/\mu s$	

Peak gate current	I_{GM}	8	A
Average gate power dissipation	$P_{G(AV)}$	2	W
Peak gate power	P_{GM}	10	W

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

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	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 - II - III	MAX	180	mA
I_H	$I_T=100\text{mA}$		MAX	100	mA
dv/dt	$V_D=2/3V_{DRM} T_j=125^\circ\text{C}$ Gate Open		MIN	1500	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=150\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.5	V
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	20	μA
I_{RRM}		$T_j=125^\circ\text{C}$	12	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	ITO-247(Ins)	0.30	$^\circ\text{C/W}$

ORDERING INFORMATION

J	ST	100	IS	-1600	BW
JieJie Microelectronics Co.,Ltd	Triacs	$I_{T(RMS)}:100A$	IS:ITO-247(Ins)	$1600: V_{DRM} / V_{RRM} \geq 1600V$	BW:IGT1-3 \leq 50mA

MARKING

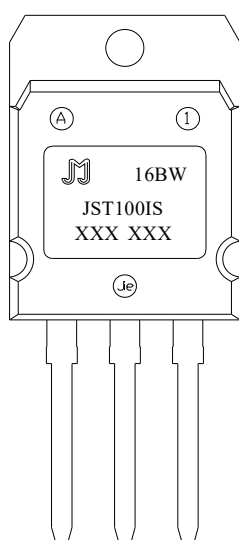
	<p style="font-size: 1.2em; font-weight: bold;">XXXXXXX</p> <p>Year _____ Month _____ Production code _____</p>
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FIG.1: Maximum power dissipation versus RMS on-state current

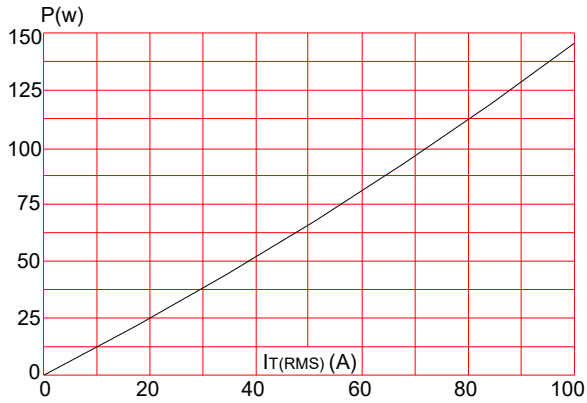


FIG.2: RMS on-state current versus case temperature

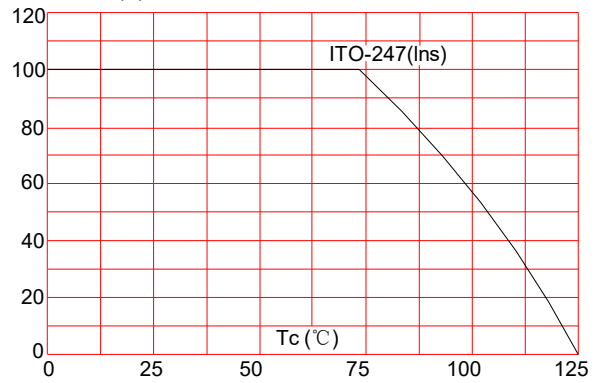


FIG.3: Surge peak on-state current versus number of cycles

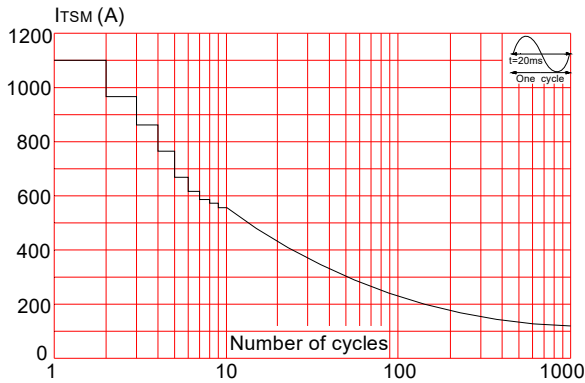


FIG.4: On-state characteristics (maximum values)

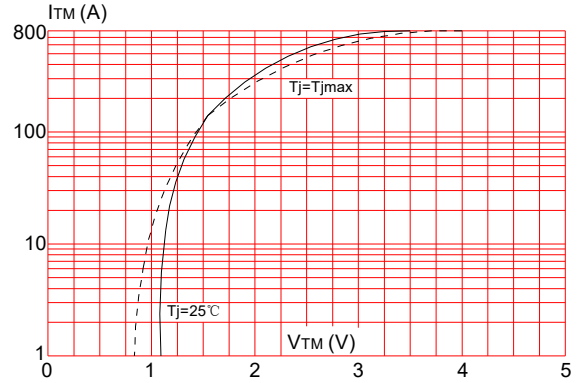


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

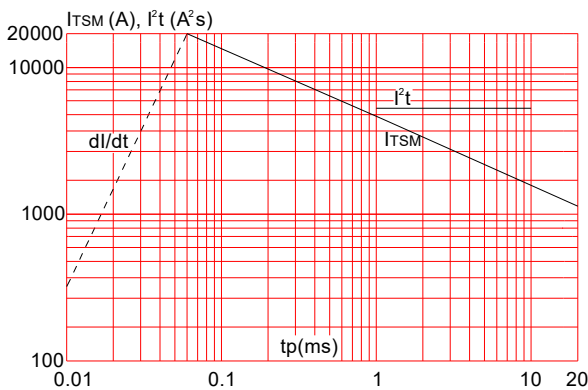
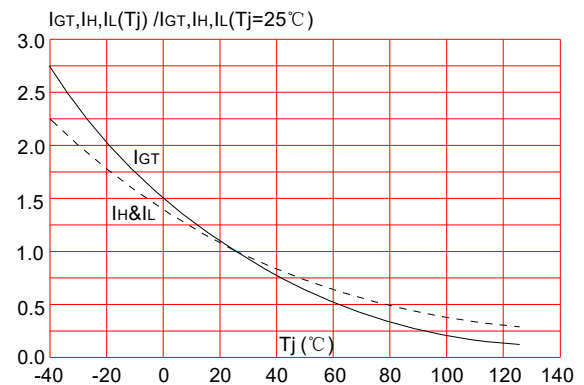


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



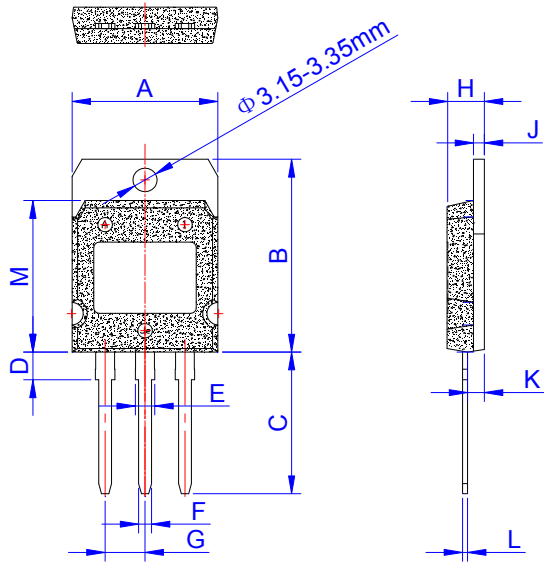
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JST100IS-1600BW	1600	50	ITO-247	25	Tube

Document Revision History

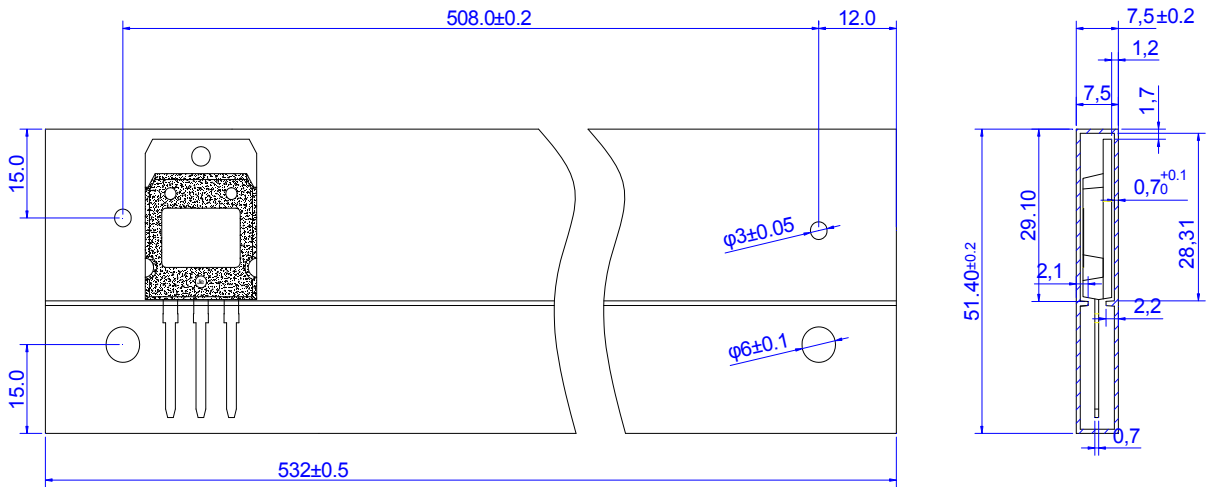
Date	Revision	Changes
Mar 23, 2022	1	Last update

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	19.7	19.9	20.1	0.776	0.783	0.791
B	26.9	27.1	27.3	1.059	1.067	1.075
C	19.4	19.9	20.4	0.764	0.783	0.803
D	3.80	3.90	4.00	0.150	0.154	0.157
E	2.56	2.66	2.76	0.101	0.105	0.109
F	1.66	1.76	1.86	0.065	0.069	0.073
G		5.45			0.215	
H	5.05	5.10	5.50	0.199	0.201	0.217
J	1.45	1.50	1.55	0.057	0.059	0.061
K	2.20	2.30	2.40	0.087	0.091	0.094
L	0.60	0.70	0.80	0.024	0.028	0.031
M	21.2	21.3	21.4	0.835	0.839	0.843


DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
ITO-247	TUBE	25	400	1,600



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