



JST100 Series 100A TRIACs

Rev.2.0

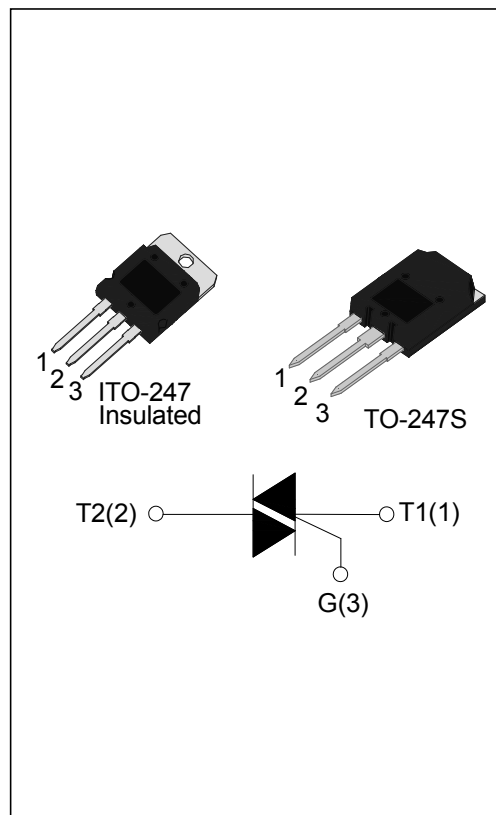
DESCRIPTION:

JST100 Series triacs provide 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 triacs provide an insulation voltage of 2500 V_{RMS}. ,complying with UL standards (File ref: E252906)

MAIN FEATURES

Symbol	Value	Unit
V _{DRM} /V _{RRM}	1200/1600	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	°C
Operating junction temperature range		T _j	-40-125	°C
Repetitive peak off-state voltage (T _j =25°C)		V _{DRM}	1200/1600	V
Repetitive peak reverse voltage (T _j =25°C)		V _{RRM}	1200/1600	V
RMS on-state current	ITO-247(Ins) (T _c =70°C)	I _{T(RMS)}	100	A
	TO-247S (T _c =90°C)			
Non repetitive surge peak on-state current (t _p =20ms)		I _{TSM}	1100	A
I ² t value for fusing (t _p =10ms)		I ² t	5500	A ² s
Critical rate of rise of on-state current (I _G =2×I _{GT})		dI/dt	100	A/μs
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

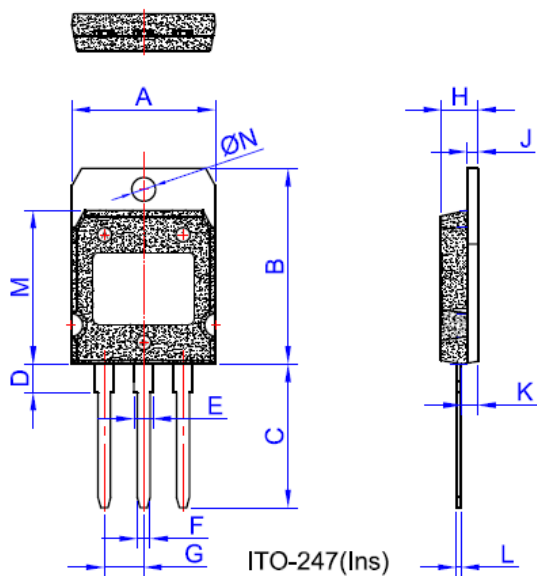
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	ITO-247(Ins)	0.30	$^{\circ}\text{C/W}$
		TO-247S	0.27	

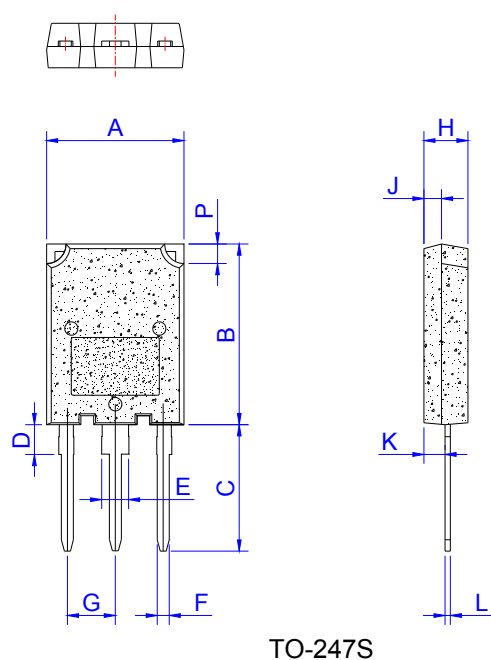
ORDERING INFORMATION

J	ST	100	IS	-1200	BW
JieJie Microelectronics Co.,Ltd	Triacs	$I_{T(RMS)}:100A$	CS:TO-247S IS:ITO-247(Ins)	1200: $V_{DRM}/V_{RRM} \geq 1200V$ 1600: $V_{DRM}/V_{RRM} \geq 1600V$	BW: $I_{GT1-3} \leq 50mA$

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	3.8	3.9	4.0	0.15	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	5.5	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
ØN	3.20	3.30	3.40	0.126	0.130	0.134



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.1		16.1	0.594		0.634
B	19.8		20.8	0.78		0.819
C	13.8		14.8	0.543		0.583
D	3.00		4.00	0.118		0.157
E	2.75		3.35	0.108		0.132
F	1.30		1.50	0.051		0.059
G	5.10		5.80	0.201		0.228
H	4.50		5.50	0.177		0.217
J	1.45		2.15	0.057		0.085
K	1.90		2.80	0.075		0.110
L	0.55		0.80	0.022		0.031
P	2.00		2.40	0.079		0.094

PACKAGE INFORMATION

PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-247S	TUBE	30	450	2,250
ITO-247	TUBE	25	400	1,600

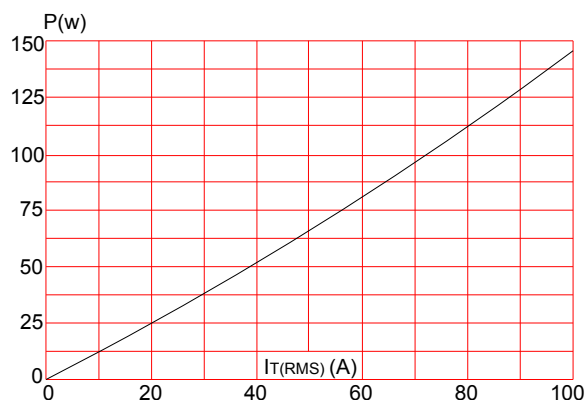
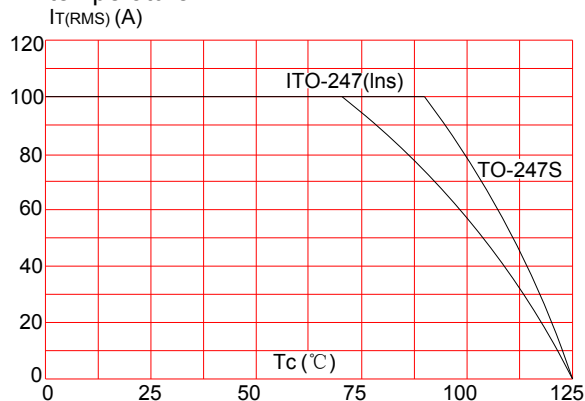
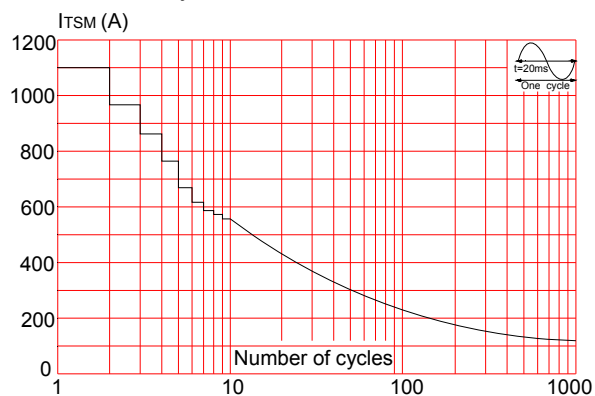
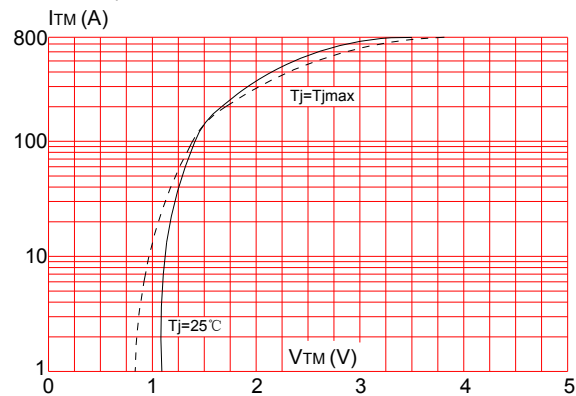
FIG.1: Maximum power dissipation versus RMS on-state current**FIG.2:** RMS on-state current versus case temperature**FIG.3:** Surge peak on-state current versus number of cycles**FIG.4:** On-state characteristics (maximum values)

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 ($dI/dt < 100\text{A}/\mu\text{s}$)

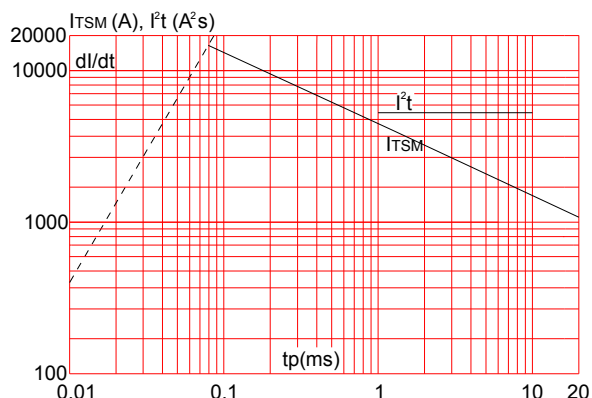
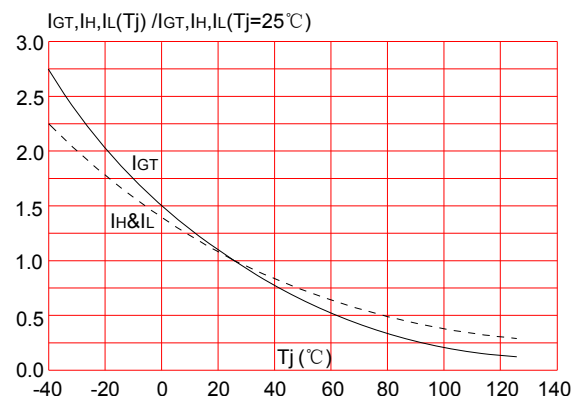


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co.,Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it. Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement. Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information. This document is the second version which is made in 22-May-2018. This document supersedes and replaces all information previously supplied.



is a registered trademark of Jiangsu JieJie Microelectronics Co.,Ltd.

Copyright ©2018 Jiangsu JieJie Microelectronics Co.,Ltd. Printed All rights reserved.