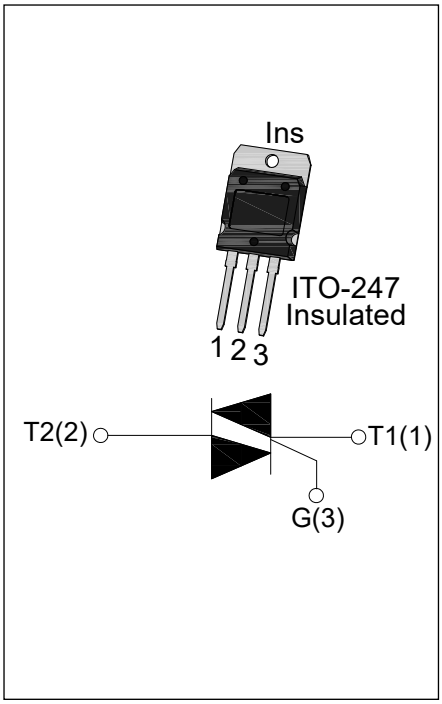
JST60IS-1600BW 60A TRIACs

Rev.1

DESCRIPTION:

JST60IS-1600BW 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 stating circuits. From all three pins to external heatsink, JST60IS-1600BW triac provides an insulation voltage of 2500 V_{RMS}, Packages ITO-247 is RoHS compliant. (2011/65/EU)



MAIN FEATURES

Symbol	Value	Unit
V_{DRM} /V_{RRM}	1600	V
$I_{T(RMS)}$	60	A
I_{GT1-3}	≤50	mA

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T_{stg}	-40-150	℃
Operating junction temperature range		T_j	-40-125	℃
Repetitive peak off-state voltage (T_j=25℃)		V_{DRM}	1600	V
Repetitive peak reverse voltage (T_j=25℃)		V_{RRM}	1600	V
RMS on-state current	ITO-247(Ins) (T_C=75℃)	$I_{T(RMS)}$	60	A
Non repetitive surge peak on-state current (tp=20ms)		I_{TSM}	600	A
I^2t value for fusing (tp=10ms)		I^2t	1800	A^2s
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℃ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	V_D =12V R_L =33Ω	Ⅰ-Ⅱ-Ⅲ	MAX	50	mA
V_{GT}		Ⅰ-Ⅱ-Ⅲ	MAX	1.3	V
V_{GD}	V_D=V_{DRM} T_j=125℃ R_L=3.3KΩ	Ⅰ-Ⅱ-Ⅲ	MIN	0.2	V
I_L	I_G =1.2I_{GT}	Ⅰ-Ⅱ-Ⅲ	MAX	120	mA
I_H	I_T =100mA		MAX	80	mA
dv/dt	V_D=2/3V_{DRM} T_j =125℃ Gate Open		MIN	1500	V/μs

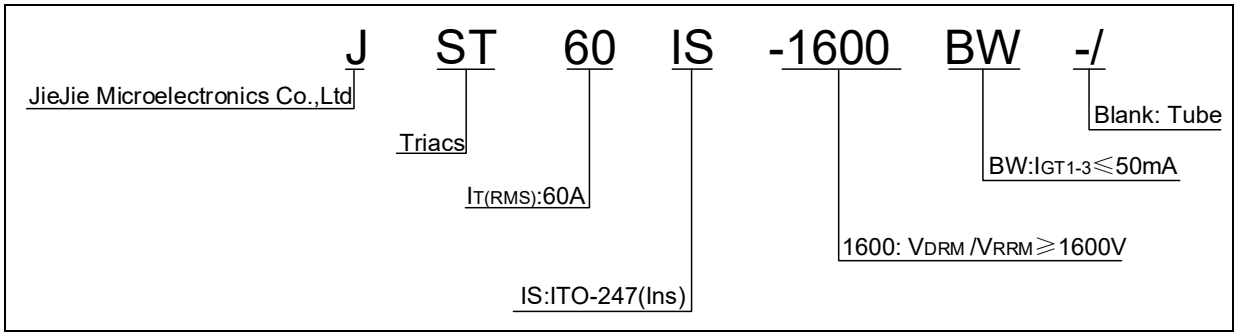
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	I_{TM} =80A tp=380μs	T_j=25℃	1.7	V
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25℃	20	μA
I_{RRM}		T_j=125℃	8	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	ITO-247(Ins)	0.5	℃/W

ORDERING INFORMATION



MARKING

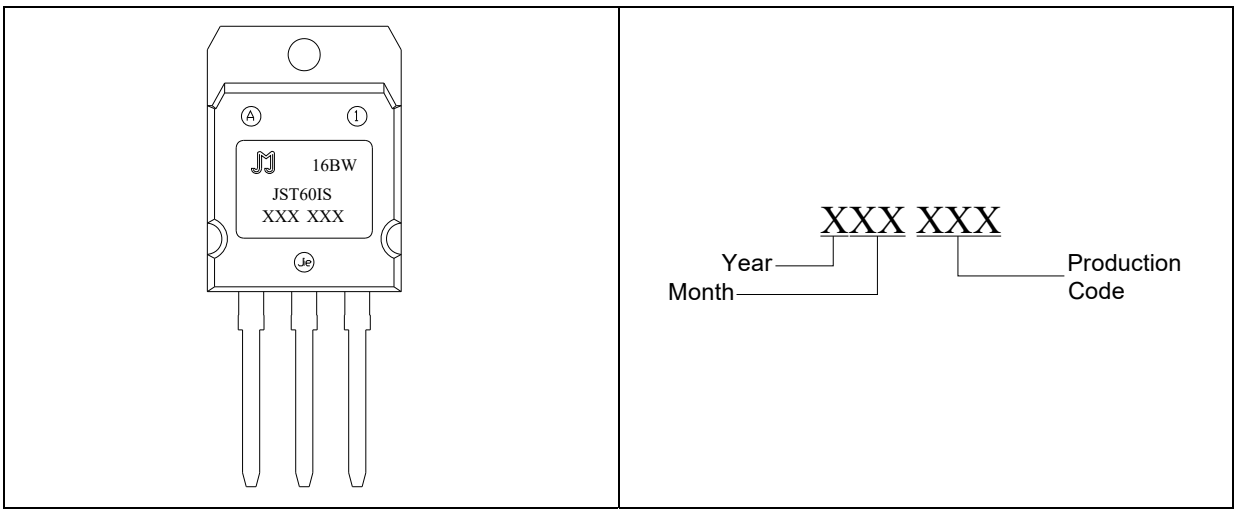


FIG.1: Maximum power dissipation versus RMS on-state current

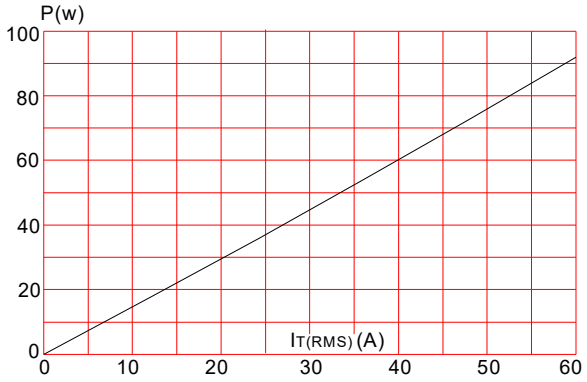


FIG.2: RMS on-state current versus case temperature

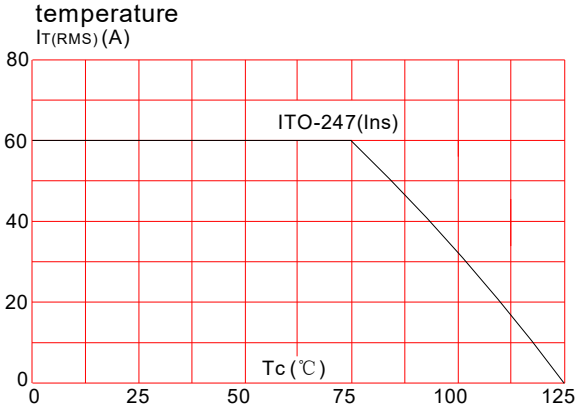


FIG.3: Surge peak on-state current versus number of cycles

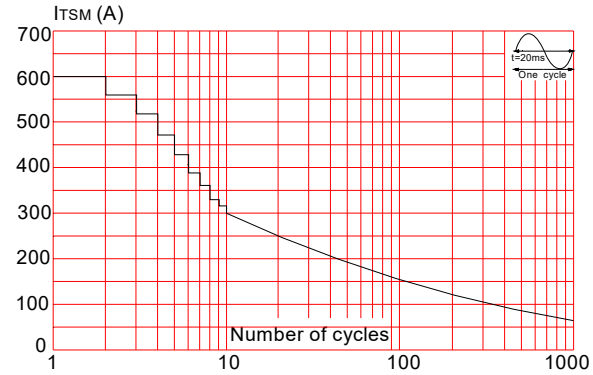


FIG.4: On-state characteristics (maximum values)

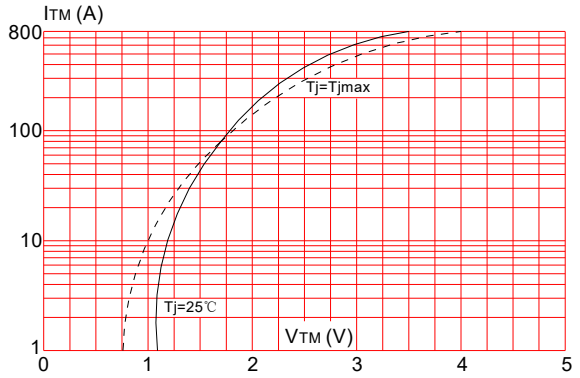


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 100A/μs)

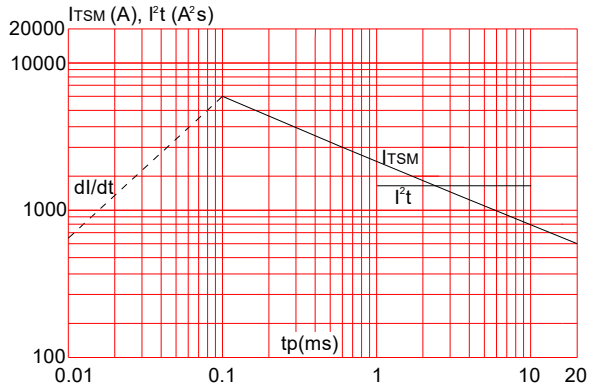
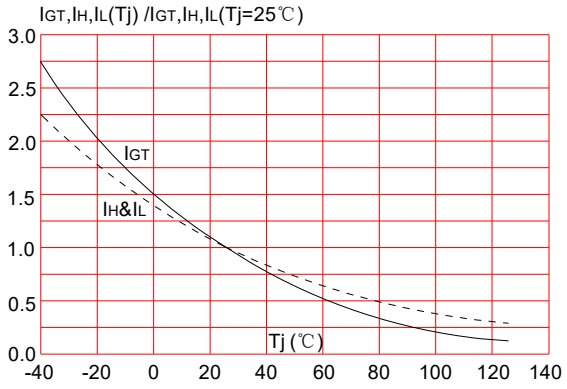


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



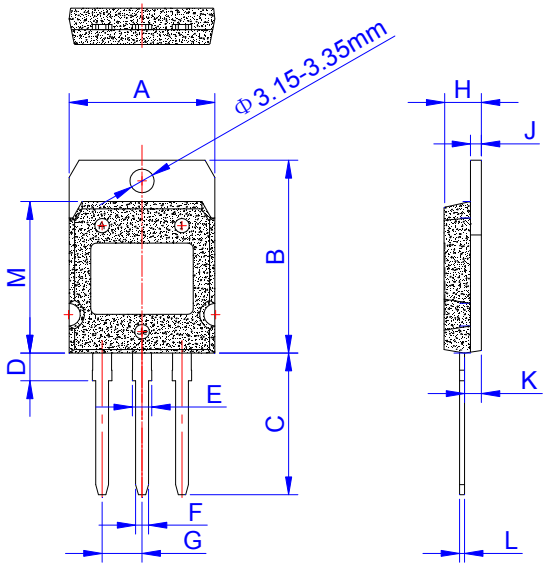
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JST60IS-1600BW	1600	50	ITO-247	25	Tube

Document Revision History

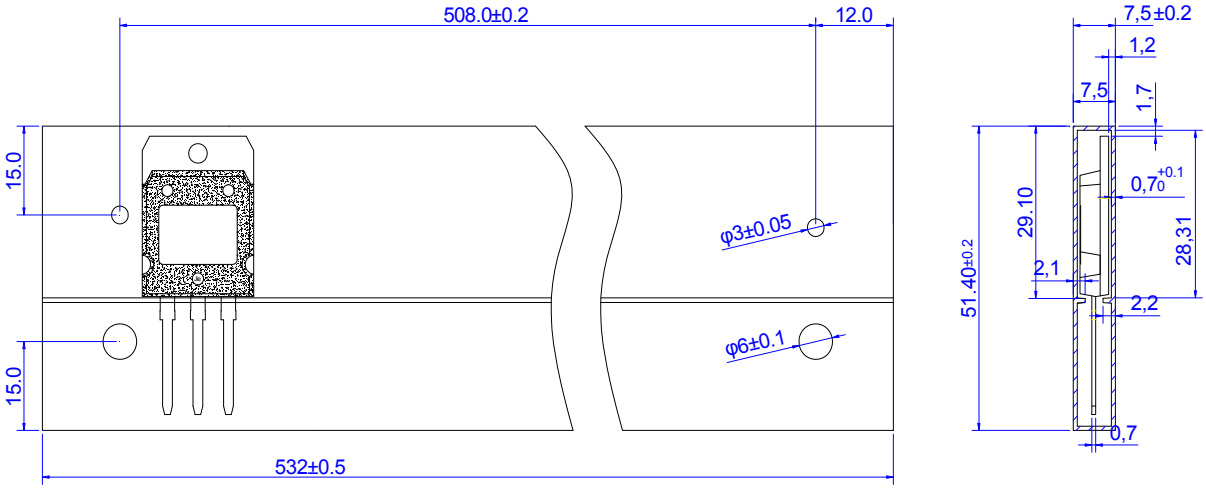
Date	Revision	Changes
Mar 23, 2022	1	Last update

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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