

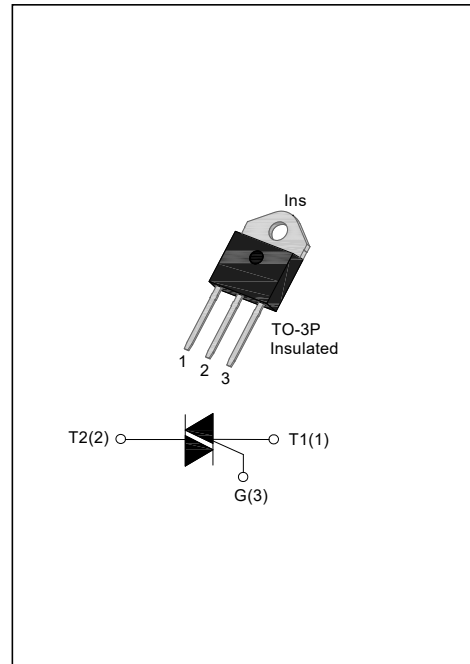


### DESCRIPTION:

JST60Z 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. JST60Z triac provides an insulation voltage of 2500 V<sub>RMS</sub>, complying with UL standards (File ref: E252906). Package TO-3P is RoHS compliant. (2011/65/EU)

### MAIN FEATURES

Symbol	Value	Unit
V <sub>DRM</sub> /V <sub>R<sub>RRM</sub></sub>	1200/1600	V
I <sub>T(RMS)</sub>	60	A
I <sub>GT1-3</sub>	≤50	mA



### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T <sub>stg</sub>	-40-150	°C
Operating junction temperature range	T <sub>j</sub>	-40-125	°C
Repetitive peak off-state voltage (T <sub>j</sub> =25°C)	V <sub>DRM</sub>	1200/1600	V
Repetitive peak reverse voltage (T <sub>j</sub> =25°C)	V <sub>R<sub>RRM</sub></sub>	1200/1600	V
RMS on-state current TO-3P(Ins) (T <sub>C</sub> =70°C)	I <sub>T(RMS)</sub>	60	A
Non repetitive surge peak on-state current (t <sub>p</sub> =20ms)	I <sub>TSM</sub>	600	A
I <sup>2</sup> t value for fusing (t <sub>p</sub> =10ms)	I <sup>2</sup> t	1800	A <sup>2</sup> s
Critical rate of rise of on-state current (I <sub>G</sub> = 2 × I <sub>GT</sub> )	dI/dt	100	A/μs
Peak gate current	I <sub>GM</sub>	8	A
Average gate power dissipation	P <sub>G(AV)</sub>	2	W
Peak gate power	P <sub>GM</sub>	10	W
Peak pulse voltage (T <sub>j</sub> =25°C; non-repetitive, off-state; FIG.7)	V <sub>PP</sub>	1.1	kV

**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	120	mA
$I_H$	$I_T=100\text{mA}$		MAX	80	mA
dv/dt	$V_D=2/3V_{DRM} T_j=125^\circ\text{C}$ Gate Open		MIN	1500	V/ $\mu\text{s}$

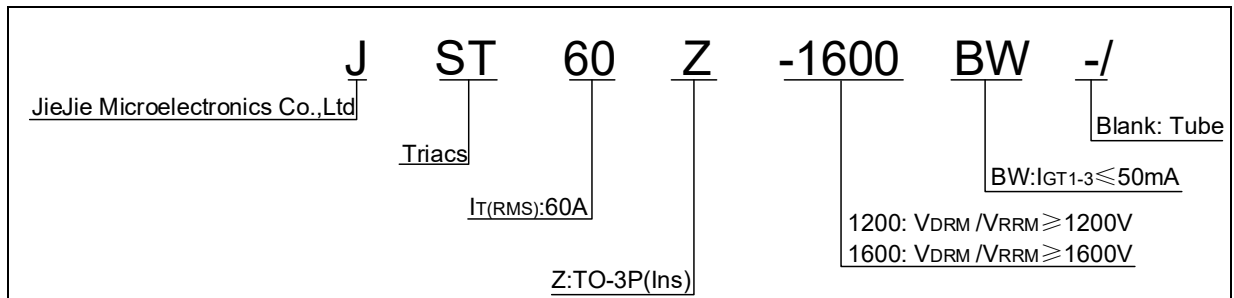
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=85\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.7	V
$V_{TO}$	Threshold voltage	$T_j=125^\circ\text{C}$	0.85	V
$R_D$	Dynamic resistance	$T_j=125^\circ\text{C}$	9.2	m $\Omega$
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	20	$\mu\text{A}$
$I_{RRM}$		$T_j=125^\circ\text{C}$	8	mA

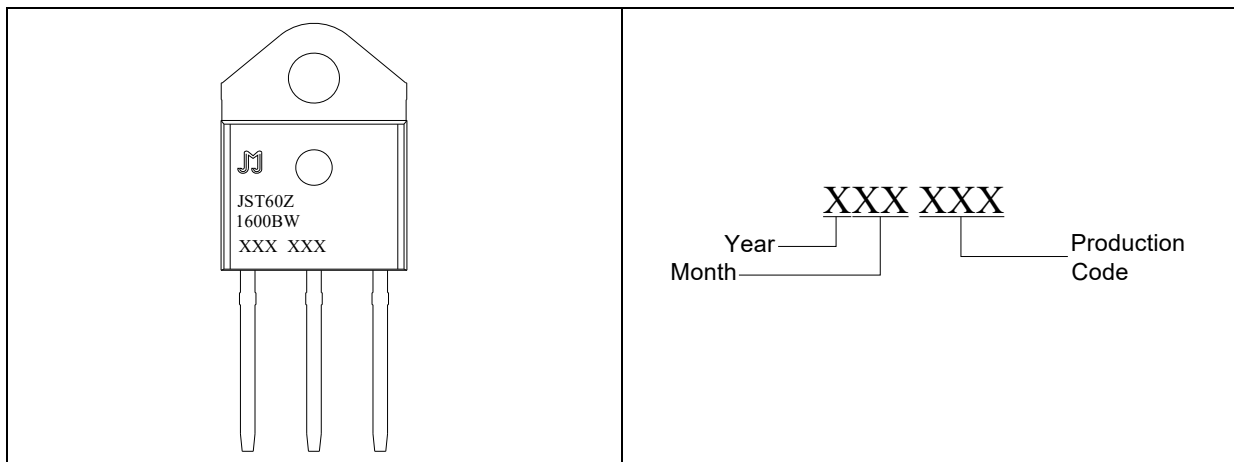
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-3P(Ins)	0.62	$^\circ\text{C/W}$

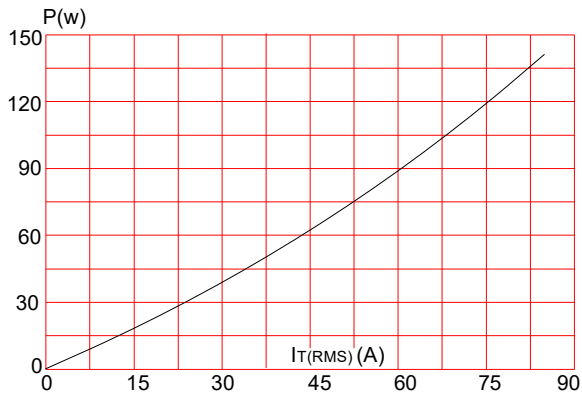
**ORDERING INFORMATION**



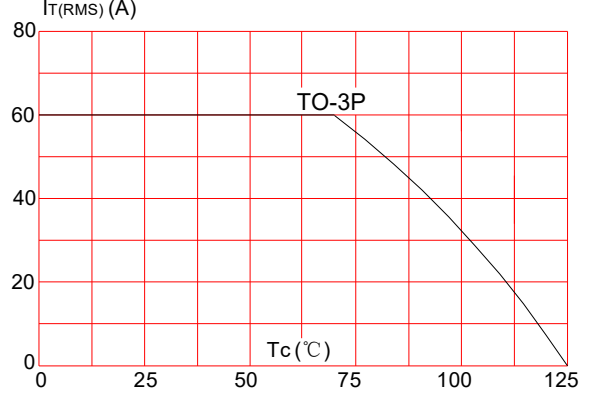
**MARKING**



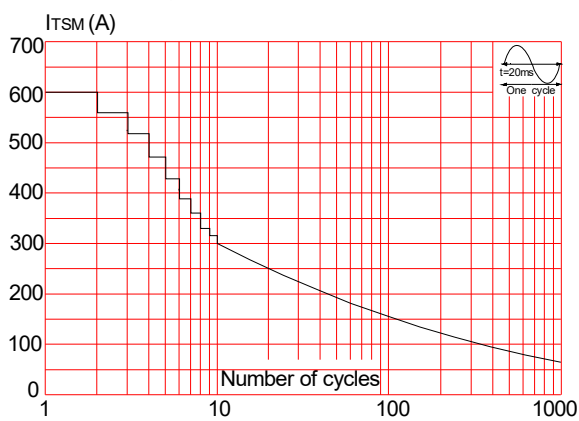
**FIG.1:** Maximum power dissipation versus RMS on-state current



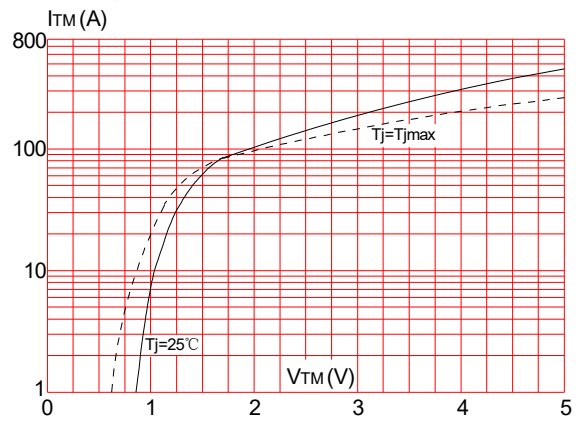
**FIG.2:** RMS on-state current versus case temperature



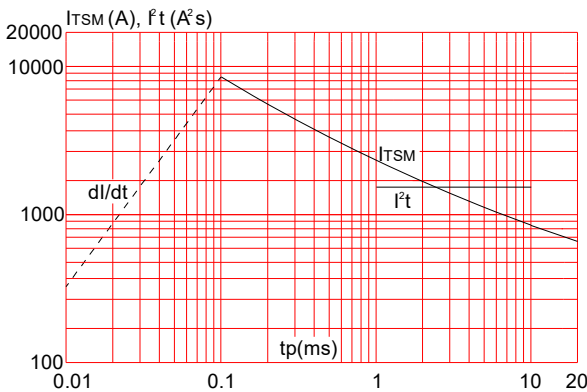
**FIG.3:** Surge peak on-state current versus number of cycles



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



**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , 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

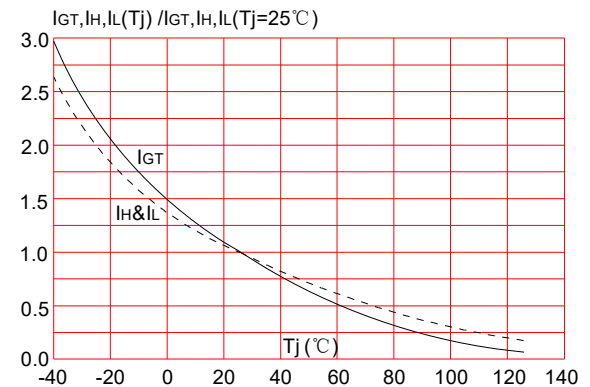
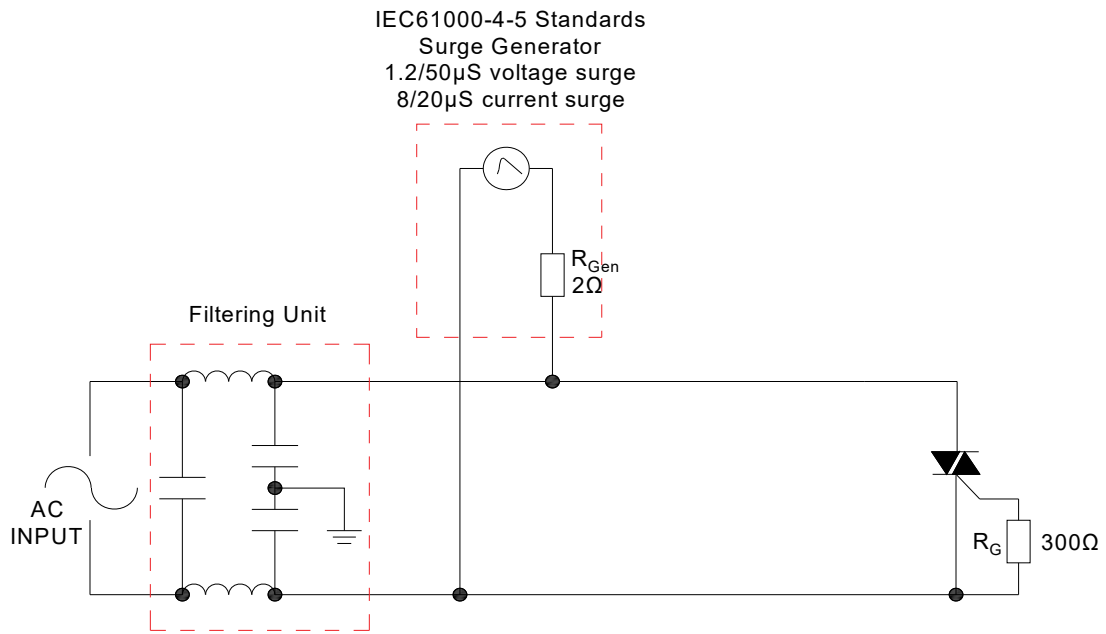


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



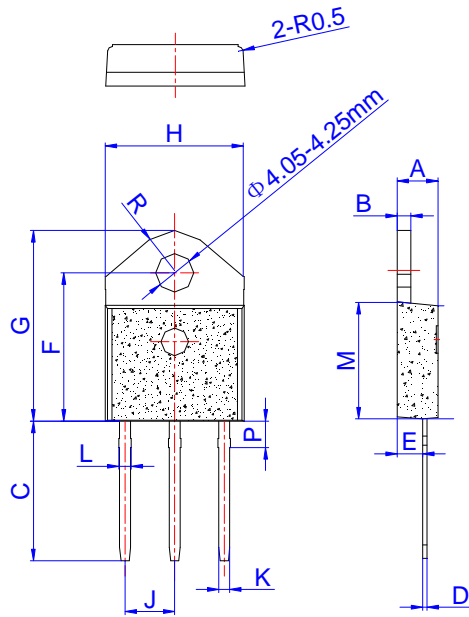
**ORDERING INFORMATION**

Order code	Voltage $V_{DRM}/V_{RRM}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JST60Z-1200/1600BW	1200/1600	50	TO-3P(Ins)	30	Tube

**Document Revision History**

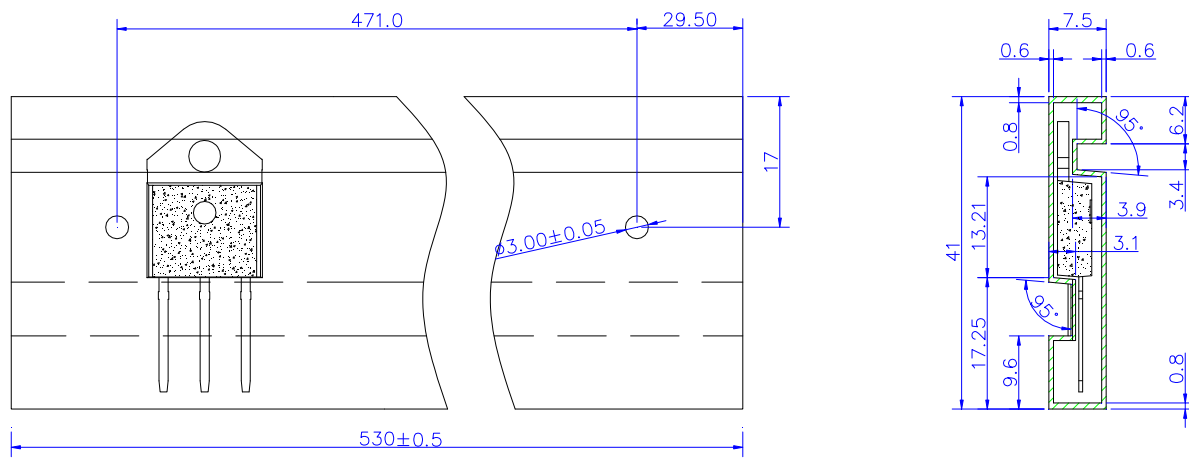
Date	Revision	Changes
Jul 05, 2022	1	Last update

**PACKAGE MECHANICAL DATA**



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.50		0.70	0.020		0.028
E	2.70		2.90	0.106		0.114
F	15.80		16.50	0.622		0.650
G	20.40		21.10	0.803		0.831
H	15.10		15.50	0.594		0.610
J	5.40		5.65	0.213		0.222
K	1.10		1.40	0.043		0.055
L	1.25		1.45	0.049		0.057
M	12.37		12.77	0.487		0.503
P	2.80		3.00	0.110		0.118
R		4.35			0.171	


**DELIVERY MODE**



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-3P	TUBE	30	450	2,250



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 supersedes and replaces all information previously supplied.

 is a registered trademark of Jiangsu JieJie Microelectronics Co.,Ltd.  
Copyright ©2022 Jiangsu JieJie Microelectronics Co.,Ltd. Printed All rights reserved.