

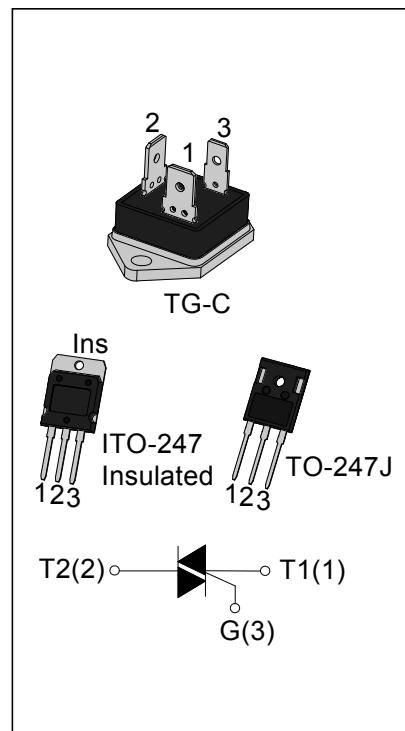


### DESCRIPTION:

JST60 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, JST60IS triac provides an insulation voltage of 2500 V<sub>RMS</sub>, complying with UL standards (File ref: E252906).

### MAIN FEATURES

Symbol	Value	Unit
V <sub>DRM</sub> /V <sub>RRM</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>RRM</sub>	1200/1600	V	
RMS on-state current	I <sub>T(RMS)</sub>	TO-247J/ ITO-247(Ins) (T <sub>C</sub> =80°C)	60	A
		TG-C(T <sub>C</sub> =90°C)		
Non repetitive surge peak on-state current (tp=20ms)	I <sub>TSM</sub>	600	A	
I <sup>2</sup> t value for fusing (tp=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	$P_{GM}$	10	W
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**ELECTRICAL CHARACTERISTICS** ( $T_j=25^{\circ}C$  unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
$I_{GT}$	$V_D=12V R_L=33\Omega$	I - II -III	MAX	50	mA
$V_{GT}$		I - II -III	MAX	1.3	V
$V_{GD}$	$V_D=V_{DRM} T_j=125^{\circ}C$ $R_L=3.3K\Omega$	I - II -III	MIN	0.2	V
$I_L$	$I_G=1.2I_{GT}$	I - II -III	MAX	120	mA
$I_H$	$I_T=100mA$		MAX	80	mA
dV/dt	$V_D=2/3V_{DRM} T_j=125^{\circ}C$ Gate Open		MIN	1500	V/ $\mu s$

**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=80A t_p=380\mu s$	$T_j=25^{\circ}C$	1.5	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}C$	20	$\mu A$
$I_{RRM}$		$T_j=125^{\circ}C$	8	mA

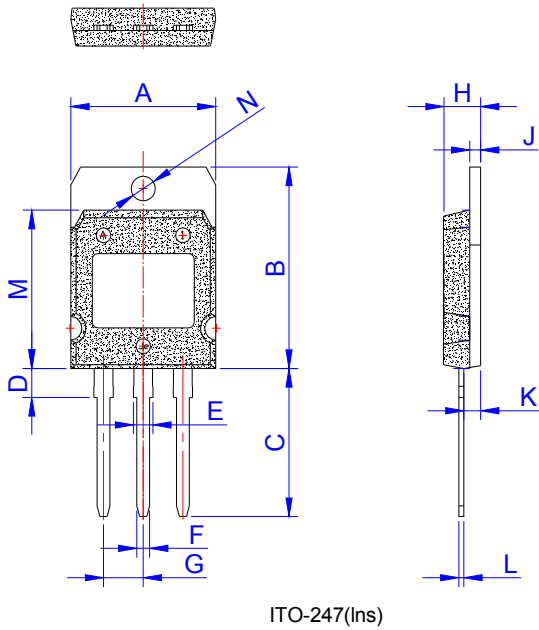
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	ITO-247(Ins)	0.5	$^{\circ}C/W$
		TO-247J	0.47	
		TG-C	0.4	

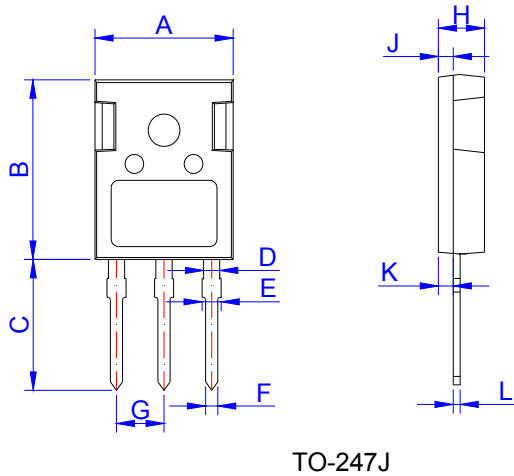
**ORDERING INFORMATION**

<p><b>J</b></p> <p>JieJie Microelectronics Co.,Ltd</p>	<p><b>ST</b></p> <p>Triacs</p> <p><math>I_{T(RMS)}:60A</math></p>	<p><b>60</b></p>	<p><b>IS</b></p> <p>T:TG-C SJ:TO-247J IS:ITO-247(Ins)</p>	<p><b>-1200</b></p>	<p><b>BW</b></p> <p>BW:<math>I_{GT1-3}\leq 50mA</math> 1200: <math>V_{DRM}/V_{RRM}\geq 1200V</math> 1600: <math>V_{DRM}/V_{RRM}\geq 1600V</math></p>
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PACKAGE MECHANICAL DATA

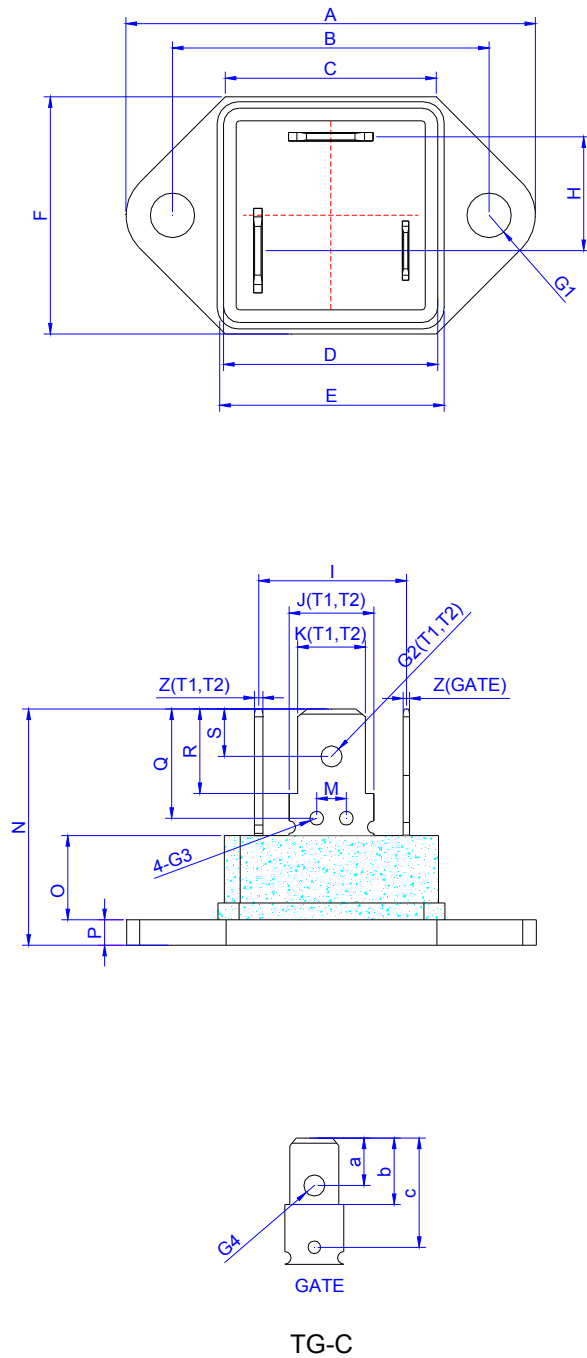


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	19.7	19.9	20.1	0.776	0.783	0.791
B	26.9	27.1	27.3	1.059	1.067	1.075
C	19.4	19.9	20.4	0.764	0.783	0.803
D	3.80	3.90	4.00	0.150	0.154	0.157
E	2.56	2.66	2.76	0.101	0.105	0.109
F	1.66	1.76	1.86	0.065	0.069	0.073
G		5.45			0.215	
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
N	3.20	3.30	3.40	0.126	0.130	0.134



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.50	15.80	16.10	0.610	0.622	0.634
B	20.80	21.00	22.20	0.819	0.828	0.874
C	19.70	20.00	20.30	0.776	0.787	0.799
D	1.80	2.00	2.20	0.071	0.079	0.087
E	1.90	2.10	2.30	0.075	0.083	0.091
F	1.00	1.20	1.40	0.039	0.047	0.055
G		5.44			0.214	
H	4.80	5.00	5.20	0.189	0.197	0.205
J	1.90	2.00	2.10	0.075	0.079	0.083
K	2.20	2.35	2.50	0.087	0.093	0.098
L	0.41	0.60	0.79	0.016	0.024	0.031

PACKAGE MECHANICAL DATA

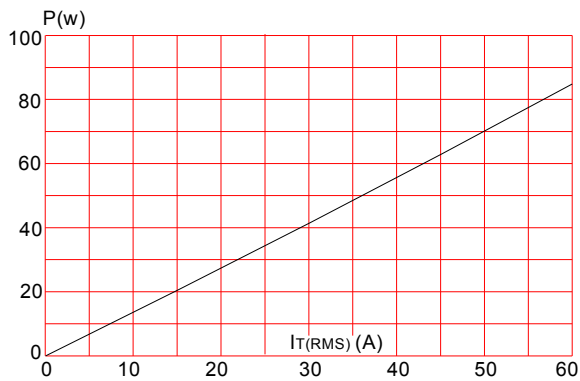


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			39.2			1.543
B	29.8	30.0	30.2	1.173	1.181	1.189
C			20.2			0.795
D			20.5			0.807
E			21.6			0.85
F			23			0.905
G1	Φ4.1	Φ4.2	Φ4.3	Φ0.161	Φ0.165	Φ0.169
H		10.3			0.406	
I		13.9			0.547	
J(T1,T2)		8			0.315	
K(T1,T2)		6.4			0.252	
M	2.7	3.0	3.3	0.106	0.118	0.130
N			22.8			0.898
O		8.2			0.323	
P		2.5			0.098	
Q	9.45	9.75	10.1	0.374	0.383	0.398
R	7.8	7.95	8.1	0.307	0.313	0.319
S	4.3	4.5	4.7	0.169	0.177	0.185
Z(T1,T2)	0.78	0.8	0.85	0.0307	0.0315	0.0335
G2(T1,T2)		Φ2	Φ2.2		Φ0.079	Φ0.087
G3	Φ1.1	Φ1.3	Φ1.5	Φ0.043	Φ0.051	Φ0.059
G4		Φ1.55	Φ1.75		Φ0.061	Φ0.069
a	2.95	3.15	3.35	0.116	0.124	0.132
b	6.2	6.35	6.5	0.244	0.25	0.256
c	9.35	9.75	10	0.368	0.384	0.393
Z(GATE)	0.58	0.6	0.65	0.0228	0.0236	0.0256
J(GATE)		5.6			0.221	
K(GATE)		4.65			0.183	

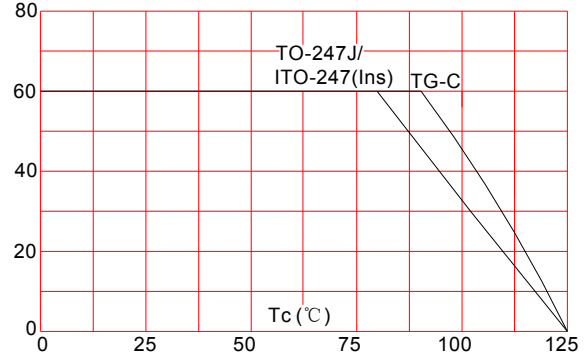
**PACKAGE INFORMATION**

PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-247J	TUBE	30	450	3,600
ITO-247	TUBE	25	400	2,400
PACKAGE	WEIGHT (PER PCS)	OUTLINE	INNER BOX (PCS)	PER CARTON (PCS)
TG-C	21.5g	BOX	80	720

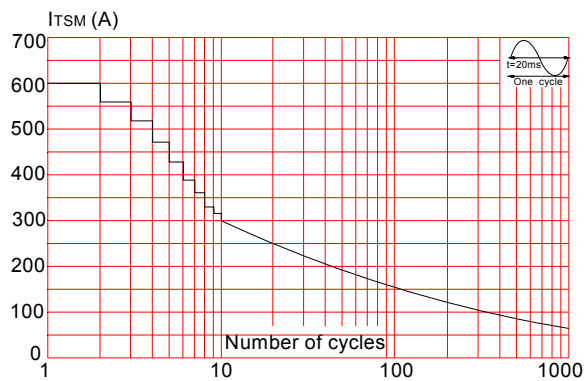
**FIG.1:** Maximum power dissipation versus RMS on-state current



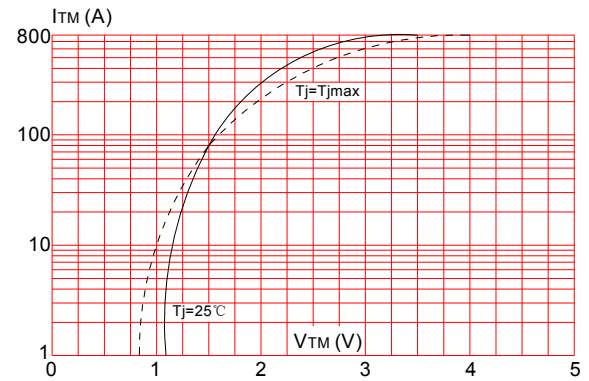
**FIG.2:** RMS on-state current versus case temperature



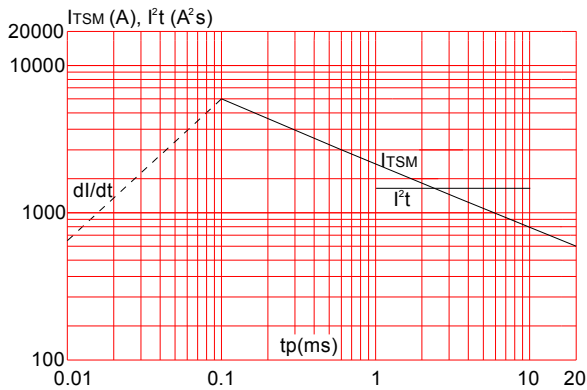
**FIG.3:** Surge peak on-state current versus number of cycles



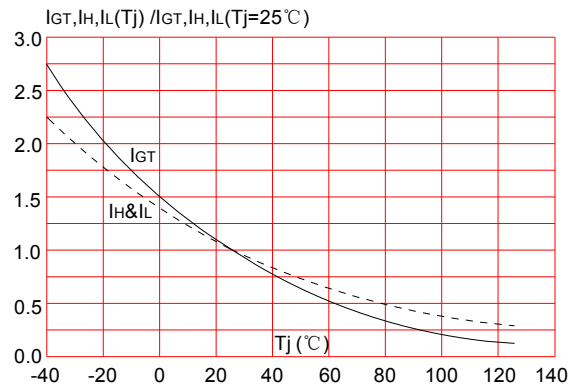
**FIG.4:** On-state characteristics (maximum values)




**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



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