



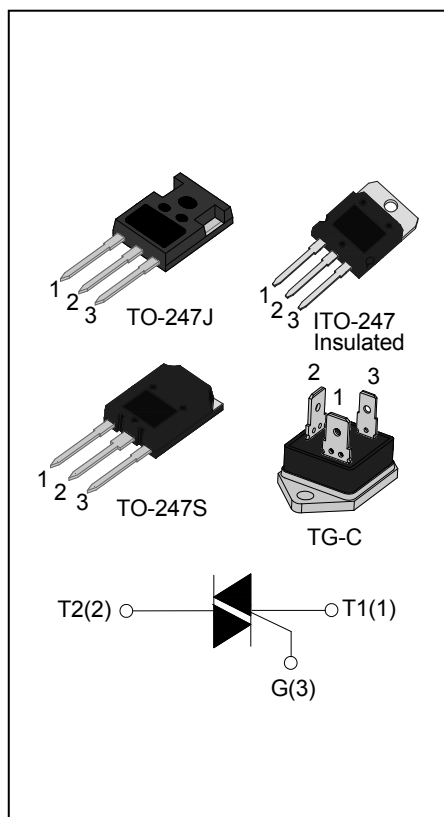
DESCRIPTION:

With high ability to withstand the shock loading of large current, JST55 series triacs provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, 3 quadrants products especially recommended for use on inductive load.

From all three pins to external heatsink, JST55IS provides an insulation voltage of 2500 V_{RMS}, complying with UL standards (File ref: E252906). All the packages listed are RoHS compliant. (2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	55	A
V_{DRM}/V_{RRM}	1200/1600	V



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 ($T_j=25^{\circ}\text{C}$)		V_{DRM}	1200/1600	V
Repetitive peak reverse voltage ($T_j=25^{\circ}\text{C}$)		V_{RRM}	1200/1600	V
RMS on-state current	TO-247S/ TG-C ($T_C=80^{\circ}\text{C}$)	$I_{T(RMS)}$	55	A
	ITO-247(Ins)/ TO-247J($T_C=70^{\circ}\text{C}$)			
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)		I_{TSM}	550	A
I^2t value for fusing ($t_p=10\text{ms}$)		I^2t	1500	A ² s

Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di/dt	100	A/ μ 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 -III	MAX	100	mA
		II		120	
I_H	$I_T = 100\text{mA}$		MAX	90	mA
dV/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^\circ\text{C}$		MIN	1500	V/ μ s

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM} = 80\text{A}$ $t_p = 380\mu\text{s}$	$T_j = 25^\circ\text{C}$	1.7	V
I_{DRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$	20	μA
I_{RRM}		$T_j = 125^\circ\text{C}$	8	mA
V_{TO}	Threshold voltage	$T_j = 125^\circ\text{C}$	0.95	V
R_d	Dynamic resistance	$T_j = 125^\circ\text{C}$	12	m Ω

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-247S	0.5	$^\circ\text{C/W}$
		TG-C	0.45	
		TO-247J	0.6	
		ITO-247(Ins)	0.63	

ORDERING INFORMATION

J	ST	55	CS	-1200	BW	-/
JieJie Microelectronics Co.,Ltd	Triacs	$I_T(RMS):55A$			$BW:I_{GT1-3} \leq 50mA$	Blank: Tube
		T:TG-C CS:TO-247S SJ:TO-247J IS:ITO-247(Ins)			1200: $V_{DRM}/V_{RRM} \geq 1200V$ 1600: $V_{DRM}/V_{RRM} \geq 1600V$	

MARKING

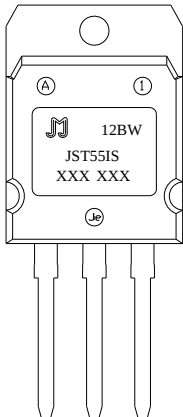
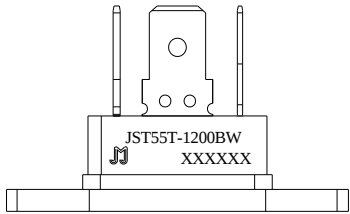
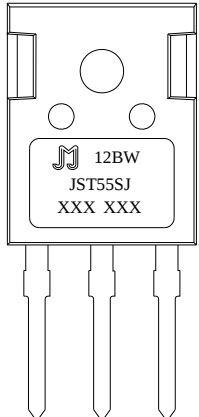
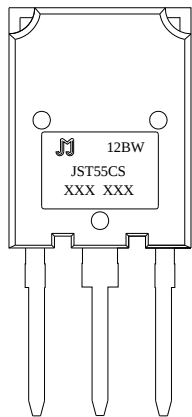
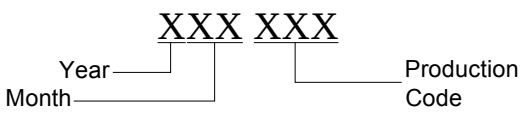
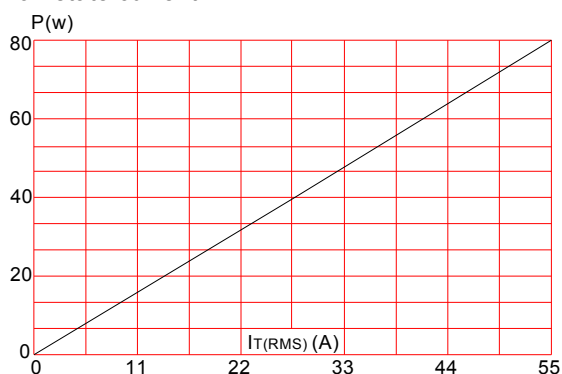
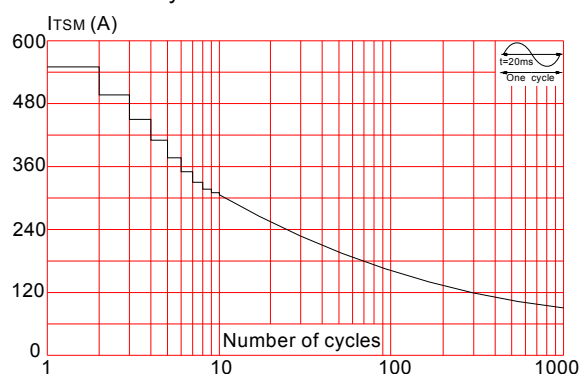
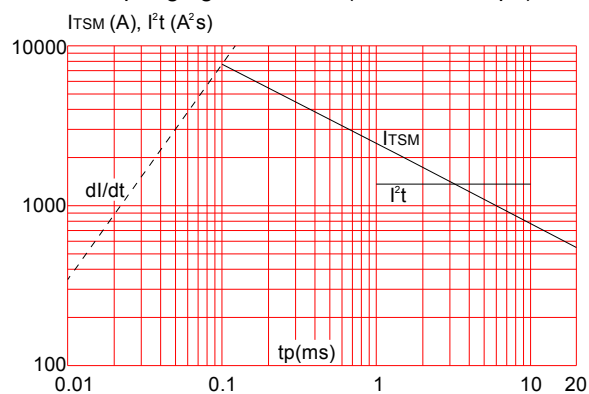
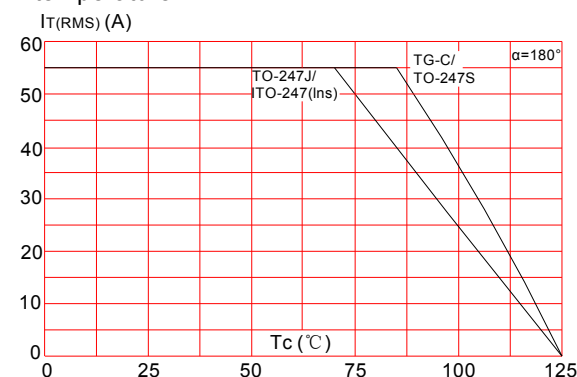
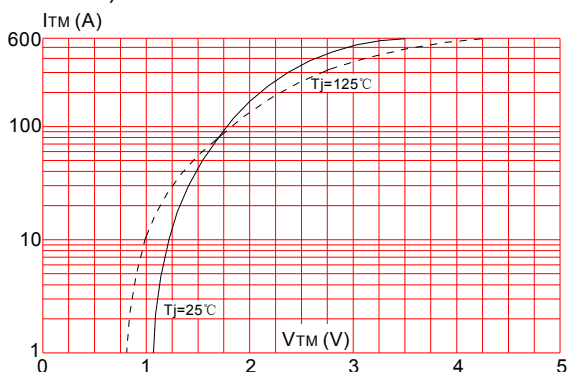
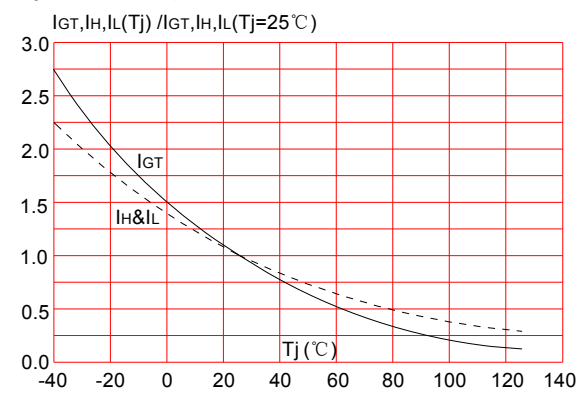
 12BW JST551S XXX XXX	 JST55T-1200BW XXXXXX
 12BW JST55SJ XXX XXX	 12BW JST55CS XXX XXX
 XXX XXX Year Production Month Code	

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

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

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.2: RMS on-state current versus case temperature

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

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


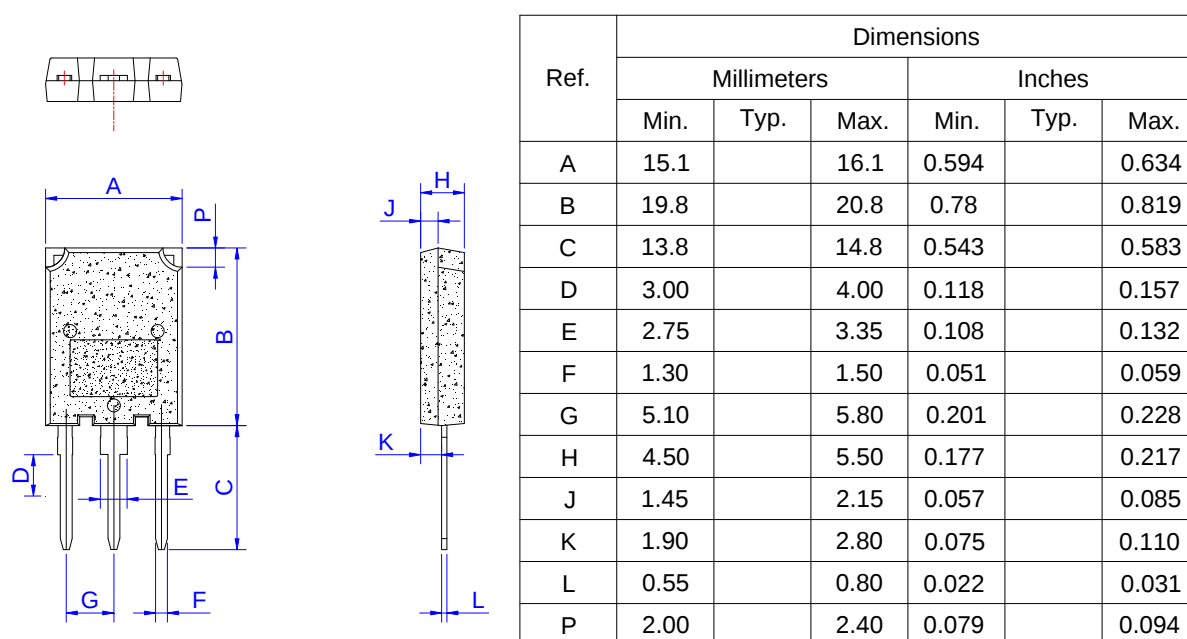
ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JST55	1200/1600	50	TO-247J	30	Tube
			TO-247S	30	
			ITO-247	25	
			TG-C	10	

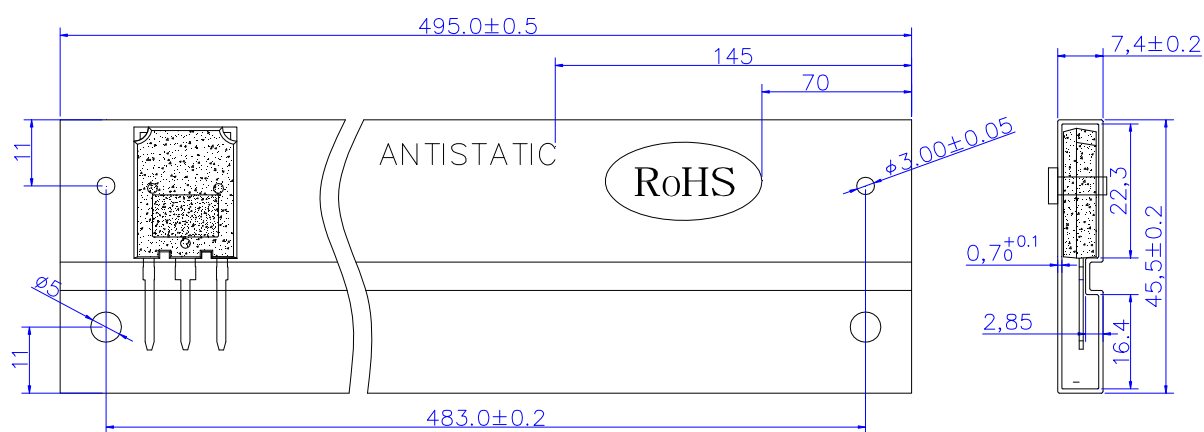
Document Revision History

Date	Revision	Changes
June 2, 2021	8	Last update, renew VTM
July 22, 2021	9	Add Vto & Rd

PACKAGE MECHANICAL DATA

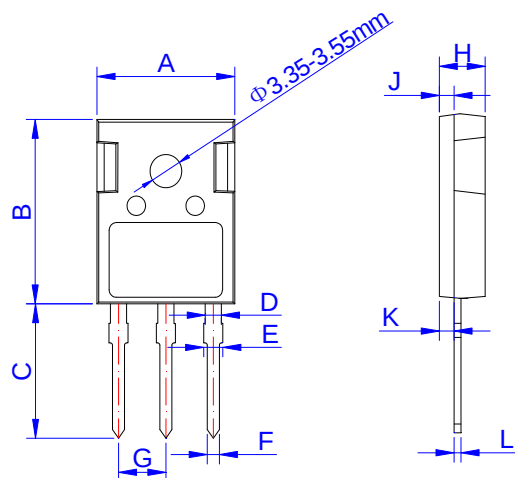


DELIVERY MODE



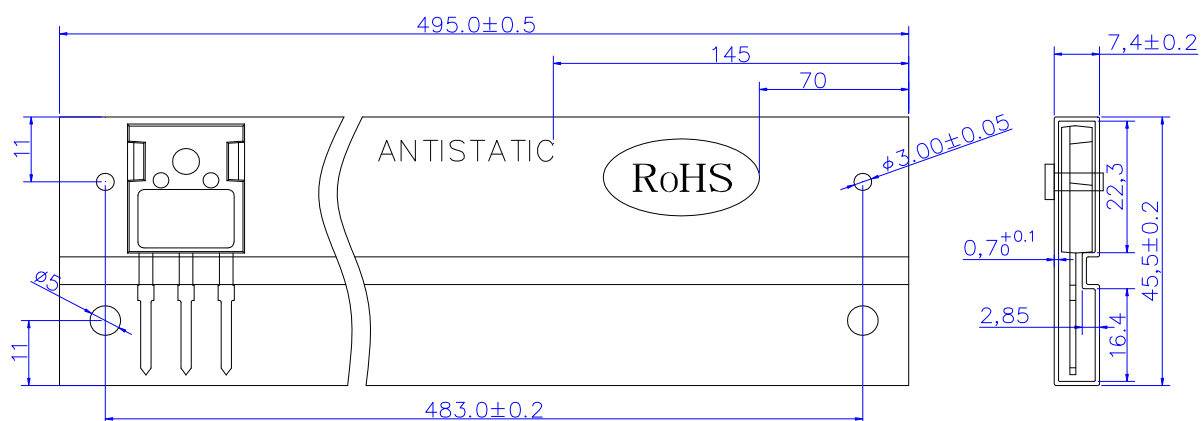
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-247S	TUBE	30	450	2,250

PACKAGE MECHANICAL DATA



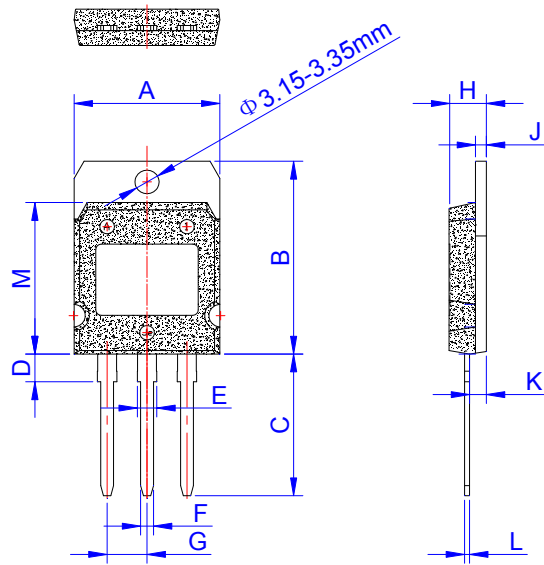
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.50	15.80	16.10	0.610	0.622	0.634
B	20.80	21.00	22.20	0.819	0.827	0.835
C	19.70	20.00	20.30	0.776	0.787	0.799
D	1.80	2.00	2.20	0.071	0.079	0.087
E	1.90	2.10	2.30	0.075	0.083	0.091
F	1.00	1.20	1.40	0.039	0.047	0.055
G		5.44			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

DELIVERY MODE



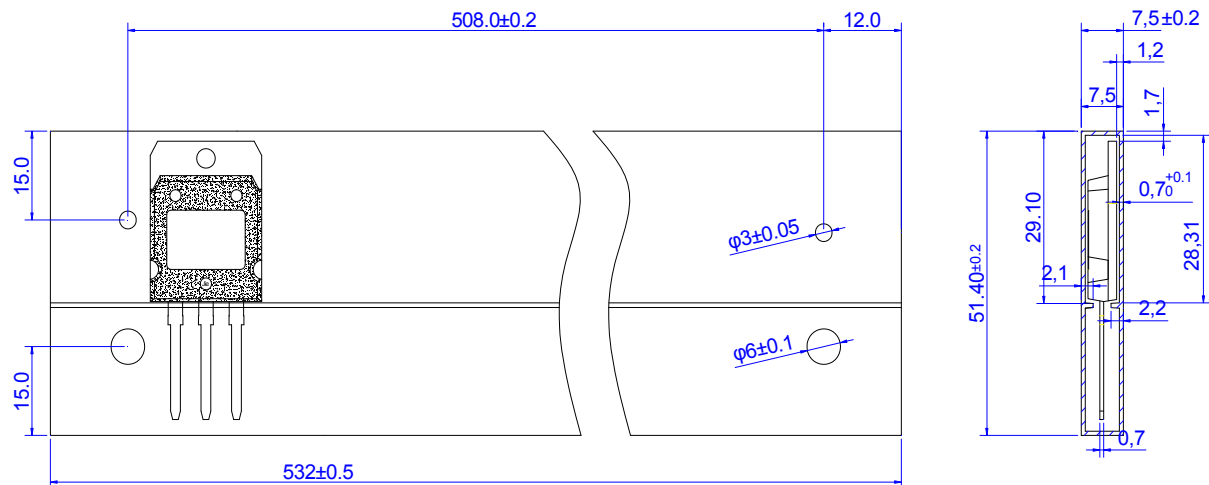
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-247J	TUBE	30	450	2,250

PACKAGE MECHANICAL DATA



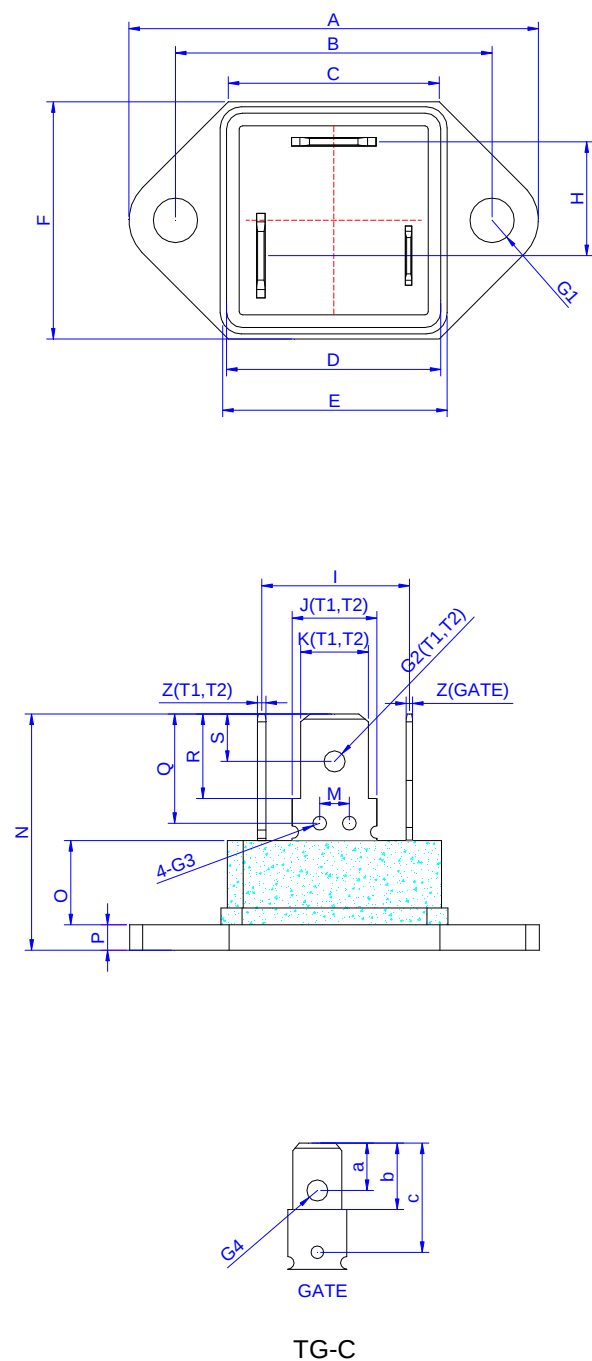
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	19.7	19.9	20.1	0.776	0.783	0.791
B	26.9	27.1	27.3	1.059	1.067	1.075
C	19.4	19.9	20.4	0.764	0.783	0.803
D	3.80	3.90	4.00	0.150	0.154	0.157
E	2.56	2.66	2.76	0.101	0.105	0.109
F	1.66	1.76	1.86	0.065	0.069	0.073
G		5.45			0.215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

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	

DELIVERY MODE

PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON (PCS)
TG-C	TUBE	10	100	500



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