

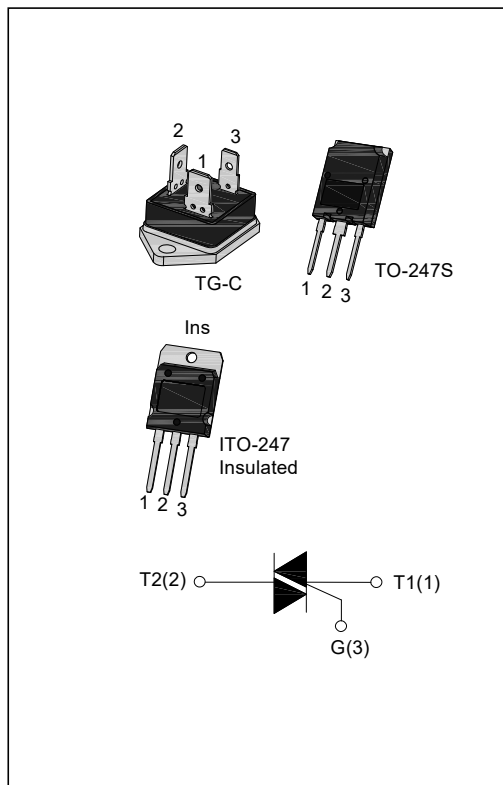


DESCRIPTION:

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_{RMS}, complying with UL standards (File ref: E252906). All the packages listed are RoHS compliant. (2011/65/EU)

MAIN FEATURES

Symbol	Value	Unit
V _{DRM} /V _{RRM}	1200/1600	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	°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	TO-247S ITO-247(Ins) (T _C =75°C)	I _{T(RMS)}	60	A
	TG-C(T _C =85°C)			
Non repetitive surge peak on-state current (tp=20ms)	I _{TSM}	600	A	
I ² t value for fusing (tp=10ms)	I ² t	1800	A ² s	
Critical rate of rise of on-state current (I _G = 2 × I _{GT})	dI/dt	50	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
Peak pulse voltage ($T_j=25^\circ\text{C}$; non-repetitive, off-state; FIG.7)	V_{pp}	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/ μs

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

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	ITO-247(Ins)/ TO-247S	0.54	$^\circ\text{C} / \text{W}$
		TG-C	0.43	

ORDERING INFORMATION

<p>J</p> <p>JieJie Microelectronics Co.,Ltd</p>	<p>ST</p> <p>Triacs</p>	<p>60</p> <p>$I_T(RMS):60A$</p>	<p>IS</p> <p>T:TG-C CS:TO-247S IS:ITO-247(Ins)</p>	<p>-1200</p> <p>1200: $V_{DRM}/V_{RRM} \geq 1200V$ 1600: $V_{DRM}/V_{RRM} \geq 1600V$</p>	<p>BW</p> <p>BW:$I_{GT1-3} \leq 50mA$</p>	<p>-/</p> <p>Blank: Tube</p>
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MARKING

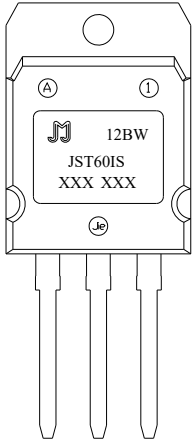
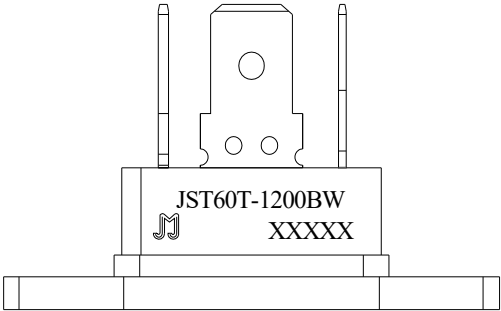
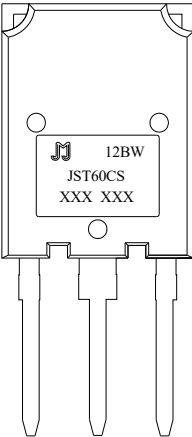
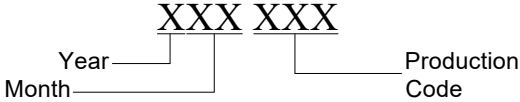
 <p>Top view of JST60IS triac marking showing terminals A, I, and Je. Marking includes: 12BW, JST60IS, and XXX XXX.</p>	 <p>Top view of JST60T-1200BW triac marking showing terminals A, I, and Je. Marking includes: JST60T-1200BW and XXXXX.</p>
 <p>Bottom view of JST60CS triac marking showing terminals A, I, and Je. Marking includes: 12BW, JST60CS, and XXX XXX.</p>	 <p>Diagram showing marking format: XXX XXX. The first XXX is labeled as Year and the second XXX is labeled as Production Code. A line also indicates the Month.</p>

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

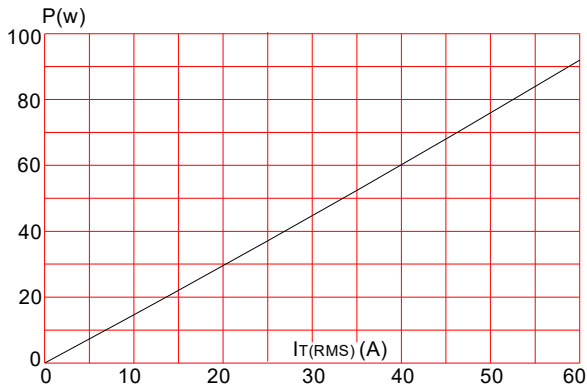


FIG.3: Surge peak on-state current versus number of cycles

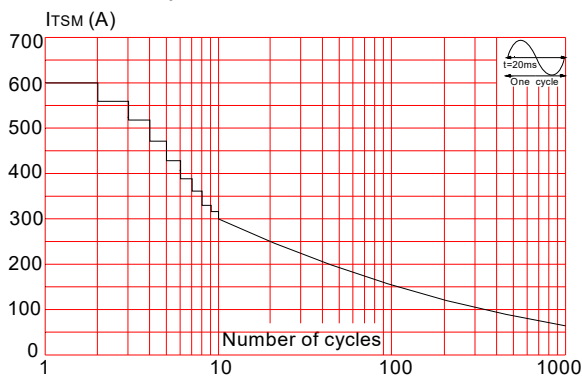


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of $\int I^2 t$ ($dI/dt < 50\text{A}/\mu\text{s}$)

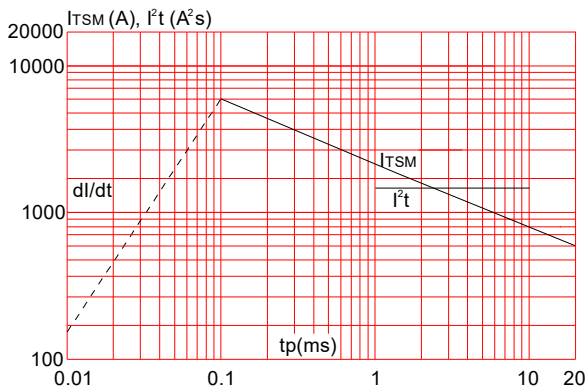


FIG.2: RMS on-state current versus case temperature

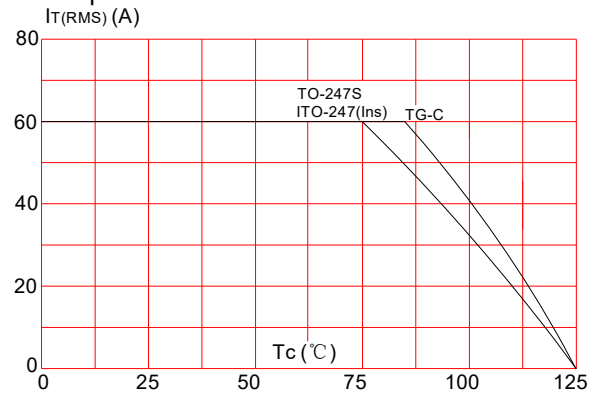


FIG.4: On-state characteristics (maximum values)

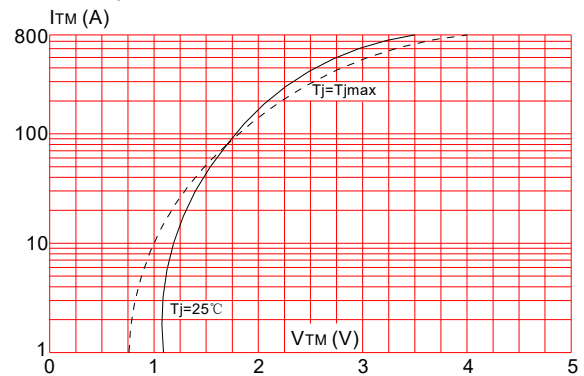


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

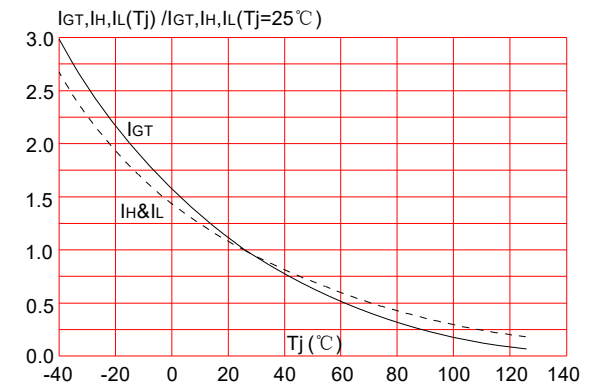
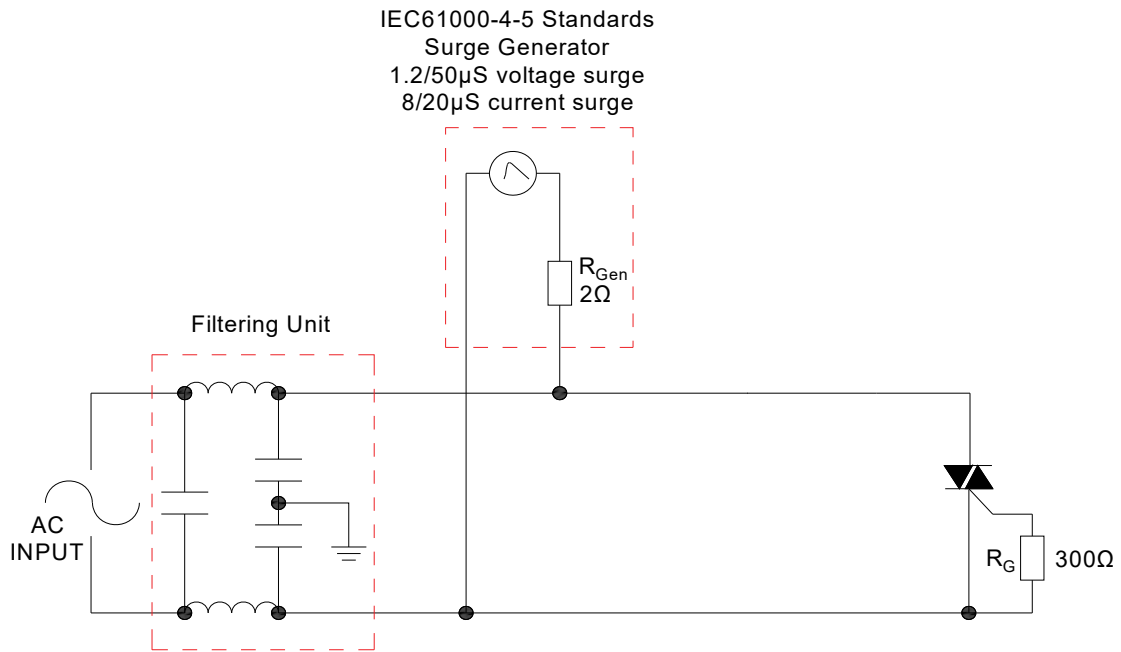


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



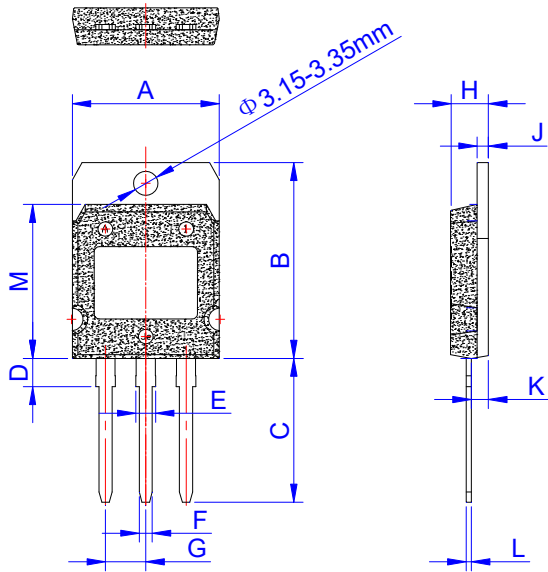
ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
JST60	1200/1600	50	TO-247S	30	Tube
			ITO-247	25	
			TG-C	10	

Document Revision History

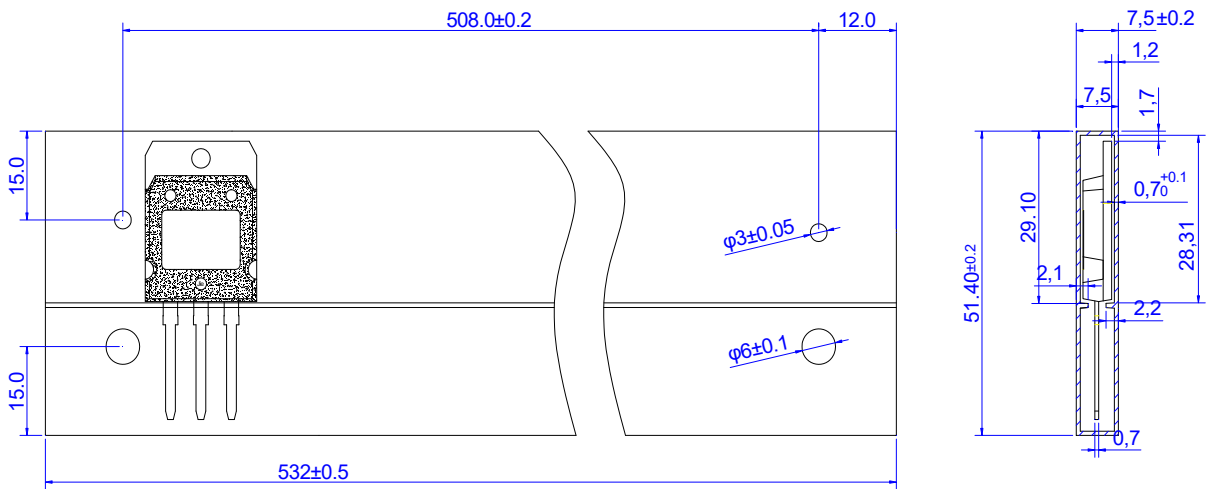
Date	Revision	Changes
June 2, 2021	5	Last update, renew VTM
Sep 23, 2021	6	Add TO-247S package
Jul 05, 2022	7	Delete Package TO-247J, Add Vpp

PACKAGE MECHANICAL DATA



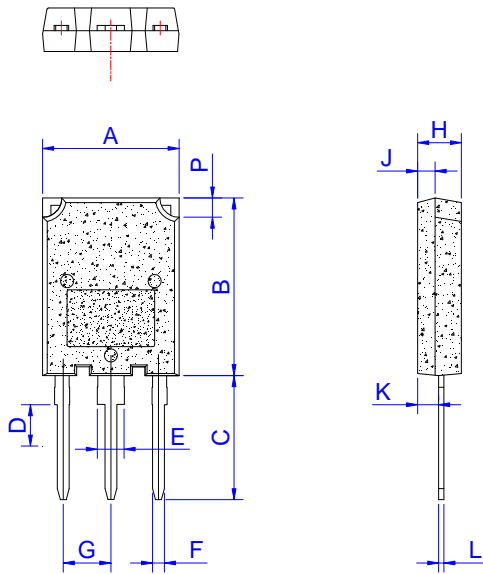
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	19.7	19.9	20.1	0.776	0.783	0.791
B	26.9	27.1	27.3	1.059	1.067	1.075
C	19.4	19.9	20.4	0.764	0.783	0.803
D	3.80	3.90	4.00	0.150	0.154	0.157
E	2.56	2.66	2.76	0.101	0.105	0.109
F	1.66	1.76	1.86	0.065	0.069	0.073
G	5.25		5.65	0.207		0.222
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



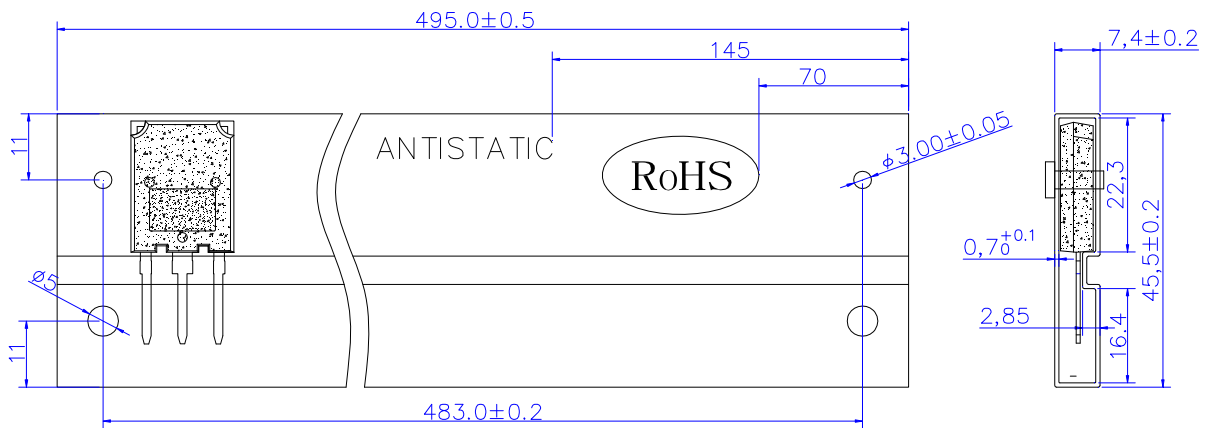
PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
ITO-247	TUBE	25	400	1,600

PACKAGE MECHANICAL DATA



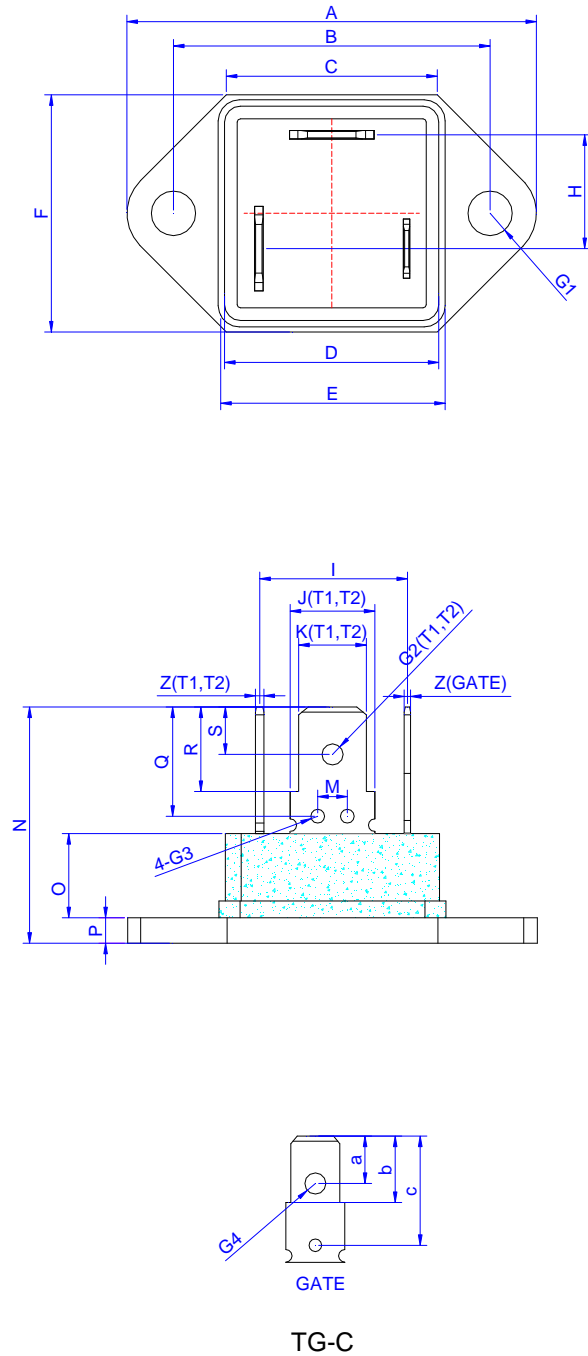
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.1		16.1	0.594		0.634
B	19.8		20.8	0.78		0.819
C	13.8		14.8	0.543		0.583
D	3.00		4.00	0.118		0.157
E	2.75		3.35	0.108		0.132
F	1.30		1.50	0.051		0.059
G	5.10		5.80	0.201		0.228
H	4.50		5.50	0.177		0.217
J	1.45		2.15	0.057		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

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			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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