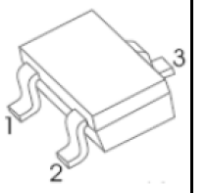
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

AD-ZUMT491 Plastic-Encapsulated Transitor

AD-ZUMT491 TRANSISTOR (NPN)

SOT-323



1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

- Extremely low saturation voltage
- 500mW power dissipation
- 1 Amp continuous collector current (I_C)
- AEC-Q101 qualified

APPLICATIONS

- Ideally suited for space / weight critical applications

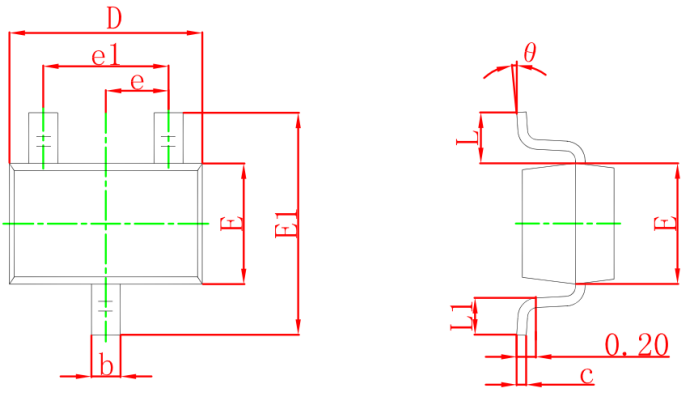
MAXIMUM RATINGS (T_j = 25°C unless otherwise specified)

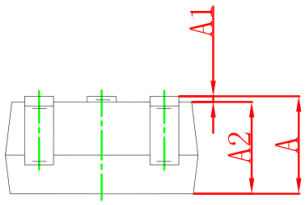
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Power Dissipation	P_C	250	mW
Collector Current	I_C	1	A
Thermal resistance from junction to ambient	$R_{\theta JA}$	500	°C/W
Operating junction and storage temperature range	T_j, T_{stg}	-55 ~ 150	°C

ELECTRICAL CHARACTERISTICS (T_j = 25°C unless otherwise specified)

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C = 100μA, I_E = 0	80	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	60	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E = 100μA, I_C = 0	5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB} = 60V, I_E = 0	-	-	0.1	μA
Collector cut-off current	I_{CES}	V_{CES} = -60V, I_B = 0	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 4V, I_C = 0	-	-	0.1	μA
DC current gain	h_{FE}	V_{CE} = 5V, I_C = 1mA	100	-	-	-
		V_{CE} = 5V, I_C = 500mA	100	-	300	-
		V_{CE} = 5V, I_C = 1A	80	-	-	-
		V_{CE} = 5V, I_C = 2A	30	-	-	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA	-	-	0.25	V
		I_C = 1A, I_B = 100mA	-	-	0.5	
Base emitter saturation voltage	$V_{BE(sat)}$	I_C = 1A, I_B = 100mA	-	-	1.1	V
Transition frequency	f_T	V_{CE} = 10V, I_C = 50mA, f = 1MHz	150	-	-	MHZ
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz	-	-	10	pF
Base emitter turn on voltage	$V_{BE(ON)}$	V_{CE} = 5V, I_C = 1A	-	-	1	V

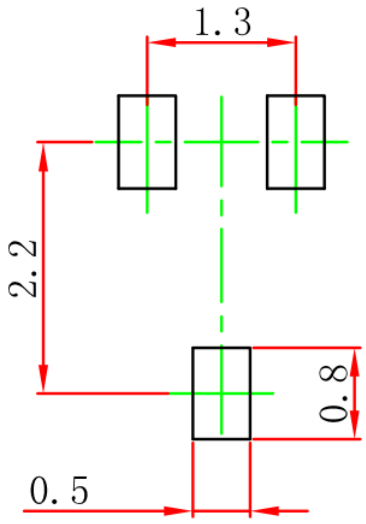
SOT-323 PACKAGE OUTLINE DIMENSIONS





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-323 SUGGESTED PAD LAYOUT

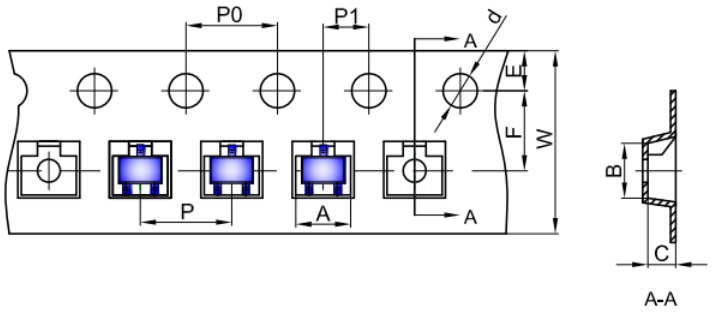


Note:

1. Controlling dimension in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purpose only.

SOT-323 TAPE AND REEL

SOT-323 Embossed Carrier Tape

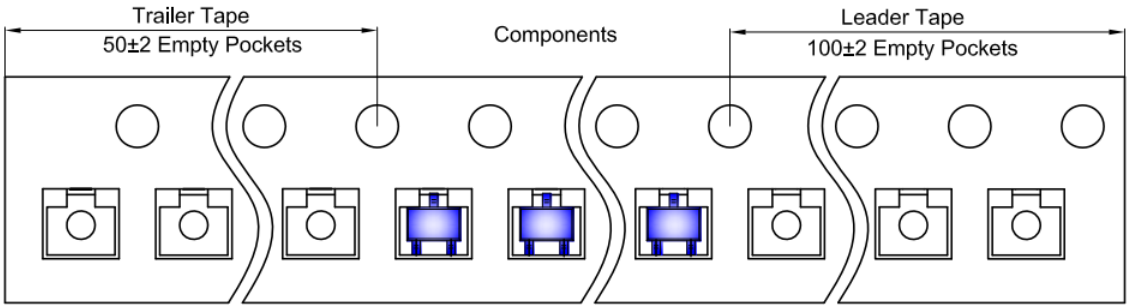


Packaging Description:

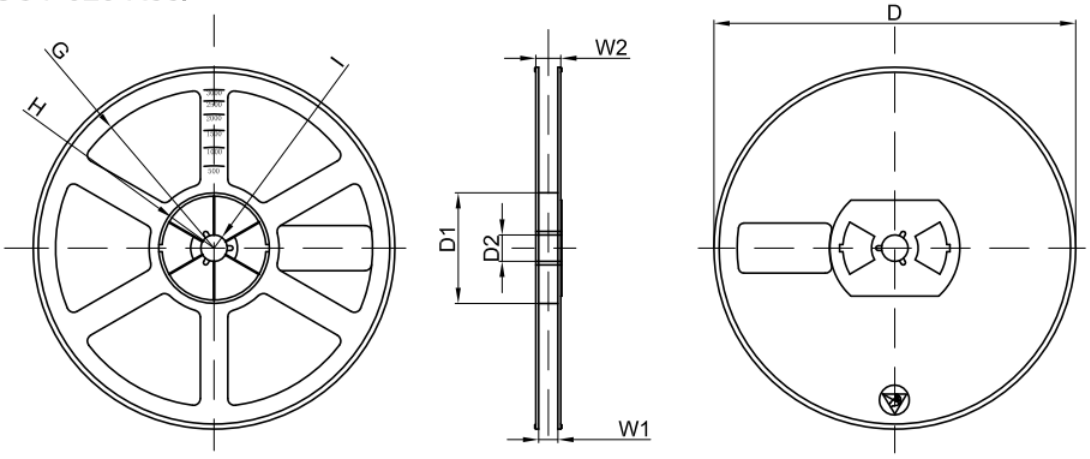
SOT-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-323	2.25	2.55	1.19	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOT-323 Tape Leader and Trailer



SOT-323 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	

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