

FEATURES

- Total power dissipation: Max. 200mW.
- Wide zener reverse voltage range 2.4V to 43V.
- Ideally suited for automated assembly processes

MECHANICAL DATA

- Case: SOD-323
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 5.48mg / 0.00019oz



VOLTAGE RANGE

2.4 to 43 Volts

200mW

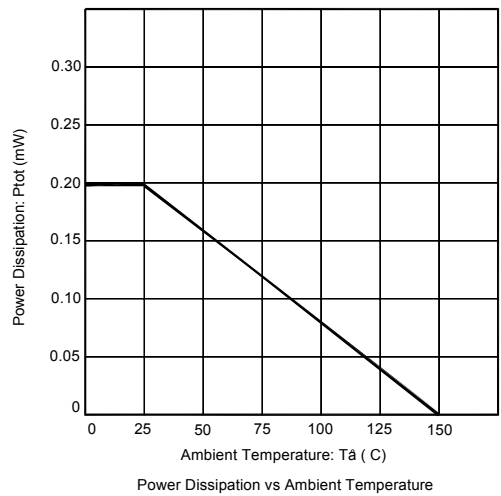
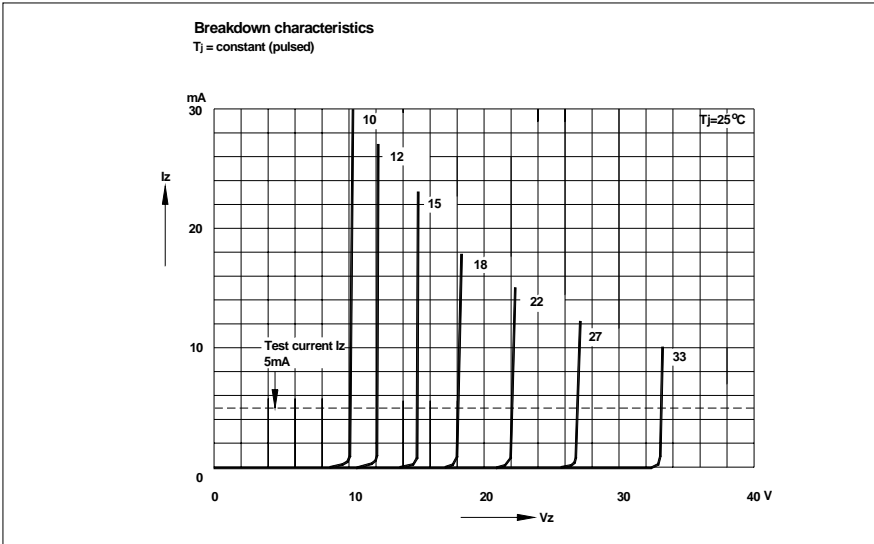
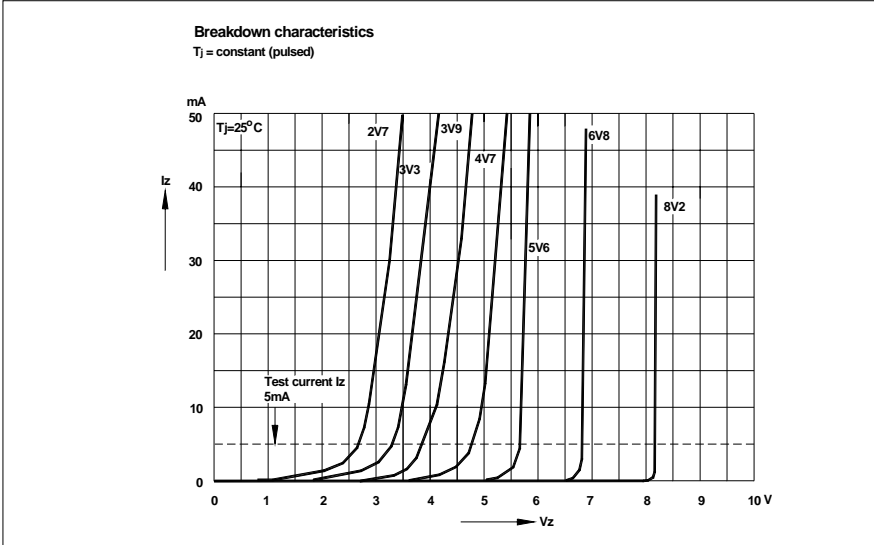
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Absolute Maximum Ratings And Characteristics (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Power Dissipation (NOTE 1)	P_D	200	mW
Forward Voltage at $I_F = 10$ mA(NOTE 2)	V_F	0.9	V
Typical thermal resistance junction to ambient	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	°C

RATING AND CHARACTERISTIC CURVES



Characteristics at Ta = 25°C

Type	Marking	Zener Voltage Range (NOTE 2)				Maximum Zener Impedance (NOTE 3)			Maximum Reverse Current (NOTE 2)			Typical Temperature Coefficient @IzTC mV/°C		Test Current IzTC mA
		VzT (@ IzT)			IzT	ZzT (@ IzT)	Zzk (@ IzK)	Izk	IR	VR	MIN	MAX		
		Min (V)	Nom (V)	Max (V)	(mA)	(Ω)		mA	μA	V				
BZT52C2V4S	WX	2.2	2.4	2.6	5	100	600	1	50	1	-3.5	0	5	
BZT52C2V7S	W1	2.5	2.7	2.9	5	100	600	1	20	1	-3.5	0	5	
BZT52C3V0S	W2	2.8	3	3.2	5	95	600	1	10	1	-3.5	0	5	
BZT52C3V3S	W3	3.1	3.3	3.5	5	95	600	1	5	1	-3.5	0	5	
BZT52C3V6S	W4	3.4	3.6	3.8	5	90	600	1	5	1	-3.5	0	5	
BZT52C3V9S	W5	3.7	3.9	4.1	5	90	600	1	3	1	-3.5	0	5	
BZT52C4V3S	W6	4	4.3	4.6	5	90	600	1	3	1	-3.5	0	5	
BZT52C4V7S	W7	4.4	4.7	5	5	80	500	1	3	2	-3.5	0.2	5	
BZT52C5V1S	W8	4.8	5.1	5.4	5	60	480	1	2	2	-2.7	1.2	5	
BZT52C5V6S	W9	5.2	5.6	6	5	40	400	1	1	2	-2	2.5	5	
BZT52C6V2S	WA	5.8	6.2	6.6	5	10	150	1	3	4	0.4	3.7	5	
BZT52C6V8S	WB	6.4	6.8	7.2	5	15	80	1	2	4	1.2	4.5	5	
BZT52C7V5S	WC	7	7.5	7.9	5	15	80	1	1	5	2.5	5.3	5	
BZT52C8V2S	WD	7.7	8.2	8.7	5	15	80	1	0.7	5	3.2	6.2	5	
BZT52C9V1S	WE	8.5	9.1	9.6	5	15	100	1	0.5	6	3.8	7	5	
BZT52C10S	WF	9.4	10	10.6	5	20	150	1	0.2	7	4.5	8	5	
BZT52C11S	WG	10.4	11	11.6	5	20	150	1	0.1	8	5.4	9	5	
BZT52C12S	WH	11.4	12	12.7	5	25	150	1	0.1	8	6	10	5	
BZT52C13S	WI	12.4	13	14.1	5	30	170	1	0.1	8	7	11	5	
BZT52C15S	WJ	13.8	15	15.6	5	30	200	1	0.1	10.5	9.2	13	5	
BZT52C16S	WK	15.3	16	17.1	5	40	200	1	0.1	11.2	10.4	14	5	
BZT52C18S	WL	16.8	18	19.1	5	45	225	1	0.1	12.6	12.4	16	5	
BZT52C20S	WM	18.8	20	21.2	5	55	225	1	0.1	14	14.4	18	5	
BZT52C22S	WN	20.8	22	23.3	5	55	250	1	0.1	15.4	16.4	20	5	
BZT52C24S	WO	22.8	24	25.6	5	70	250	1	0.1	16.8	18.4	22	5	
BZT52C27S	WP	25.1	27	28.9	2	80	300	0.5	0.1	18.9	21.4	25.3	2	
BZT52C30S	WQ	28	30	32	2	80	300	0.5	0.1	21	24.4	29.4	2	
BZT52C33S	WR	31	33	35	2	80	325	0.5	0.1	23.1	27.4	33.4	2	
BZT52C36S	WS	34	36	38	2	90	350	0.5	0.1	25.2	30.4	37.4	2	
BZT52C39S	WT	37	39	41	2	130	350	0.5	0.1	27.3	33.4	41.2	2	
BZT52C43S	WU	40	43	46	2	100	700	1	0.1	32	10	12	5	

NOTE: 1. Device mounted on ceramic PCB: 7.6mm x 9.4mm x 0.87mm with pad areas 25mm².
2. Short duration test pulse used to minimize self-heating effect.
3. f = 1kHz.

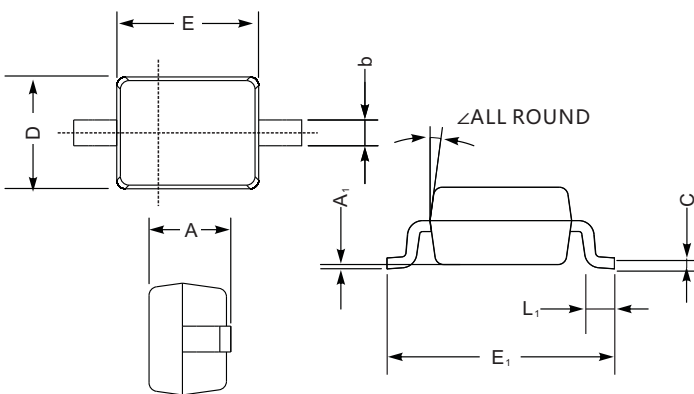
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C



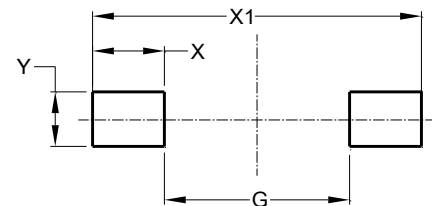
Package Dimensions & Suggested Pad Layout

SOD323



SOD-323 mechanical data

UNIT		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	



Dimensions	Value (in mm)
G	1.40
X	1.20
X1	3.80
Y	1.00

Tape & reel specification

Tape		Symbol	Dimension (mm)		
		P0	4.00±0.20		
		P1	4.00±0.20		
		P2	2.00±0.20		
		D0	1.55±0.20		
		D1	1.00±0.20		
		E	1.55±0.25		
		F	3.60±0.20		
		W	8.00±0.20		
		A0	2.00±0.20		
		B0	3.25±0.20		
		K0	1.35±0.20		
		T	0.23±0.10		
		7" Reel		D2	177.0±5.0
				D3	55Min.
D4	R24.6±2.0				
G	R82.0±2.0				
I	13.0±2.0				
W1	10.20±3.0				
Quantity: 3000PCS					