



BZX384B Series

SOD 323 Plastic Encapsulate Zener Diode



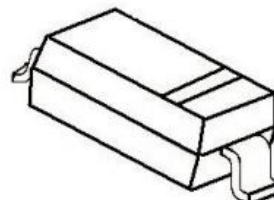
Features

- Low Zener Impedance
- Power Dissipation of 200mW
- High Stability and High Reliability

Mechanical Data

- SOD-323 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any

SOD-323



Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Power Dissipation	Pd	200	mW
Thermal Resistance from Junction to Ambient	R _{θJA}	625	°C/W
Forward Voltage @IF=10mA	Vf	0.9	V
Junction/Operating Temperature	Tj	150	°C
Storage temperature range	Ts	-65-+150	°C

- 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



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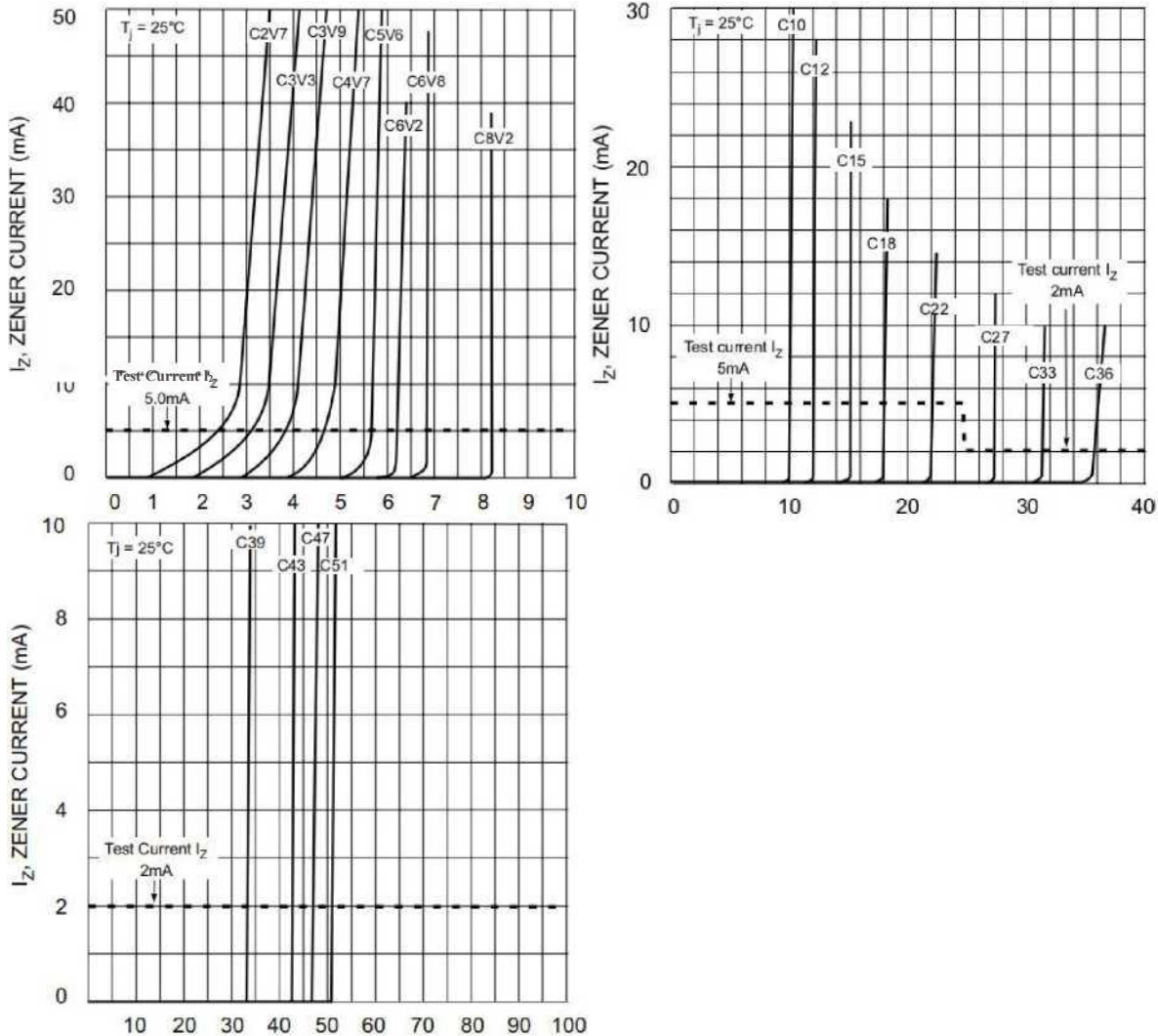


Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

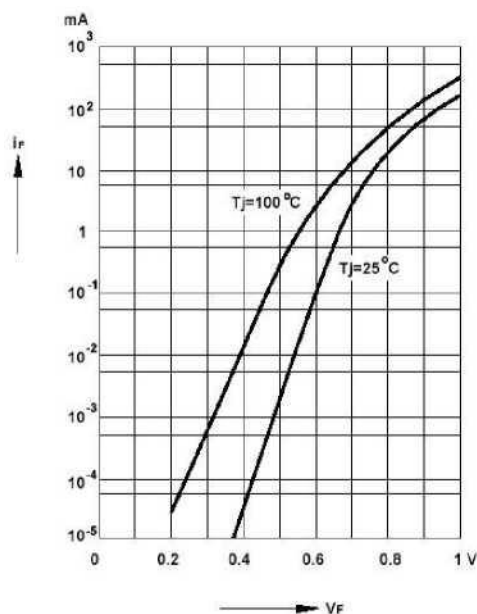
Device	Marking	Zener Voltage Range				Maximum Zener Impedance			Maximum Reverse Current		Typical Temperature coefficient @ IZTC=mV/°C		Test Current IZTC
		Vz@Izt			Izt	Zzt @Izt	Zzk @Izk	Izk	IR	VR	Min	Max	
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	uA	V			
BZX384B2V7	2W1	2.7	2.65	2.75	5	100	600	1	20	1	-3.5	0	5
BZX384B3V0	2W2	3.0	2.94	3.06	5	95	600	1	10	1	-3.5	0	5
BZX384B3V3	2W3	3.3	3.23	3.37	5	95	600	1	5	1	-3.5	0	5
BZX384B3V6	2W4	3.6	3.53	3.67	5	90	600	1	5	1	-3.5	0	5
BZX384B3V9	2W5	3.9	3.82	3.98	5	90	600	1	3	1	-3.5	0	5
BZX384B4V3	2W6	4.3	4.21	4.39	5	90	600	1	3	1	-3.5	0	5
BZX384B4V7	2W7	4.7	4.61	4.79	5	80	500	1	3	2	-3.5	0	5
BZX384B5V1	2W8	5.1	5.00	5.20	5	60	480	1	2	2	-3.5	0.2	5
BZX384B5V6	2W9	5.6	5.49	5.71	5	40	400	1	1	2	-2.7	1.2	5
BZX384B6V2	2WA	6.2	6.08	6.32	5	10	150	1	3	4	-2.0	2.5	5
BZX384B6V8	2WB	6.8	6.66	6.94	5	15	80	1	2	4	0.4	3.7	5
BZX384B7V5	2WC	7.5	7.35	7.65	5	15	80	1	1	5	1.2	4.5	5
BZX384B8V2	2WD	8.2	8.04	8.36	5	15	80	1	0.7	5	2.5	5.3	5
BZX384B9V1	2WE	9.1	8.92	9.28	5	15	100	1	0.5	6	3.2	6.2	5
BZX384B10	2WF	10	9.80	10.20	5	20	150	1	0.2	7	3.8	7.0	5
BZX384B11	2WG	11	10.78	11.22	5	20	150	1	0.1	8	4.5	8.0	5
BZX384B12	2WH	12	11.76	12.24	5	25	150	1	0.1	8	5.4	9.0	5
BZX384B13	2WI	13	12.74	13.26	5	30	170	1	0.1	8	6.0	10.0	5
BZX384B15	2WJ	15	14.70	15.30	5	30	200	1	0.05	10.5	9.2	13.0	5
BZX384B16	2WK	16	15.68	16.32	5	40	200	1	0.05	11.2	10.4	14.0	5
BZX384B18	2WL	18	17.64	18.36	5	45	225	1	0.05	12.6	12.4	16.0	5
BZX384B20	2WM	20	19.60	20.40	5	55	225	1	0.05	14	14.4	18.0	5
BZX384B22	2WN	22	21.56	22.44	5	55	250	1	0.05	15.4	16.4	20.0	5
BZX384B24	2WO	24	23.52	24.48	5	70	250	1	0.05	16.8	18.4	22.0	5
BZX384B27	2WP	27	26.46	27.54	2	80	300	0.5	0.05	18.9	21.4	25.3	2
BZX384B30	2WQ	30	29.40	30.60	2	80	300	0.5	0.05	21	24.4	29.4	2
BZX384B33	2WR	33	32.34	33.66	2	80	325	0.5	0.05	23.1	27.4	33.4	2
BZX384B36	2WS	36	35.28	36.72	2	90	350	0.5	0.05	25.2	30.4	37.4	2
BZX384B39	2WT	39	38.22	39.78	2	130	350	0.5	0.05	27.3	33.4	41.2	2
BZX384B43	2WU	43	42.14	43.86	2	150	375	0.5	0.05	30.1	10.0	12.0	5
BZX384B47	2WV	47	46.06	47.94	2	170	375	0.5	0.05	32.9	10.0	12.0	5

Typical characteristics

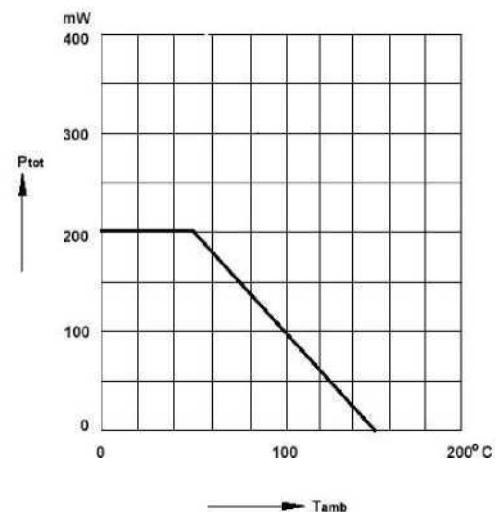
Breakdown characteristics at $T_j = \text{constant}$ (pulsed)



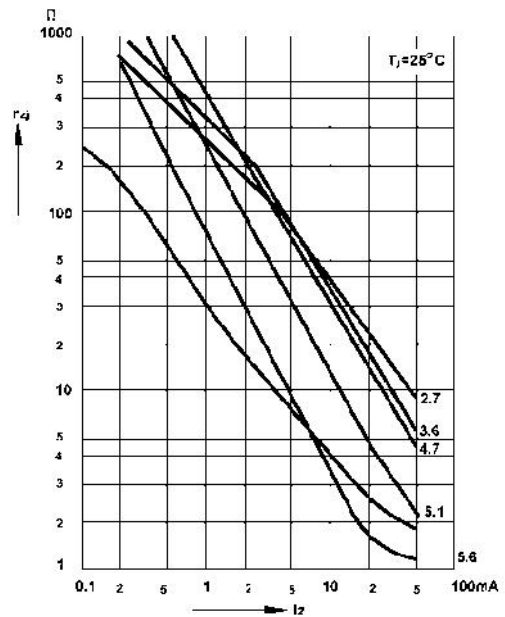
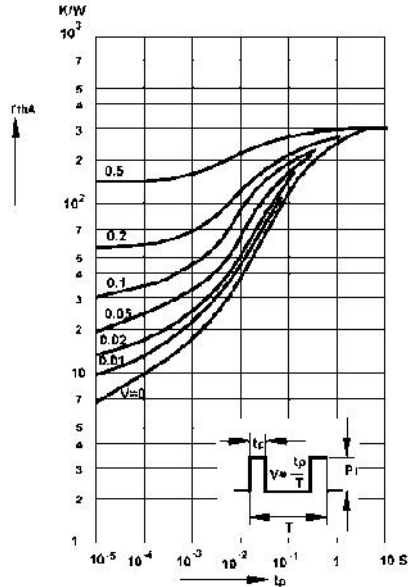
Forward characteristics



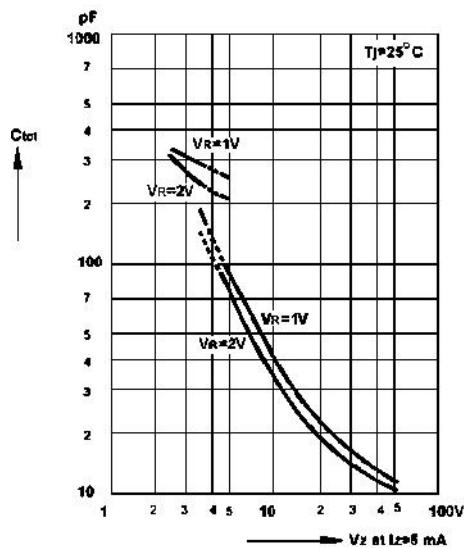
Admissible power dissipation versus ambient temperature



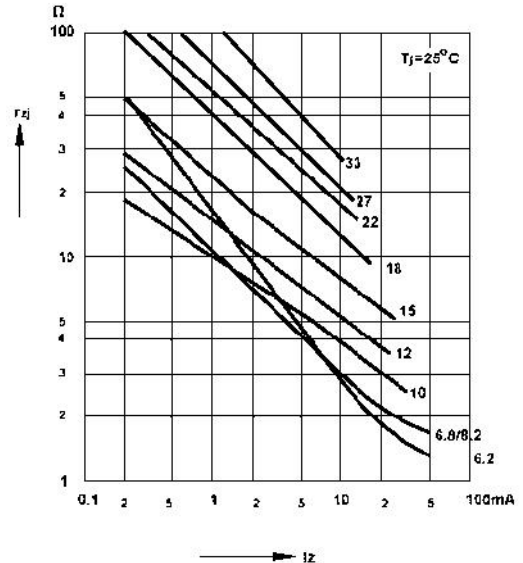
Pulse thermal resistance versus pulse duration



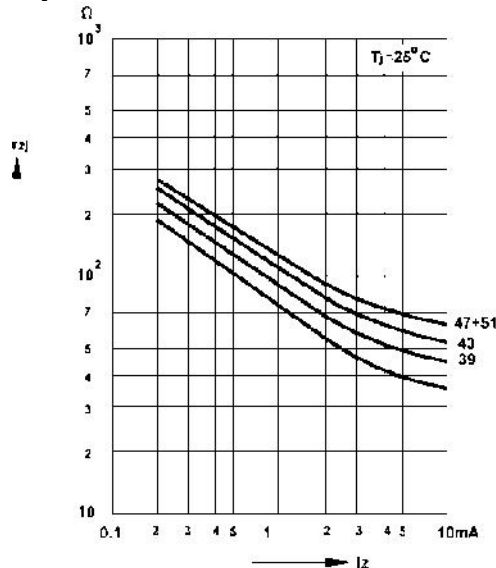
Capacitance versus Zener voltage



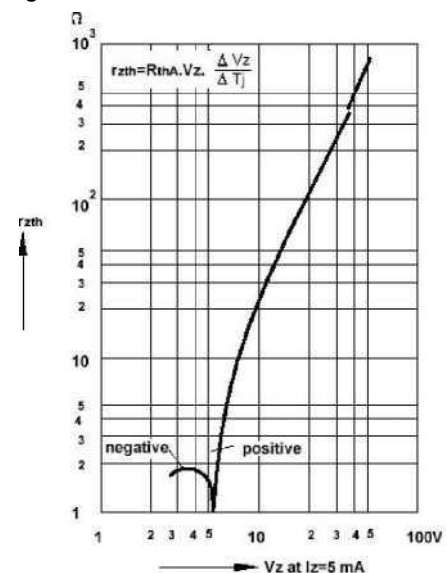
Dynamic resistance versus Zener current



Dynamic resistance versus Zener current

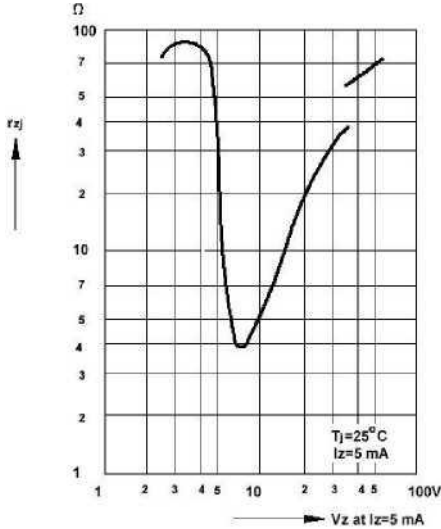


Thermal differential resistance versus Zener voltage

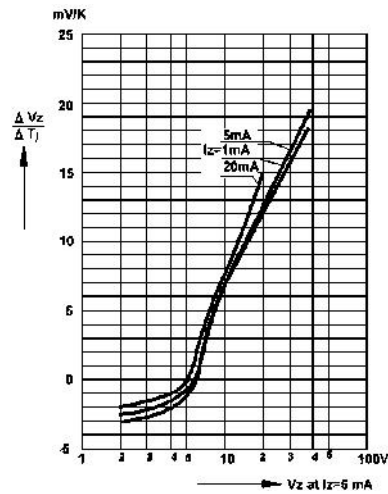


Dynamic resistance versus Zener current

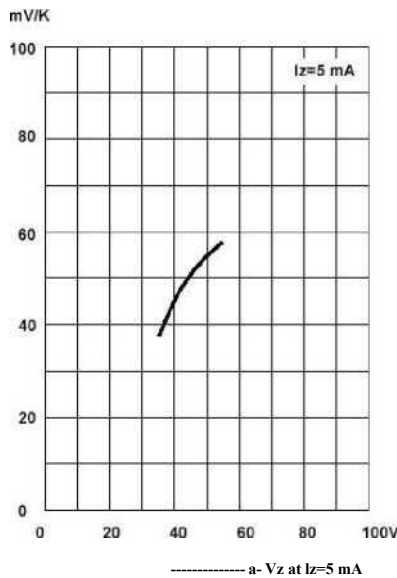
Dynamic resistance versus Zener voltage



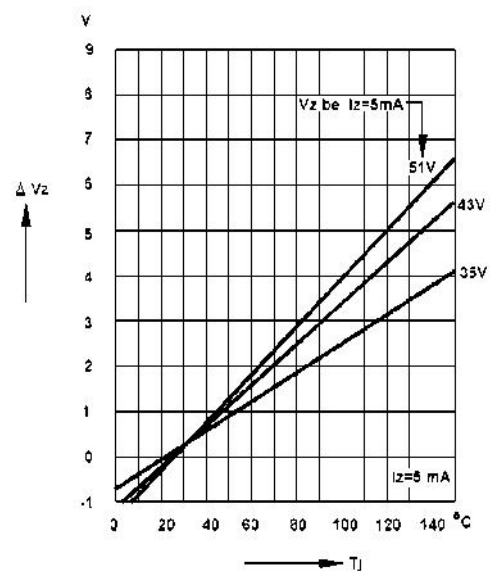
Temperature dependence of Zener voltage versus Zener voltage



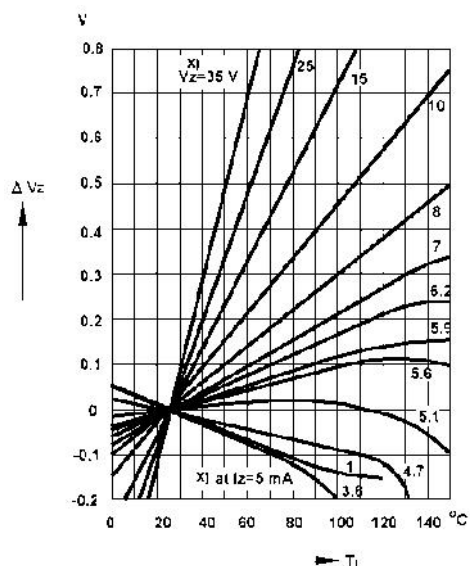
Temperature dependence of Zener voltage versus Zener voltage



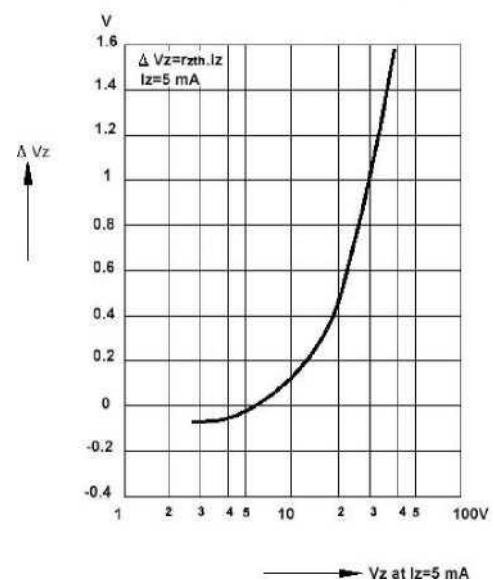
Change of Zener voltage versus junction temperature



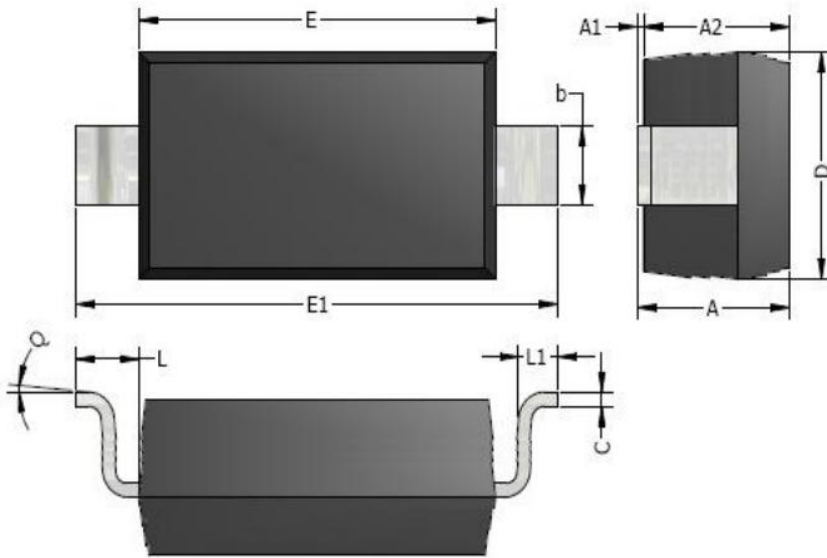
Change of Zener voltage versus junction temperature



Change of Zener voltage from turn-on up to the point of thermal equilibrium versus Zener voltage



SOD-323 PACKAGE OUTLINE



Symbol	MIN (mm)	MAX (mm)
A	--	1.000
A1	0.000	0.100
A2	0.700	0.900
b	0.250	0.350
c	0.080	0.020
D	1.250	1.450
E	1.600	1.800
E1	2.500	2.700
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°

Ordering Information

Package	Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
SOD-323	3000pcs	7inch	45,000pcs	203×203×195	180,000pcs	438×438×220