

SOT-23 Plastic-Encapsulate Zener Diode

BZX84B5V1-BZX84B20

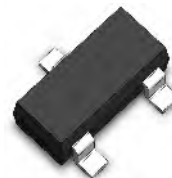
Features

- ◆ Low Zener Impedance
- ◆ Power Dissipation of 300mW
- ◆ High Stability and High Reliability

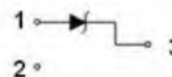
Mechanical Data

- ◆ JEDEC SOT-23 Package
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Mounting Position: Any
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Lead Finish : Lead Free

SOT-23



Functional Diagram



Mechanical Characteristics

Symbol	Parameter	Value	Units
P_d	Power Dissipation ⁽¹⁾	300	mW
V_F	Forward Voltage @ $I_F=10mA$ ⁽²⁾	0.9	V
T_s	Storage temperature range	-65~+150	°C
R_{thA}	Thermal resistance junction to ambient air Warmewider stand Sperrschicht - umgebende Luft	417	K/W

(1)Valid provided that device terminals are kept at ambient temperature.

(2)Test with pulse, period=5ms, pulse width=300us.

(3)f=1KHz

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

Device	Marking	Zener Voltage Range (note2)				Maximum Zener Impedance (note3)			Maximum Reverse Current		Typical Temperature coefficient @ $I_{ZT}=5mA$ mV/°C	
		$V_Z@I_{ZT}$			I_{ZT}	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$	I_{ZK}	I_R	V_R	Min	Max
		Nom(V)	Min(V)	Max(V)	mA	Ω	Ω	mA	μA	V		
BZX84B5V1	2Z2	5.1	5.00	5.20	5	60	480	1.0	2	2.0	-2.7	1.2
BZX84B5V6	2Z3	5.6	5.49	5.71	5	40	400	1.0	1	2.0	-2.0	2.5
BZX84B6V2	2Z4	6.2	6.08	6.32	5	10	150	1.0	3	4.0	0.4	3.7
BZX84B6V8	2Z5	6.8	6.66	6.94	5	15	80	1.0	2	4.0	1.2	4.5
BZX84B7V5	2Z6	7.5	7.35	7.65	5	15	80	1.0	1	5.0	2.5	5.3
BZX84B8V2	2Z7	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX84B9V1	2Z8	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX84B10	2Z9	10	9.80	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX84B11	2Y1	11	10.78	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX84B12	2Y2	12	11.76	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX84B13	2Y3	13	12.74	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX84B15	2Y4	15	14.70	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX84B16	2Y5	16	15.68	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX84B18	2Y6	18	17.64	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX84B20	2Y7	20	19.60	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0

Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Characteristic Curves

Fig1. Zener Characteristics (V_Z 5.1V Up to 20V)

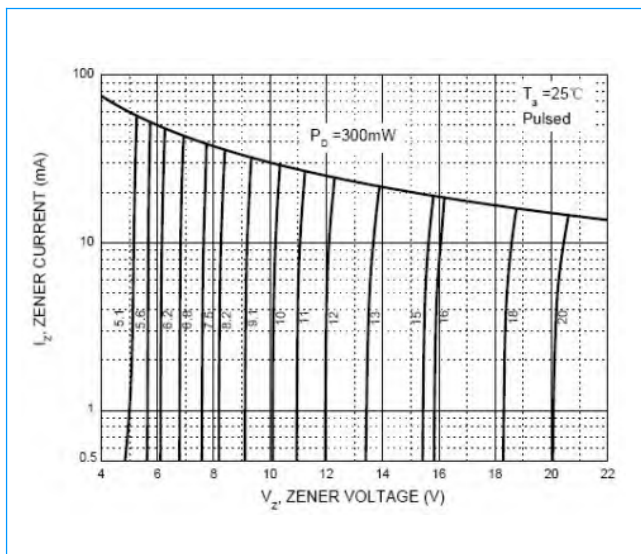
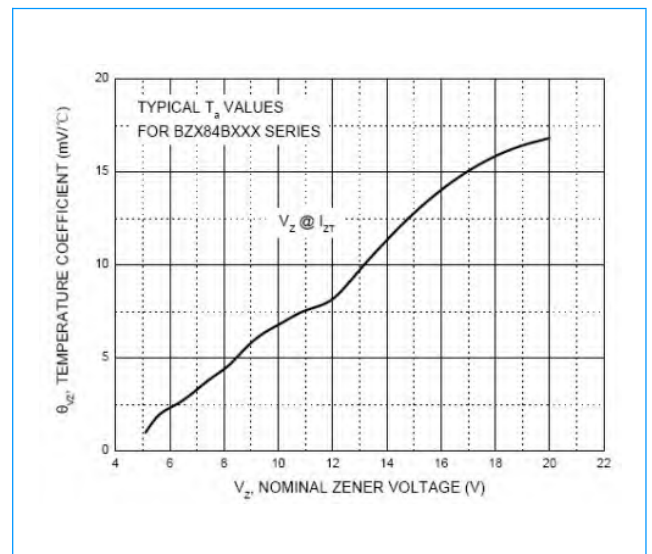


Fig2. Temperature Coefficients



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Characteristic Curves

Fig3. Typical Leakage Current

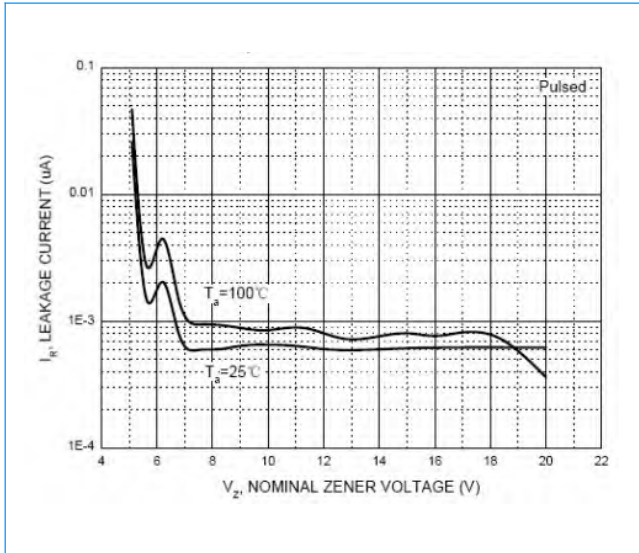


Fig4. Typical Capacitance

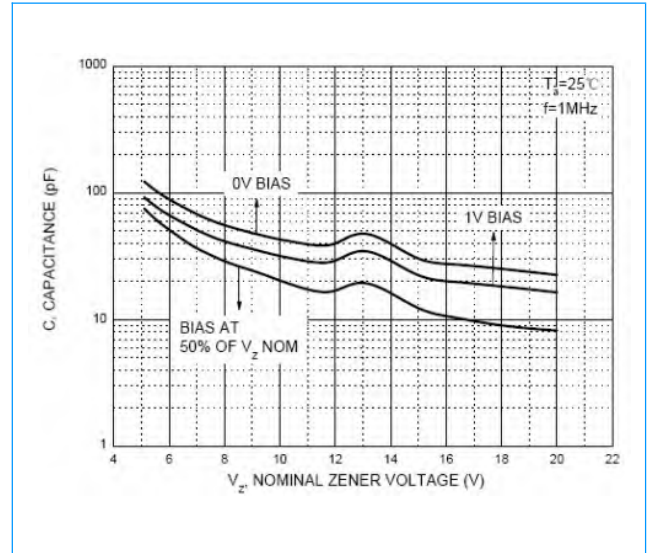


Fig5. Effect of Voltage on Zener Impedance

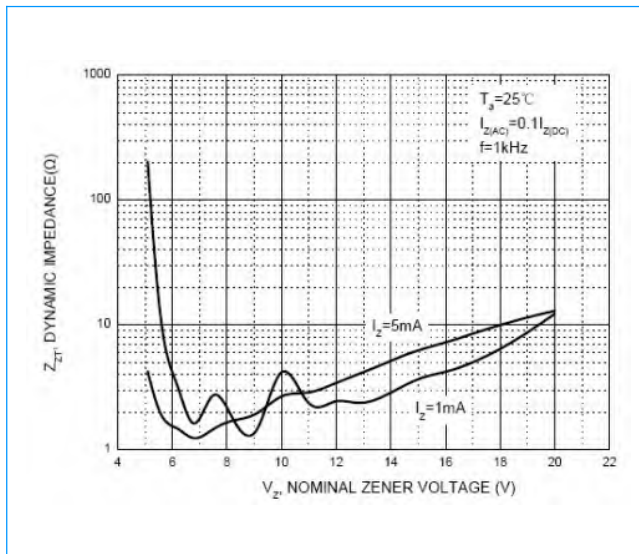
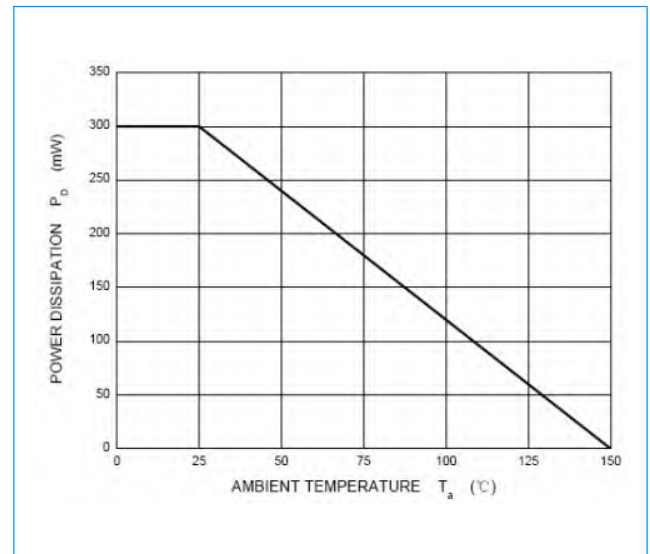


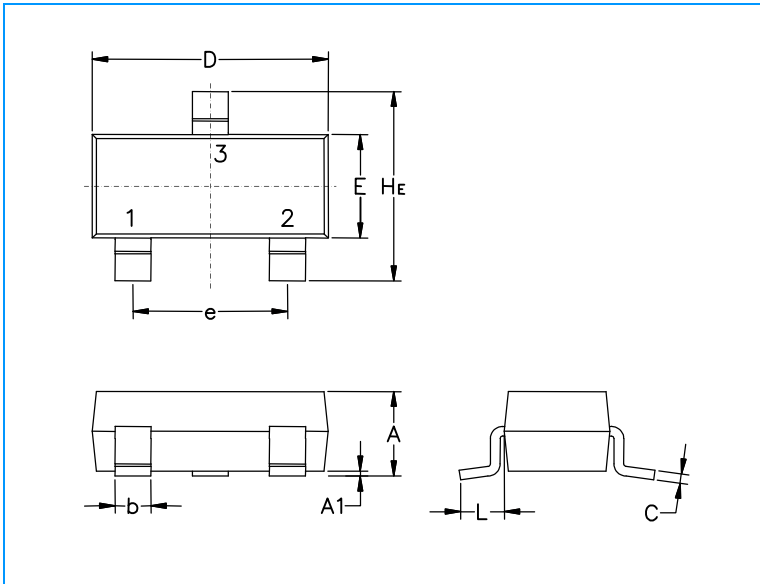
Fig6. Power Derating Curve



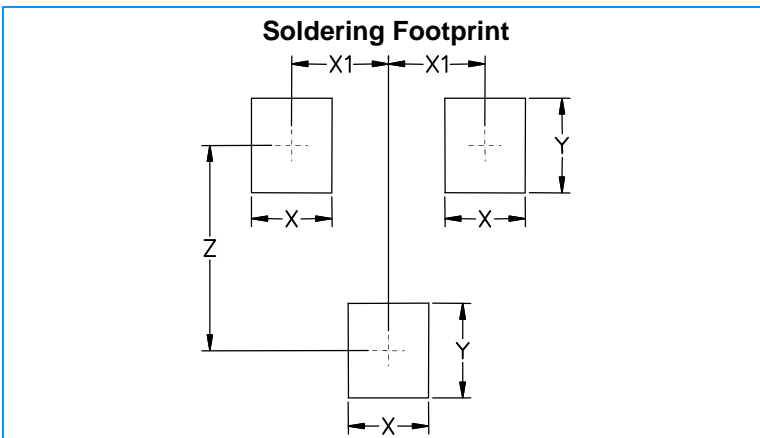
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SOT-23 Package Outline & Dimensions



Symbol	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.15	0.18	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104



Symbol	Millimeters	Inches
X	0.80	0.031
X1	0.95	0.037
Y	0.90	0.035
Z	2.00	0.079