

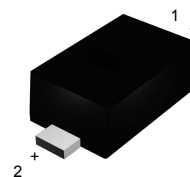
# BZX584B2V0 thru BZX584B75

Surface Mount Zener Diodes

V<sub>Z</sub> Range: 2.0V to 75V Power Dissipation: 150mW

## Features

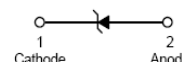
- Zener voltages: 2.0V-75V
- Tight voltage tolerance: 2%
- Ultra low-profile package well suited for automated assembly



SOD-523

## Applications

- General voltage regulation
- Mobile & handheld systems



Schematic Diagram

## Absolute Maximum Ratings

(T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Forward Voltage @I <sub>F</sub> =10mA	V <sub>F</sub>	0.9	V
Power Dissipation	P <sub>D</sub>	150	mW
Thermal Resistance (Junction to Ambient)	R <sub>θJA</sub>	834	°C/W
Junction Temperature Range	T <sub>J</sub>	-55 To +150	°C
Storage Temperature Range	T <sub>STG</sub>	-65 To +150	°C

Note: These ratings are limiting values above which the serviceability of the diodes may be impaired.

## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Part Number	Marking	Zener Voltage V <sub>Z</sub> (V)			@ I <sub>ZT</sub> (mA)	Maximum Zener Impedance			Temperature Coefficient @ I <sub>ZT</sub> T <sub>C</sub> (mV/ °C)		Maximum Reverse Current I <sub>R</sub> (μA)	@ V <sub>R</sub> (V)
		Min	Typ	Max		Z <sub>ZT</sub> (Ω) @ I <sub>ZT</sub>	Z <sub>ZK</sub> (Ω)	@ I <sub>ZK</sub> (mA)	Min	Max		
BZX584B2V0	V0	1.96	2.00	2.04	5	100	1000	0.5	-3.5	0.0	120.000	0.5
BZX584B2V2	V1	2.16	2.20	2.24	5	100	1000	0.5	-3.5	0.0	120.000	0.7
BZX584B2V4	05	2.35	2.40	2.45	5	100	564	1.0	-3.5	0.0	45.000	1.0
BZX584B2V7	15	2.65	2.70	2.75	5	100	564	1.0	-3.5	0.0	18.000	1.0
BZX584B3V0	25	2.94	3.00	3.06	5	100	564	1.0	-3.5	0.0	9.000	1.0
BZX584B3V3	35	3.23	3.30	3.37	5	95	564	1.0	-3.5	0.0	4.500	1.0
BZX584B3V6	45	3.53	3.60	3.67	5	90	564	1.0	-3.5	0.0	4.500	1.0
BZX584B3V9	55	3.82	3.90	3.98	5	90	564	1.0	-3.5	0.0	2.700	1.0
BZX584B4V3	65	4.21	4.30	4.39	5	90	564	1.0	-3.5	0.0	2.700	1.0
BZX584B4V7	75	4.61	4.70	4.79	5	80	470	1.0	-3.5	0.0	2.700	2.0
BZX584B5V1	85	5.00	5.10	5.20	5	60	451	1.0	-2.7	1.2	1.800	2.0
BZX584B5V6	95	5.49	5.60	5.71	5	40	376	1.0	-2.0	2.5	0.900	2.0
BZX584B6V2	A5	6.08	6.20	6.32	5	10	141	1.0	0.4	3.7	2.700	4.0
BZX584B6V8	B5	6.66	6.80	6.94	5	15	75	1.0	1.2	4.5	1.800	4.0

# **BZX584B2V0 thru BZX584B75**

Surface Mount Zener Diodes

V<sub>z</sub> Range: 2.0V to 75V Power Dissipation: 150mW

## **Electrical Characteristics** (T<sub>A</sub>=25°C unless otherwise noted)

Part Number	Marking	Zener Voltage V <sub>z</sub> (V)			@ I <sub>ZT</sub> (mA)	Maximum Zener Impedance			Temperature Coefficient @ I <sub>ZT</sub> T <sub>c</sub> (mV/ °C)		Maximum Reverse Current I <sub>R</sub> (µA)	@ V <sub>R</sub> (V)
		Min	Typ	Max		Z <sub>ZT</sub> (Ω) @ I <sub>ZT</sub>	Z <sub>ZK</sub> (Ω)	@ I <sub>ZK</sub> (mA)	Min	Max		
BZX584B7V5	C5	7.35	7.50	7.65	5	15	75	1.0	2.5	5.3	0.900	5.0
BZX584B8V2	D5	8.04	8.20	8.36	5	15	75	1.0	3.2	6.2	0.630	5.0
BZX584B9V1	E5	8.92	9.10	9.28	5	15	94	1.0	3.8	7.0	0.450	6.0
BZX584B10	F5	9.80	10.00	10.20	5	20	141	1.0	4.5	8.0	0.180	7.0
BZX584B11	G5	10.78	11.00	11.22	5	20	141	1.0	5.4	9.0	0.090	8.0
BZX584B12	H5	11.60	12.00	12.24	5	25	141	1.0	6.0	10.0	0.090	8.0
BZX584B13	J5	12.74	13.00	13.26	5	30	160	1.0	7.0	11.0	0.090	8.0
BZX584B15	K5	14.70	15.00	15.30	5	30	188	1.0	9.2	13.0	0.045	10.5
BZX584B16	L5	15.68	16.00	16.32	5	40	188	1.0	10.4	14.0	0.045	11.2
BZX584B18	M5	17.64	18.00	18.36	5	45	212	1.0	12.4	16.0	0.045	12.6
BZX584B20	N5	19.60	20.00	20.40	5	55	212	1.0	14.4	18.0	0.045	14.0
BZX584B22	P5	21.56	22.00	22.44	5	55	235	1.0	16.4	20.0	0.045	15.4
BZX584B24	R5	23.52	24.00	24.48	5	70	235	1.0	18.4	22.0	0.045	16.8
BZX584B27	S5	26.46	27.00	27.54	2	80	282	0.5	21.4	25.3	0.045	18.9
BZX584B30	T5	29.40	30.00	30.60	2	80	282	0.5	24.4	29.4	0.045	21.0
BZX584B33	U5	32.34	33.00	33.66	2	80	306	0.5	27.4	33.4	0.045	23.0
BZX584B36	V5	35.28	36.00	36.72	2	90	329	0.5	30.4	37.4	0.045	25.2
BZX584B39	X5	38.22	39.00	39.78	2	130	329	0.5	33.4	41.2	0.045	27.3
BZX584B43	Y5	42.14	43.00	43.86	2	150	353	0.5	37.6	46.6	0.045	30.1
BZX584B47	Z5	46.06	47.00	47.94	2	170	353	0.5	42.0	51.8	0.045	33.0
BZX584B51	-5	49.98	51.00	52.02	2	180	376	0.5	46.6	57.2	0.045	35.7
BZX584B56	X2•	54.88	56.00	57.12	2	200	400	0.5	52.2	63.8	0.045	39.2
BZX584B62	X3•	60.76	62.00	63.24	2	215	423	0.5	58.8	71.6	0.045	43.4
BZX584B68	X4•	66.64	68.00	69.36	2	240	447	0.5	65.6	79.8	0.045	47.6
BZX584B75	X5•	73.50	75.00	76.50	2	255	470	0.5	73.4	88.6	0.045	52.5

## Typical Electrical Characteristic Curves

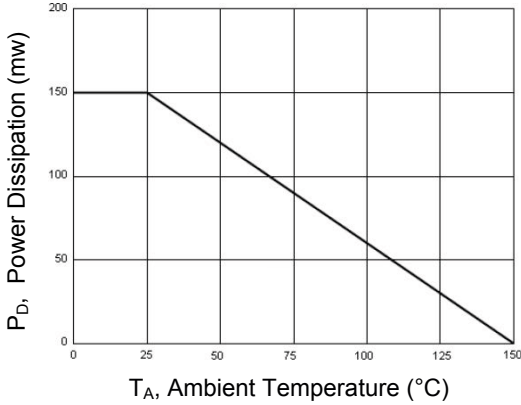


Figure 1. Power Derating Curve

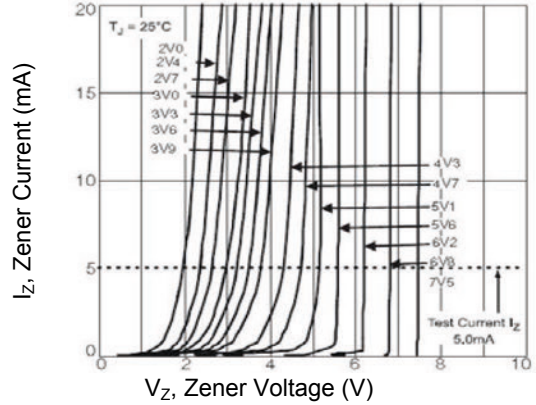


Figure 2. Typical Zener Breakdown Characteristics

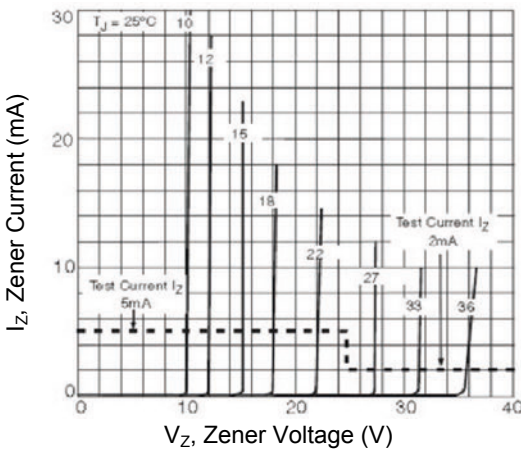


Figure 3. Typical Zener Breakdown Characteristics

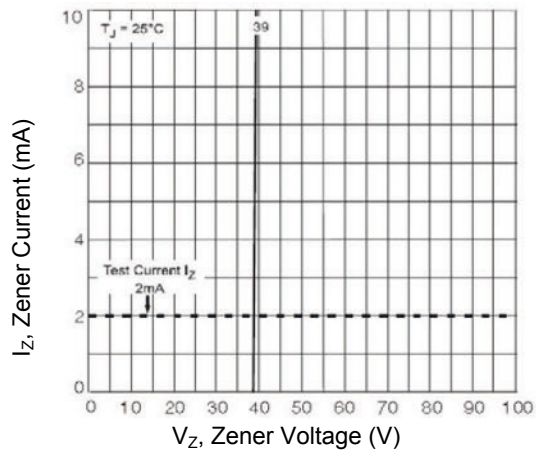


Figure 4. Typical Zener Breakdown Characteristics

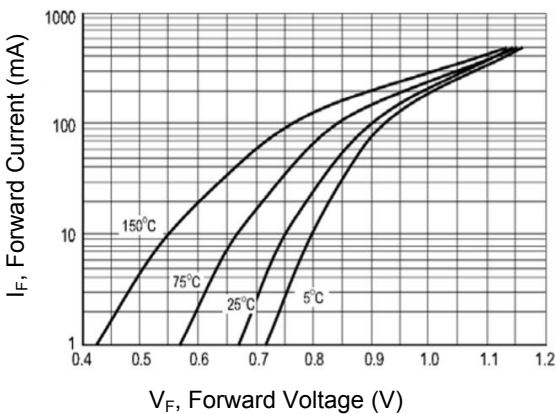


Figure 5. Typical Forward Voltage

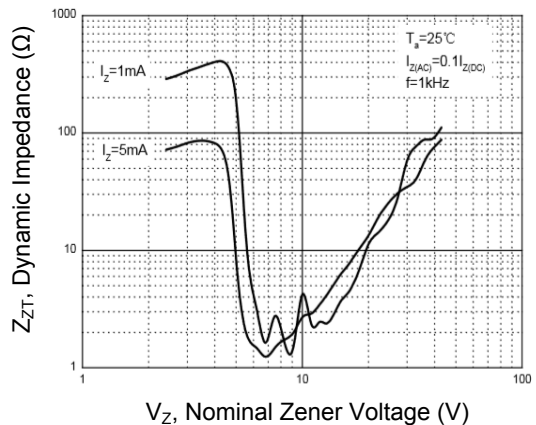
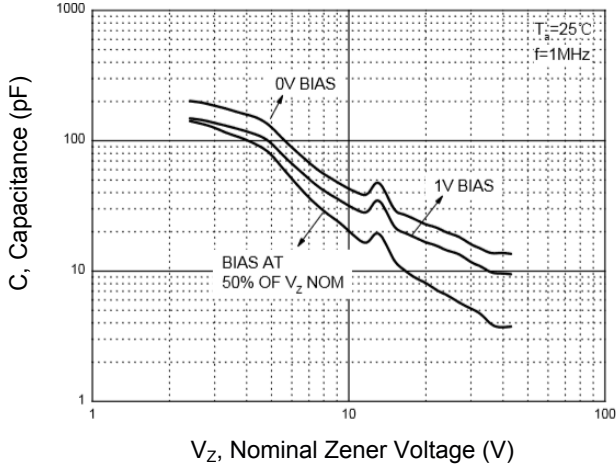
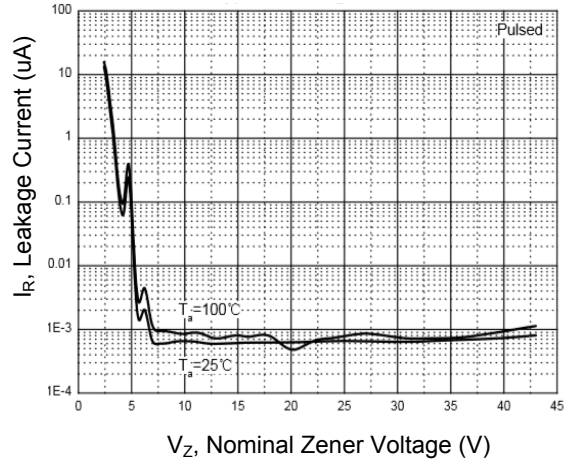


Figure 6. Effect of Zener Voltage on Zener Impedance

## Typical Electrical Characteristic Curves



**Figure 7. Typical Capacitance**



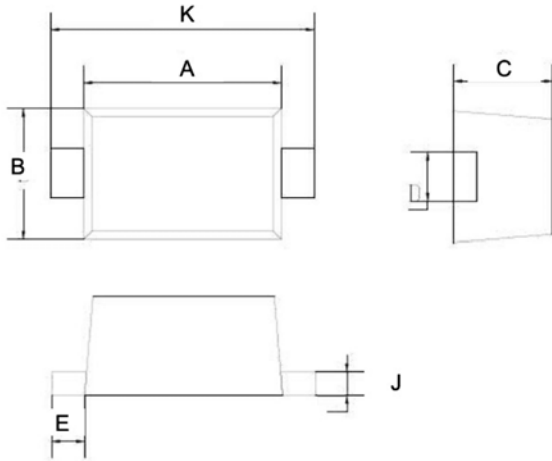
**Figure 8. Typical Leakage Current**

# **BZX584B2V0 thru BZX584B75**

Surface Mount Zener Diodes

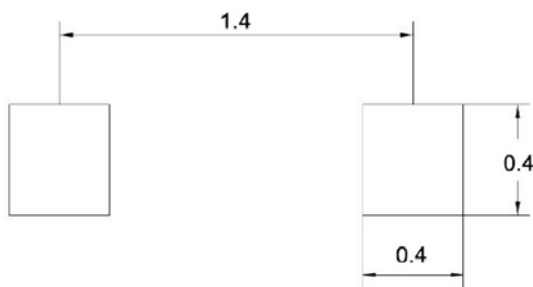
Vz Range: 2.0V to 75V Power Dissipation: 150mW

## **Package Outline Dimensions (SOD-523)**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.10	1.30	0.043	0.051
B	0.70	0.90	0.028	0.035
C	0.50	0.70	0.020	0.028
D	0.25	0.35	0.010	0.014
E	0.15	0.25	0.006	0.010
J	0.05	0.15	0.002	0.006
K	1.50	1.70	0.059	0.067

## **Recommended Pad Layout**



Note:

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

## **Order Information**

Device	Package	Carrier	Quantity
BZX584B2V0 - BZX584B75	SOD-523	Tape & Reel	3,000 pcs / Tape & Reel