

Plastic-Encapsulate Diode

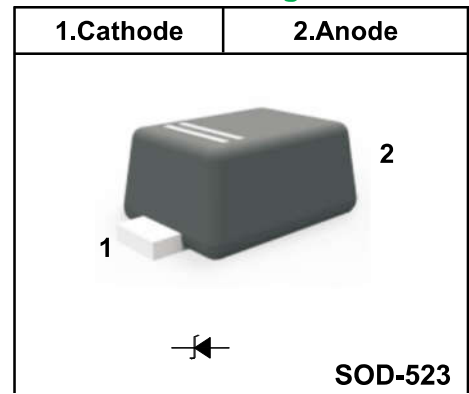
**FEATURES**

- ◆ Low Zener Impedance
- ◆ Power Dissipation of 150mW
- ◆ High Stability and High Reliability

**MECHANICAL DATA**

- ◆ Case: SOD-523
- ◆ Color band denotes cathode end
- ◆ Mounting Position: Any

**Pinning**



**MAXIMUM RATINGS(Ta=25°C unless otherwise specified)**

Characteristic	Symbol	Value	Unit
Forward Voltage (Note 2) @I <sub>F</sub> =10mA	V <sub>F</sub>	0.9	V
Power Dissipation (Note 1)	P <sub>D</sub>	150	mW
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	833	°C/W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55~+150	°C

Notes:

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

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

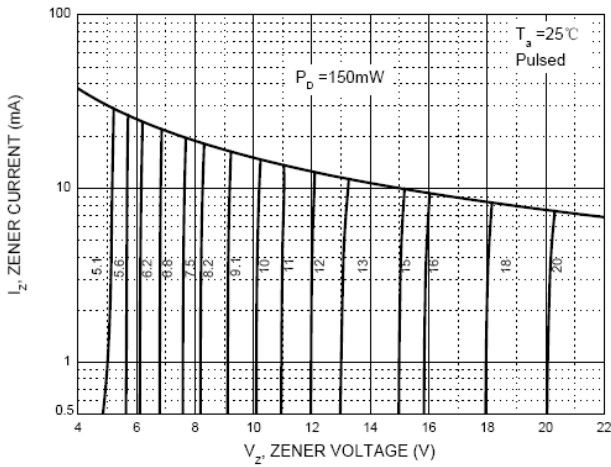
Type Number	Type Code	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current		Typical Temperature Coefficient @I <sub>ZT</sub> =5 mA mV/°C	
		V <sub>Z</sub> @I <sub>ZT</sub>			I <sub>ZT</sub>	Z <sub>ZT</sub> @I <sub>ZT</sub>	Z <sub>ZK</sub> @I <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>R</sub>	V <sub>R</sub>	Min	Max
		Nom(V)	Min(V)	Max(V)	mA	Ω		mA	μA	V		
BZX584B2V4	2V1	2.4	2.35	2.45	5	100	600	1.0	50	1.0	-3.5	0
BZX584B2V7	2V2	2.7	2.65	2.75	5	100	600	1.0	20	1.0	-3.5	0
BZX584B3V0	2V3	3	2.94	3.06	5	95	600	1.0	10	1.0	-3.5	0
BZX584B3V3	2V4	3.3	3.23	3.37	5	95	600	1.0	5	1.0	-3.5	0
BZX584B3V6	2V5	3.6	3.53	3.67	5	90	600	1.0	5	1.0	-3.5	0
BZX584B3V9	2V6	3.9	3.82	3.98	5	90	600	1.0	3	1.0	-3.5	0
BZX584B4V3	2V7	4.3	4.21	4.39	5	90	600	1.0	3	1.0	-3.5	0
BZX584B4V7	2Z1	4.7	4.61	4.79	5	80	500	1.0	3	2.0	-3.5	0.2
BZX584B5V1	2Z2	5.1	5.00	5.20	5	60	480	1.0	2	2.0	-2.7	1.2
BZX584B5V6	2Z3	5.6	5.49	5.71	5	40	400	1.0	1	2.0	-2.0	2.5
BZX584B6V2	2Z4	6.2	6.08	6.32	5	10	150	1.0	3	4.0	0.4	3.7
BZX584B6V8	2Z5	6.8	6.66	6.94	5	15	80	1.0	2	4.0	1.2	4.5
BZX584B7V5	2Z6	7.5	7.35	7.65	5	15	80	1.0	1	5.0	2.5	5.3
BZX584B8V2	2Z7	8.2	8.04	8.36	5	15	80	1.0	0.7	5.0	3.2	6.2
BZX584B9V1	2Z8	9.1	8.92	9.28	5	15	100	1.0	0.5	6.0	3.8	7.0
BZX584B10	2Z9	10	9.80	10.20	5	20	150	1.0	0.2	7.0	4.5	8.0
BZX584B11	2Y1	11	10.78	11.22	5	20	150	1.0	0.1	8.0	5.4	9.0
BZX584B12	2Y2	12	11.76	12.24	5	25	150	1.0	0.1	8.0	6.0	10.0
BZX584B13	2Y3	13	12.74	13.26	5	30	170	1.0	0.1	8.0	7.0	11.0
BZX584B15	2Y4	15	14.70	15.30	5	30	200	1.0	0.1	10.5	9.2	13.0
BZX584B16	2Y5	16	15.68	16.32	5	40	200	1.0	0.1	11.2	10.4	14.0
BZX584B18	2Y6	18	17.64	18.36	5	45	225	1.0	0.1	12.6	12.4	16.0
BZX584B20	2Y7	20	19.60	20.40	5	55	225	1.0	0.1	14.0	14.4	18.0
BZX584B22	2Y8	22	21.56	22.44	5	55	250	1.0	0.1	15.4	16.4	20.0
BZX584B24	2Y9	24	23.52	24.48	5	70	250	1.0	0.1	16.8	18.4	22.0
BZX584B27	2X1	27	26.46	27.54	2	80	300	0.5	0.1	18.9	21.4	25.3
BZX584B30	2X2	30	29.40	30.60	2	80	300	0.5	0.1	21.0	24.4	29.4
BZX584B33	2X3	33	32.34	33.66	2	80	325	0.5	0.1	23.1	27.4	33.4
BZX584B36	2X4	36	35.28	36.72	2	90	350	0.5	0.1	25.2	30.4	37.4
BZX584B39	2X5	39	38.22	39.78	2	130	350	0.5	0.1	27.3	33.4	41.2
BZX584B43	2X6	43	42.14	43.86	2	100	700	1.0	0.1	32.0	10.0	12.0
BZX584B47	2X7	47	46.06	47.94	2	100	750	1.0	0.1	35.0	10.0	12.0

**Notes:**

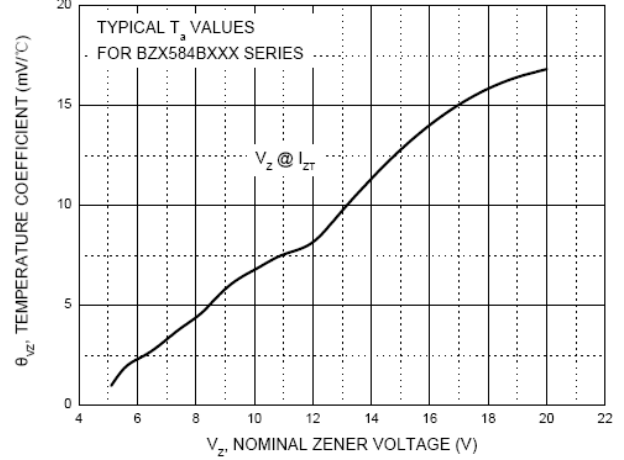
- 1.Valid provided that device terminals are kept at ambient temperature.
- 2.Tested with pulses, period=5ms,pulse width =300μs.
- 3.f=1kHz.

Typical Characteristics

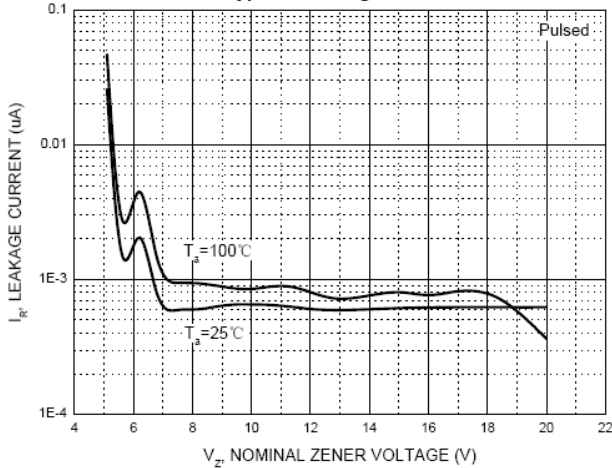
Zener Characteristics ( $V_z$  5.1V to 20 V)



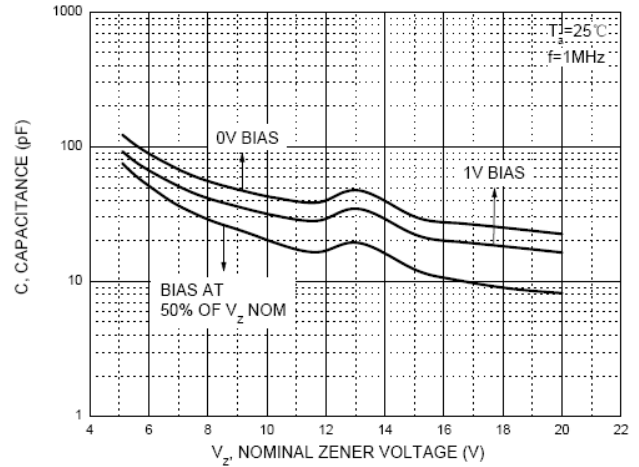
Temperature Coefficients



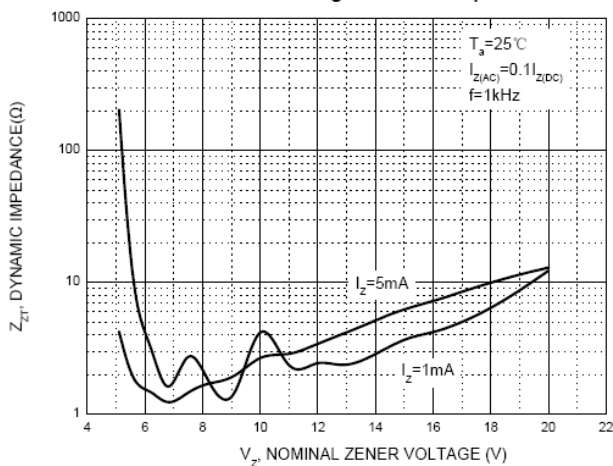
Typical Leakage Current



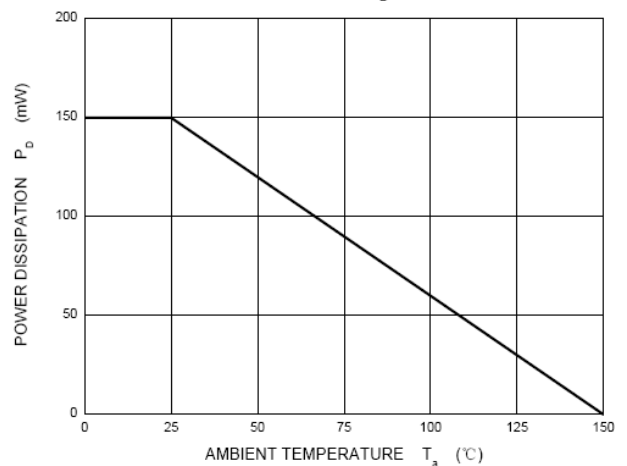
Typical Capacitance



Effect of Zener Voltage on Zener Impedance



Power Derating Curve



**Ordering information**

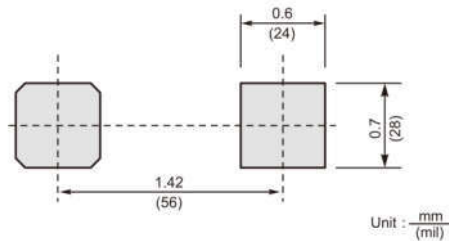
Package	Packing Description	Packing Quantity
SOD-523	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

**Package Dimensions**

**SOD-523**

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.51	0.77	20	30
e	0.25	0.35	10	14
C	0.08	0.15	3	6
D	1.10	1.30	43	51
E	0.75	0.99	30	39
HE	1.50	1.70	59	67
N	0.35ref		14ref	
L	0.2ref		8ref	
P	R0.1 ALL ROUND		R4.0 ALL ROUND	
∠	10°			

**The recommended mounting pad size**



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