

Plastic-Encapsulate Diode

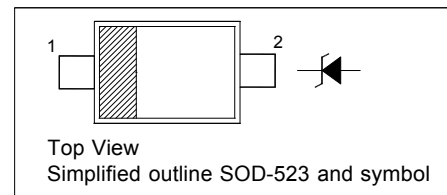
ZENER DIODE

FEATURES

- Planar Die Construction
- 150mW Power Dissipation
- Zener Voltages from 2.4 – 39V

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |



SOD-523

MAXIMUM RATINGS($T_a=25^\circ\text{C}$ unless otherwise specified)

| Characteristic | Symbol | Value | Unit |
|---|-----------------|----------|--------------------|
| Forward Voltage @ $I_F=10\text{mA}$ | V_F | 0.9 | V |
| Power Dissipation (Note 1) | P_D | 150 | mW |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 833 | $^\circ\text{C/W}$ |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -55~+150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS

T_a=25°C unless otherwise specified

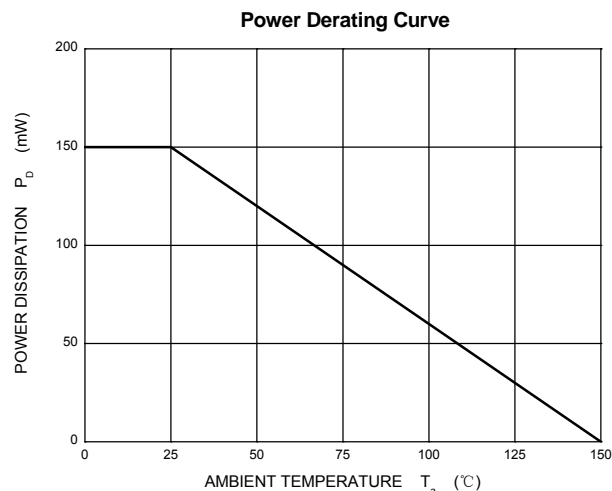
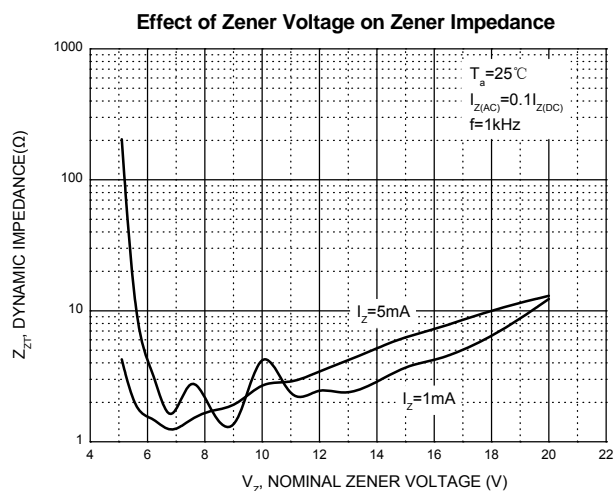
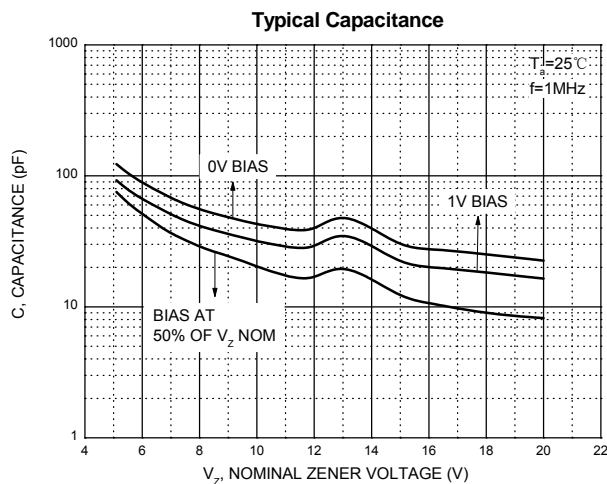
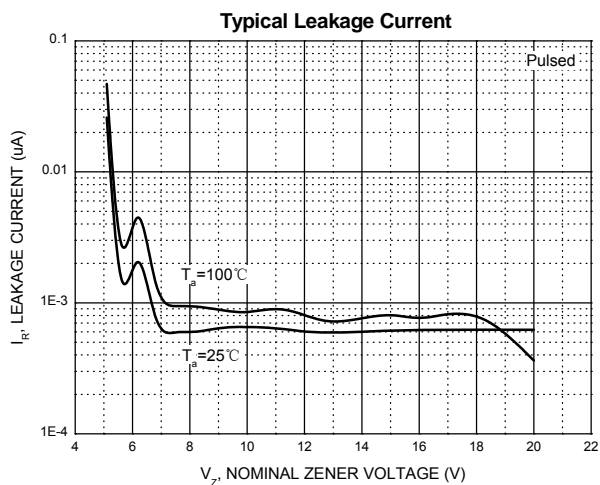
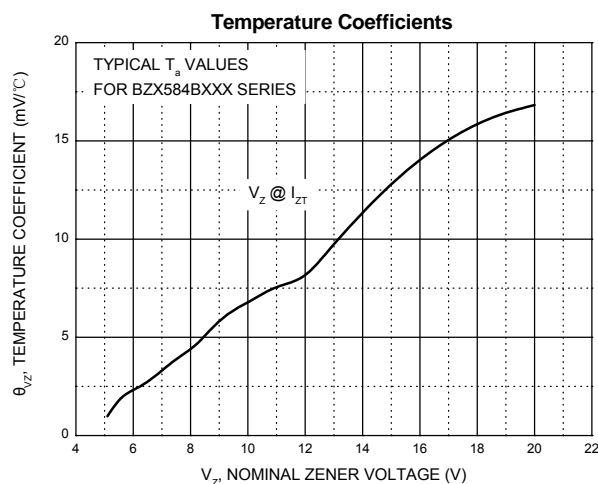
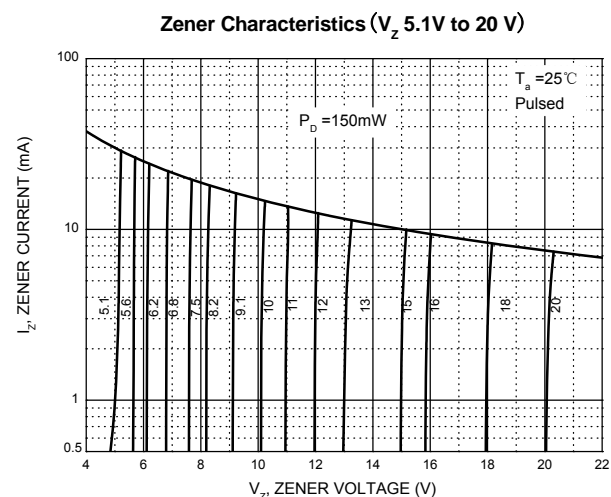
| Type Number | Type Code | Zener Voltage Range (Note 2) | | | | Maximum Zener Impedance (Note 3) | | | Maximum Reverse Current | | Typical Temperature Coefficient @I _{ZT} =5 mA mV/°C | |
|-------------|-----------|---------------------------------|--------|--------|-----------------|----------------------------------|----------------------------------|-----------------|-------------------------|----------------|--|------|
| | | 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 | | 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 |

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

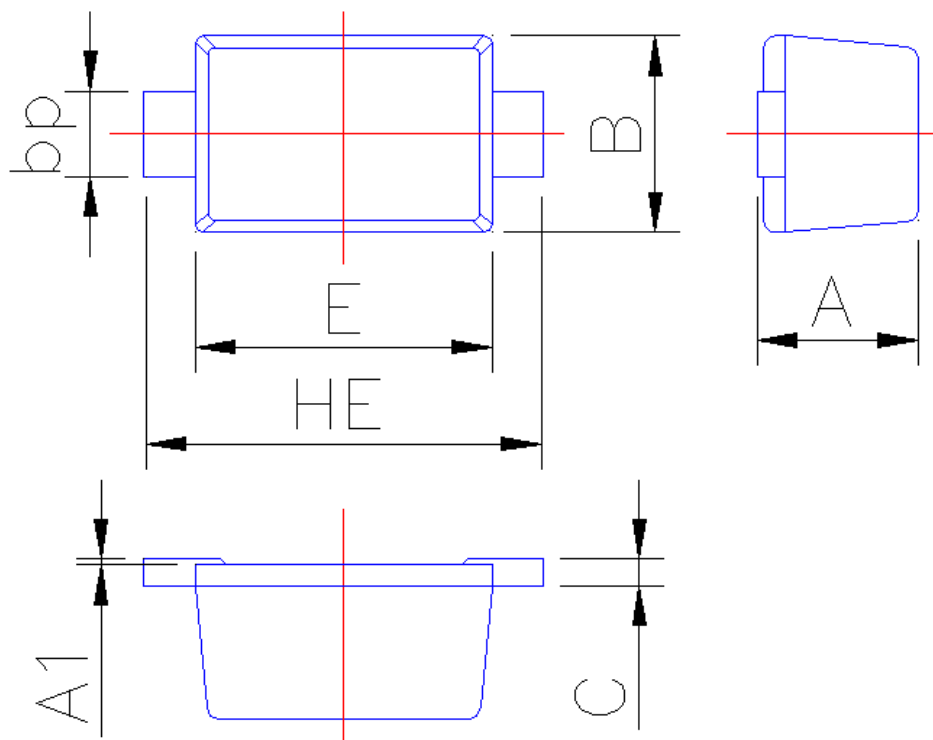
Notes: Our company currently provide 5.1 V - 20 V products only



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-523



| Symbol | Dimension in Millimeters | |
|--------|--------------------------|------|
| | Min | Max |
| A | 0.60 | 0.70 |
| A1 | 0 | 0.05 |
| B | 0.75 | 0.85 |
| bp | 0.25 | 0.40 |
| C | 0.09 | 0.15 |
| E | 1.15 | 1.25 |
| HE | 1.50 | 1.70 |