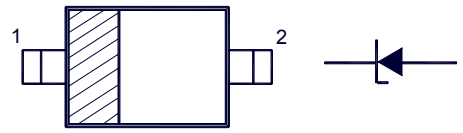
# STZ8000 Series

## SILICON PLANAR ZENER DIODES

For stabilization of power supply application

**PINNING**

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




Top view

**Simplified outline SOD-323 and symbol**

### Absolute Maximum Ratings ($T_a$ = 25 °C)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Power Dissipation | $P_{tot}$ | 300 | mW |
| Repetitive Peak Forward Current | $I_{FRM}$ | 200 | mA |
| Junction Temperature | $T_j$ | 150 | °C |
| Storage Temperature Range | $T_S$ | - 55 to + 150 | °C |

### Characteristics at $T_{amb}$ = 25 °C

| Parameter | Symbol | Max. | Unit |
|---|---|---|---|
| Thermal Resistance Junction to Ambient Air | $R_{thA}$ | 0.3 | K/mW |
| Forward Voltage at $I_F$ = 10 mA | $V_F$ | 1 | V |

# STZ8000 Series

| Type | Marking Code | Zener Voltage Range [1] | | Dynamic Impedance | | | Reverse Leakage Current | | Temp. coefficient of Zener Voltage |
|---|---|---|---|---|---|---|---|---|---|
| | | $I_{ZT}$ for $V_Z$ | | $r_{ZjT}$ | $r_{ZjK}$ at | $I_{ZK}$ | $I_R$ at | $V_R$ | $S_Z$ (mV/°C) |
| | | mA | V | Ω(Max.) | Ω(Max.) | mA | μA(Max.) | V | Typ. at $I_{ZT}$ |
| STZ8024 | 1A1 | 5 | 2.28…2.6 | 100 | - | - | 120 | 1 | -1.6 |
| STZ8027 | 1B1 | 5 | 2.5…2.9 | 110 | - | - | 120 | 1 | -2 |
| STZ8027A | 1C1 | | 2.5…2.75 | | | | | | |
| STZ8027B | 1D1 | | 2.65…2.9 | | | | | | |
| STZ8030 | 1E1 | 5 | 2.8…3.2 | 120 | - | - | 50 | 1 | -2.1 |
| STZ8030A | 1F1 | | 2.8…3.05 | | | | | | |
| STZ8030B | 1G1 | | 2.95…3.2 | | | | | | |
| STZ8033 | 1H1 | 5 | 3.1…3.5 | 130 | - | - | 20 | 1 | -2.4 |
| STZ8033A | 1J1 | | 3.1…3.35 | | | | | | |
| STZ8033B | 1K1 | | 3.25…3.5 | | | | | | |
| STZ8036 | 1L1 | 5 | 3.4…3.8 | 130 | - | - | 10 | 1 | -2.4 |
| STZ8036A | 1M1 | | 3.4…3.65 | | | | | | |
| STZ8036B | 1N1 | | 3.55…3.8 | | | | | | |
| STZ8039 | 1P1 | 5 | 3.7…4.1 | 130 | - | - | 10 | 1 | -2.5 |
| STZ8039A | 1Q1 | | 3.7…3.97 | | | | | | |
| STZ8039B | 1R1 | | 3.87…4.1 | | | | | | |
| STZ8043 | 1S1 | 5 | 4…4.6 | 130 | - | - | 10 | 1 | -2.5 |
| STZ8043A | 1T1 | | 4.03…4.26 | | | | | | |
| STZ8043B | 1U1 | | 4.17…4.4 | | | | | | |
| STZ8043C | 1W1 | | 4.31…4.54 | | | | | | |
| STZ8047 | 1X1 | 5 | 4.4…5 | 80 | 800 | 1 | 2 | 1 | -1.4 |
| STZ8047A | 1Y1 | | 4.45…4.69 | | | | | | |
| STZ8047B | 1Z1 | | 4.59…4.83 | | | | | | |
| STZ8047C | 2A1 | | 4.74…4.99 | | | | | | |
| STZ8051 | 2B1 | 5 | 4.8…5.4 | 60 | 500 | 1 | 2 | 1.5 | -0.8 |
| STZ8051A | 2C1 | | 4.87…5.12 | | | | | | |
| STZ8051B | 2D1 | | 5…5.26 | | | | | | |
| STZ8051C | 2E1 | | 5.14…5.4 | | | | | | |
| STZ8056 | 2F1 | 5 | 5.3…6 | 40 | 200 | 0.5 | 1 | 2.5 | 1.2 |
| STZ8056A | 2G1 | | 5.3…5.58 | | | | | | |
| STZ8056B | 2H1 | | 5.48…5.76 | | | | | | |
| STZ8056C | 2J1 | | 5.66…5.95 | | | | | | |
| STZ8062 | 2K1 | 5 | 5.8…6.6 | 30 | 100 | 0.5 | 1 | 3 | 2.3 |
| STZ8062A | 2L1 | | 5.85…6.15 | | | | | | |
| STZ8062B | 2M1 | | 6.05…6.36 | | | | | | |
| STZ8062C | 2N1 | | 6.24…6.56 | | | | | | |
| STZ8068 | 2P1 | 5 | 6.4…7.2 | 20 | 60 | 0.5 | 0.5 | 3.5 | 3 |
| STZ8068A | 2Q1 | | 6.44…6.77 | | | | | | |
| STZ8068B | 2R1 | | 6.64…6.98 | | | | | | |
| STZ8068C | 2S1 | | 6.85…7.2 | | | | | | |
| STZ8075 | 2T1 | 5 | 7…7.9 | 20 | 60 | 0.5 | 0.5 | 4 | 4 |
| STZ8075A | 2U1 | | 7.07…7.43 | | | | | | |
| STZ8075B | 2W1 | | 7.29…7.67 | | | | | | |
| STZ8075C | 2X1 | | 7.51…7.89 | | | | | | |

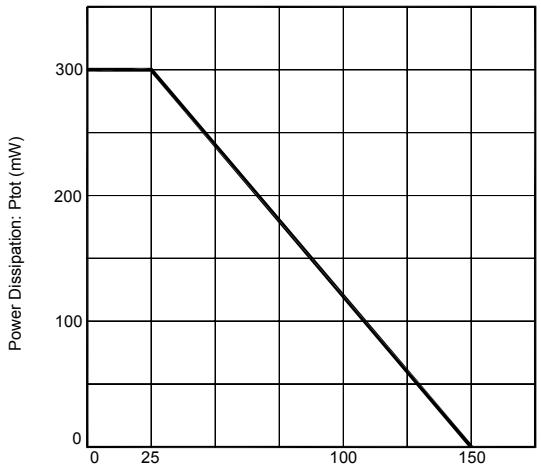
# STZ8000 Series

| Type | Marking Code | Zener Voltage Range [1] | | Dynamic Impedance | | | Reverse Leakage Current | | Temp. coefficient of Zener Voltage |
|---|---|---|---|---|---|---|---|---|---|
| | | $I_{ZT}$ for $V_Z$ | | $r_{ZjT}$ | $r_{ZjK}$ at $I_{ZK}$ | | $I_R$ at $V_R$ | | $S_Z$ (mV/°C) |
| | | mA | V | Ω(Max.) | Ω(Max.) | mA | μA(Max.) | V | Typ. at $I_{ZT}$ |
| STZ8082 | 2Y1 | 5 | 7.7…8.7 | 20 | 60 | 0.5 | 0.5 | 5 | 4.6 |
| STZ8082A | 2Z1 | | 7.77…8.17 | | | | | | |
| STZ8082B | 3A1 | | 8.03…8.43 | | | | | | |
| STZ8082C | 3B1 | | 8.29…8.7 | | | | | | |
| STZ8091 | 3C1 | 5 | 8.5…9.6 | 20 | 60 | 0.5 | 0.5 | 6 | 5.5 |
| STZ8091A | 3D1 | | 8.58…9.02 | | | | | | |
| STZ8091B | 3E1 | | 8.87…9.33 | | | | | | |
| STZ8091C | 3F1 | | 9.14…9.6 | | | | | | |
| STZ8100 | 3G1 | 5 | 9.4…10.6 | 30 | 60 | 0.5 | 0.1 | 7 | 6.4 |
| STZ8100A | 3H1 | | 9.44…9.92 | | | | | | |
| STZ8100B | 3J1 | | 9.75…10.25 | | | | | | |
| STZ8100C | 3K1 | | 10.07…10.59 | | | | | | |
| STZ8110 | 3L1 | 5 | 10.4…11.6 | 30 | 60 | 0.5 | 0.1 | 8 | 7.4 |
| STZ8110A | 3M1 | | 10.4…10.94 | | | | | | |
| STZ8110B | 3N1 | | 10.73…11.28 | | | | | | |
| STZ8110C | 3P1 | | 11.05…11.6 | | | | | | |
| STZ8120 | 3Q1 | 5 | 11.4…12.7 | 30 | 80 | 0.5 | 0.1 | 9 | 8.4 |
| STZ8120A | 3R1 | | 11.4…11.96 | | | | | | |
| STZ8120B | 3S1 | | 11.73…12.33 | | | | | | |
| STZ8120C | 3T1 | | 12.06…12.68 | | | | | | |
| STZ8130 | 3U1 | 5 | 12.4…14.1 | 35 | 80 | 0.5 | 0.1 | 10 | 9.4 |
| STZ8130A | 3W1 | | 12.4…12.99 | | | | | | |
| STZ8130B | 3X1 | | 12.73…13.4 | | | | | | |
| STZ8130C | 3Y1 | | 13.25…14.08 | | | | | | |
| STZ8140 | 3Z1 | 5 | 13.65…14.35 | 40 | 80 | 0.5 | 0.1 | 10 | 10 |
| STZ8150 | 4A1 | 5 | 13.9…15.6 | 40 | 80 | 0.5 | 0.1 | 11 | 11.4 |
| STZ8150A | 4B1 | | 13.9…14.76 | | | | | | |
| STZ8150B | 4C1 | | 14.6…15.35 | | | | | | |
| STZ8150C | 4D1 | | 14.95…15.6 | | | | | | |
| STZ8160 | 4E1 | 5 | 15.3…17.1 | 50 | 80 | 0.5 | 0.1 | 12 | 12.4 |
| STZ8160A | 4F1 | | 15.3…16.09 | | | | | | |
| STZ8160B | 4G1 | | 15.7…16.5 | | | | | | |
| STZ8160C | 4H1 | | 16.26…17.1 | | | | | | |
| STZ8180 | 4J1 | 5 | 16.9…19.1 | 60 | 80 | 0.5 | 0.1 | 13 | 14.4 |
| STZ8180A | 4K1 | | 16.9…17.76 | | | | | | |
| STZ8180B | 4L1 | | 17.55…18.45 | | | | | | |
| STZ8180C | 4M1 | | 18.2…19.1 | | | | | | |
| STZ8200 | 4N1 | 5 | 18.8…21.2 | 80 | 100 | 0.5 | 0.1 | 15 | 16.4 |
| STZ8200A | 4P1 | | 18.85…19.81 | | | | | | |
| STZ8200B | 4Q1 | | 19.5…20.5 | | | | | | |
| STZ8200C | 4R1 | | 20.15…21.19 | | | | | | |
| STZ8220 | 4S1 | 5 | 20.8…23.3 | 80 | 100 | 0.5 | 0.1 | 17 | 18.4 |
| STZ8220A | 4T1 | | 20.8…21.86 | | | | | | |
| STZ8220B | 4U1 | | 21.45…22.55 | | | | | | |
| STZ8220C | 4W1 | | 22.1…23.24 | | | | | | |

# STZ8000 Series

| Type | Marking Code | Zener Voltage Range [1] | | Dynamic Impedance | | | Reverse Leakage Current | | Temp. coefficient of Zener Voltage |
|---|---|---|---|---|---|---|---|---|---|
| | | $I_{ZT}$ for $V_Z$ | | $r_{ZjT}$ | $r_{ZjK}$ at $I_{ZK}$ | | $I_R$ at $V_R$ | | $S_Z$ (mV/°C) |
| | | mA | V | Ω(Max.) | Ω(Max.) | mA | μA(Max.) | V | Typ. at $I_{ZT}$ |
| STZ8240 | 4X1 | 5 | 22.8…25.6 | 100 | 120 | 0.5 | 0.1 | 19 | 20.4 |
| STZ8240A | 4Y1 | | 22.8…23.97 | | | | | | |
| STZ8240B | 4Z1 | | 23.5…24.7 | | | | | | |
| STZ8240C | 5A1 | | 24.35…25.6 | | | | | | |
| STZ8270 | 5B1 | 2 | 25.1…28.9 | 120 | 120 | 0.5 | 0.1 | 21 | 23.4 |
| STZ8270A | 5C1 | | 25.3…26.7 | | | | | | |
| STZ8270B | 5D1 | | 26.3…27.7 | | | | | | |
| STZ8270C | 5E1 | | 27.3…28.7 | | | | | | |
| STZ8300 | 5F1 | 2 | 28…32 | 160 | 160 | 0.5 | 0.1 | 23 | 26.6 |
| STZ8300A | 5G1 | | 28.3…29.7 | | | | | | |
| STZ8300B | 5H1 | | 29.3…30.8 | | | | | | |
| STZ8300C | 5J1 | | 30.2…31.8 | | | | | | |
| STZ8330 | 5K1 | 2 | 31…35 | 200 | 200 | 0.5 | 0.1 | 25 | 29.7 |
| STZ8330A | 5L1 | | 31.2…32.8 | | | | | | |
| STZ8330B | 5M1 | | 32.2…33.8 | | | | | | |
| STZ8330C | 5N1 | | 33.2…34.9 | | | | | | |
| STZ8360 | 5P1 | 2 | 34…38 | 250 | 250 | 0.5 | 0.1 | 27 | 33 |
| STZ8360A | 5Q1 | | 34.1…35.9 | | | | | | |
| STZ8360B | 5R1 | | 35.1…36.9 | | | | | | |
| STZ8360C | 5S1 | | 36.1…37.9 | | | | | | |
| STZ8390 | 5T1 | 2 | 37…41 | 300 | 300 | 0.5 | 2 | 30 | 35.6 |
| STZ8390A | 5U1 | | 37.1…39 | | | | | | |
| STZ8390B | 5W1 | | 38…40 | | | | | | |
| STZ8390C | 5X1 | | 39…41 | | | | | | |

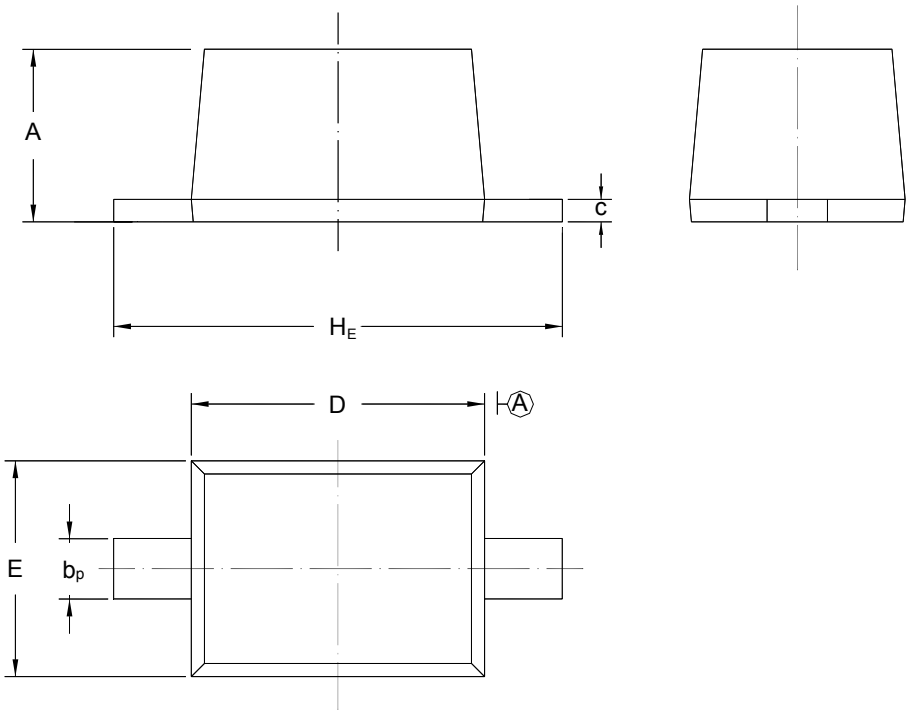
[1] $V_Z$ is tested with pulses (20 ms).



Derating Curve

## PACKAGE OUTLINE

**Plastic surface mounted package; 2 leads** **SOD-323**




| UNIT | A | $b_p$ | C | D | E | $H_E$ |
|---|---|---|---|---|---|---|
| mm | 1.10<br>0.80 | 0.40<br>0.25 | 0.15<br>0.00 | 1.80<br>1.60 | 1.35<br>1.15 | 2.80<br>2.30 |