

SURFACE MOUNT ZENER DIODE

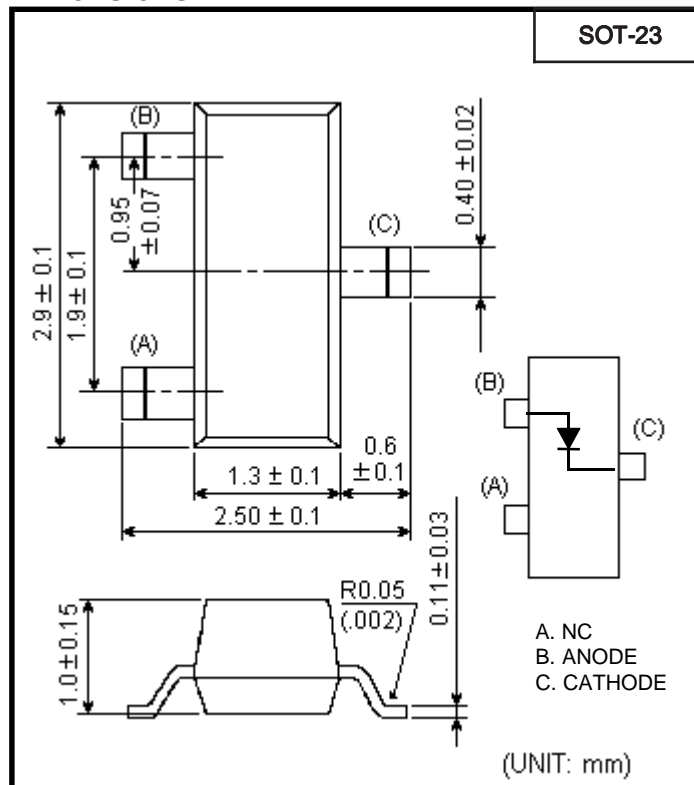
Absolute Maximum Ratings (Ta=25°C)

| Items | Symbol | Ratings | Unit |
|------------------------------------|-----------|------------|------|
| Power Dissipation | P_{TOT} | 300 | mW |
| Voltage Range | V_Z | 3.3 - 47 | V |
| Forward Voltage @ $I_f = 10$ mA | V_f | 0.9 | V |
| Rep. Peak Fwd. Current | IFRM | 250 | mA |
| Junction Temp. | T_J | -55 to 125 | °C |
| Storage Temp. | T_{STG} | -55 to 150 | °C |

Mechanical Data

| Items | Materials |
|-------------|----------------|
| Package | SOT-23 |
| Lead Frame | 42 Alloy |
| Lead Finish | Solder Plating |
| Bond Wire | Au |
| Mold Resin | Epoxy |
| Chip | Silicon |

Dimensions



Electrical Characteristics (Ta=25°C)

| TYPE | ZENER VOLTAGE $V_Z(V)^*$ at $I_z = 5$ mA | | DIFFERENTIAL RESISTANCE r_{diff} (ohm) at $I_z = 5$ mA | | DIFFERENTIAL RESISTANCE r_{diff} (ohm) at $I_z = 1$ mA | | TEMPERATURE COEFFICIENT S_z (mV/K) at $I_z = 5$ mA | | | REVERSE CURRENT | |
|-----------|--|-------|--|------|--|------|--|------|------|-----------------|------------|
| | min. | max. | typ. | max. | typ. | max. | min. | typ. | max. | V_R (V) | I_R (uA) |
| BZX84C3V3 | 3.10 | 3.50 | 85 | 95 | 350 | 600 | -3.5 | -2.4 | 0 | 1 | 5 |
| C3V6 | 3.40 | 3.80 | 85 | 90 | 375 | 600 | -3.5 | -2.4 | 0 | 1 | 5 |
| C3V9 | 3.70 | 4.10 | 85 | 90 | 400 | 600 | -3.5 | -2.5 | 0 | 1 | 3 |
| C4V3 | 4.00 | 4.60 | 85 | 90 | 410 | 600 | -3.5 | -2.5 | 0 | 1 | 3 |
| C4V7 | 4.40 | 5.00 | 50 | 80 | 425 | 500 | -3.5 | -1.4 | 0.2 | 2 | 3 |
| C5V1 | 4.80 | 5.40 | 40 | 60 | 400 | 480 | -2.7 | -0.8 | 1.2 | 2 | 2 |
| C5V6 | 5.20 | 6.00 | 15 | 40 | 80 | 400 | -2.0 | 1.2 | 2.5 | 2 | 1 |
| C6V2 | 5.80 | 6.60 | 6 | 10 | 40 | 150 | 0.4 | 2.3 | 3.7 | 4 | 3 |
| C6V8 | 6.40 | 7.20 | 6 | 15 | 30 | 80 | 1.2 | 3.0 | 4.5 | 4 | 2 |
| C7V5 | 7.00 | 7.90 | 6 | 15 | 30 | 80 | 2.5 | 4.0 | 5.3 | 5 | 1 |
| C8V2 | 7.70 | 8.70 | 6 | 15 | 40 | 80 | 3.2 | 4.6 | 6.2 | 5 | 0.7 |
| C9V1 | 8.50 | 9.60 | 6 | 15 | 40 | 100 | 3.8 | 5.5 | 7.0 | 6 | 0.5 |
| C10 | 9.40 | 10.60 | 8 | 20 | 50 | 150 | 4.5 | 6.4 | 8.0 | 7 | 0.2 |
| C11 | 10.40 | 11.60 | 10 | 20 | 50 | 150 | 5.4 | 7.4 | 9.0 | 8 | 0.1 |

| TYPE | ZENER VOLTAGE Vz(V)* at Iz = 5mA | | DIFFERENTIAL RESISTANCE rdiff (ohm) at Iz = 5mA | | DIFFERENTIAL RESISTANCE rdiff (ohm) at Iz = 1mA | | TEMPERATURE COEFFICIENT Sz (mV/K) at Iz = 5mA | | | REVERSE CURRENT | |
|----------|--|-------|---|------|---|------|---|------|------|-----------------|---------|
| | min. | max. | typ. | max. | typ. | max. | min. | typ. | max. | VR (V) | IR (uA) |
| BZX84C12 | 11.40 | 12.70 | 10 | 25 | 50 | 150 | | | | 8 | 0.1 |
| C13 | 12.40 | 14.10 | 10 | 30 | 50 | 170 | 7.0 | 9.4 | 11.0 | 8 | 0.1 |
| C15 | 13.80 | 15.60 | 10 | 30 | 50 | 200 | 9.2 | 11.4 | 13.0 | 10.5 | 0.05 |
| C16 | 15.30 | 17.10 | 10 | 40 | 50 | 200 | 10.4 | 12.4 | 14.0 | 11.2 | 0.05 |
| C18 | 16.80 | 19.10 | 10 | 45 | 50 | 225 | 12.4 | 14.4 | 16.0 | 12.6 | 0.05 |
| C20 | 18.80 | 21.20 | 15 | 55 | 60 | 225 | 14.4 | 16.4 | 18.0 | 14 | 0.05 |
| C22 | 20.80 | 23.30 | 20 | 55 | 60 | 250 | 16.4 | 18.4 | 20.0 | 15.4 | 0.05 |
| C24 | 22.80 | 25.60 | 25 | 70 | 60 | 250 | 18.4 | 20.4 | 22.0 | 16.8 | 0.05 |
| | at Iz = 2mA | | at Iz = 2mA | | at Iz = 0.5mA | | at Iz = 2mA | | | | |
| BZX84C27 | 25.10 | 28.90 | 25 | 80 | 65 | 300 | 21.4 | 23.4 | 25.3 | 18.9 | 0.05 |
| C30 | 28.00 | 32.00 | 30 | 80 | 70 | 300 | 24.4 | 26.6 | 29.4 | 21 | 0.05 |
| C33 | 31.00 | 35.00 | 35 | 80 | 75 | 325 | 27.4 | 29.7 | 33.4 | 23.1 | 0.05 |
| C36 | 34.00 | 38.00 | 35 | 90 | 80 | 350 | 30.4 | 33.0 | 37.4 | 25.2 | 0.05 |
| C39 | 37.00 | 41.00 | 40 | 130 | 80 | 350 | 33.4 | 36.4 | 41.2 | 27.3 | 0.05 |
| C43 | 40.00 | 46.00 | 45 | 150 | 85 | 375 | 37.6 | 41.2 | 46.6 | 30.1 | 0.05 |
| C47 | 44.00 | 50.00 | 50 | 170 | 85 | 375 | 42.0 | 46.1 | 51.8 | 32.9 | 0.05 |