

BZX85C Series

V_Z : 2.7 to 200V

P_D : 1.3W

FEATURES :

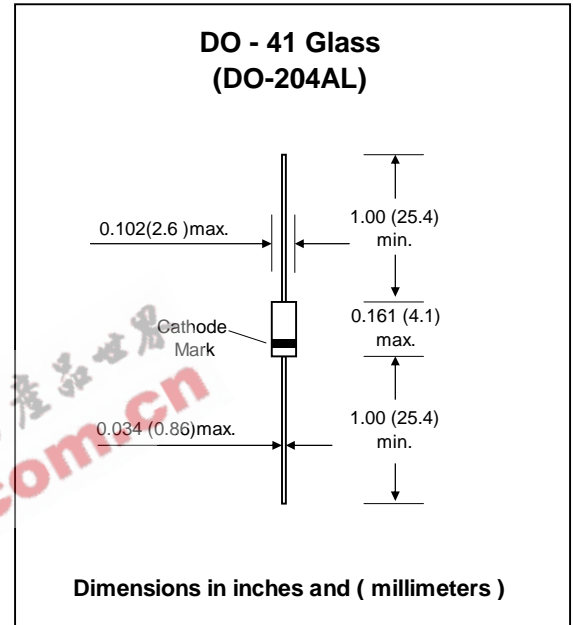
- Silicon planar power zener diodes.
- For use in stabilizing and clipping circuits with high power rating.
- Standard zener voltage tolerance is $\pm 5\%$
- Other tolerances are available upon request.
- **Pb / RoHS Free**

MECHANICAL DATA :

Case: DO-41 Glass Case

Weight: approx. 0.25g

ZENER DIODES



Maximum Ratings and Thermal Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

| Parameter | Symbol | Value | Unit |
|---|-----------------|--------------------|--------------------|
| Zener Current see Table "Characteristics" | | | |
| Maximum Forward Voltage at $I_F = 200$ mA. | V_F | 1.2 | V |
| Power Dissipation at $T_a = 25^\circ\text{C}$ | P_D | 1.3 ⁽¹⁾ | W |
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 130 ⁽¹⁾ | $^\circ\text{C/W}$ |
| Junction temperature | T_J | 175 | $^\circ\text{C}$ |
| Storage temperature range | T_S | -55 to + 175 | $^\circ\text{C}$ |

Note:

(1) Valid provided that leads at a distance of 3/8" from case are kept at ambient temperature.

ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| Type Number | Nominal Zener Voltage ⁽¹⁾ | | Maximum Zener Impedance, f = 1kHz | | | Maximum Reverse Leakage Current | | Maximum DC Zener Current | Temp. coefficient of Zener Voltage $a_{mvz}(\%/^{\circ}C)$ | |
|-------------|--------------------------------------|------|-----------------------------------|-----------|------|---------------------------------|--------------------|--------------------------|--|-------|
| | Vz @ IzT | IzT | ZzT @ IzT | Zzk @ Izk | Izk | Ir @ VR | Izm ⁽²⁾ | min. | max. | |
| | (V) | (mA) | (W) | (W) | (mA) | (mA) | (V) | | | (mA) |
| BZX85C2V7G | 2.7 | 80 | 20 | 400 | 1.0 | 150 | 1.0 | 370 | -0.08 | -0.05 |
| BZX85C3V0G | 3.0 | 80 | 20 | 400 | 1.0 | 100 | 1.0 | 340 | -0.08 | -0.05 |
| BZX85C3V3G | 3.3 | 80 | 20 | 400 | 1.0 | 40 | 1.0 | 320 | -0.08 | -0.05 |
| BZX85C3V6G | 3.6 | 60 | 15 | 500 | 1.0 | 20 | 1.0 | 290 | -0.08 | -0.05 |
| BZX85C3V9G | 3.9 | 60 | 15 | 500 | 1.0 | 10 | 1.0 | 280 | -0.07 | -0.02 |
| BZX85C4V3G | 4.3 | 50 | 13 | 500 | 1.0 | 3.0 | 1.0 | 250 | -0.05 | 0.010 |
| BZX85C4V7G | 4.7 | 45 | 13 | 500 | 1.0 | 3.0 | 1.0 | 215 | -0.03 | 0.040 |
| BZX85C5V1G | 5.1 | 45 | 10 | 500 | 1.0 | 1.0 | 1.5 | 200 | -0.01 | 0.040 |
| BZX85C5V6G | 5.6 | 45 | 7.0 | 400 | 1.0 | 1.0 | 2.0 | 190 | 0 | 0.045 |
| BZX85C6V2G | 6.2 | 35 | 4.0 | 300 | 1.0 | 1.0 | 3.0 | 170 | 0.010 | 0.055 |
| BZX85C6V8G | 6.8 | 35 | 3.5 | 300 | 1.0 | 1.0 | 4.0 | 155 | 0.015 | 0.060 |
| BZX85C7V5G | 7.5 | 35 | 3.0 | 200 | 0.5 | 1.0 | 4.5 | 140 | 0.020 | 0.065 |
| BZX85C8V2G | 8.2 | 25 | 5.0 | 200 | 0.5 | 1.0 | 6.2 | 130 | 0.030 | 0.070 |
| BZX85C9V1G | 9.1 | 25 | 5.0 | 200 | 0.5 | 1.0 | 6.8 | 120 | 0.040 | 0.075 |
| BZX85C10G | 10 | 25 | 7.0 | 200 | 0.5 | 0.5 | 7.5 | 105 | 0.450 | 0.080 |
| BZX85C11G | 11 | 20 | 8.0 | 300 | 0.5 | 0.5 | 8.2 | 97 | 0.045 | 0.080 |
| BZX85C12G | 12 | 20 | 9.0 | 350 | 0.5 | 0.5 | 9.1 | 88 | 0.045 | 0.085 |
| BZX85C13G | 13 | 20 | 10 | 400 | 0.5 | 0.5 | 10 | 79 | 0.050 | 0.085 |
| BZX85C15G | 15 | 15 | 10 | 500 | 0.5 | 0.5 | 11 | 71 | 0.055 | 0.090 |
| BZX85C16G | 16 | 15 | 15 | 500 | 0.5 | 0.5 | 12 | 66 | 0.055 | 0.090 |
| BZX85C18G | 18 | 15 | 20 | 500 | 0.5 | 0.5 | 13 | 62 | 0.060 | 0.090 |
| BZX85C20G | 20 | 10 | 24 | 600 | 0.5 | 0.5 | 15 | 56 | 0.060 | 0.090 |
| BZX85C22G | 22 | 10 | 25 | 600 | 0.5 | 0.5 | 16 | 52 | 0.060 | 0.095 |
| BZX85C24G | 24 | 10 | 25 | 600 | 0.5 | 0.5 | 18 | 47 | 0.060 | 0.095 |
| BZX85C27G | 27 | 8.0 | 30 | 750 | 0.25 | 0.5 | 20 | 41 | 0.060 | 0.095 |
| BZX85C30G | 30 | 8.0 | 30 | 1000 | 0.25 | 0.5 | 22 | 36 | 0.060 | 0.095 |
| BZX85C33G | 33 | 8.0 | 35 | 1000 | 0.25 | 0.5 | 24 | 33 | 0.060 | 0.095 |
| BZX85C36G | 36 | 8.0 | 40 | 1000 | 0.25 | 0.5 | 27 | 30 | 0.060 | 0.095 |
| BZX85C39G | 39 | 6.0 | 50 | 1000 | 0.25 | 0.5 | 30 | 28 | 0.060 | 0.095 |
| BZX85C43G | 43 | 6.0 | 50 | 1000 | 0.25 | 0.5 | 33 | 26 | 0.060 | 0.095 |
| BZX85C47G | 47 | 4.0 | 90 | 1500 | 0.25 | 0.5 | 36 | 23 | 0.060 | 0.095 |
| BZX85C51G | 51 | 4.0 | 115 | 1500 | 0.25 | 0.5 | 39 | 21 | 0.060 | 0.095 |
| BZX85C56G | 56 | 4.0 | 120 | 2000 | 0.25 | 0.5 | 43 | 19 | 0.060 | 0.095 |
| BZX85C62G | 62 | 4.0 | 125 | 2000 | 0.25 | 0.5 | 47 | 16 | 0.060 | 0.095 |
| BZX85C68G | 68 | 4.0 | 130 | 2000 | 0.25 | 0.5 | 51 | 15 | 0.055 | 0.095 |
| BZX85C75G | 75 | 4.0 | 135 | 2000 | 0.25 | 0.5 | 56 | 14 | 0.055 | 0.095 |
| BZX85C82G | 82 | 2.7 | 200 | 3000 | 0.25 | 0.5 | 62 | 12 | 0.055 | 0.095 |
| BZX85C91G | 91 | 2.7 | 250 | 3000 | 0.25 | 0.5 | 68 | 10 | 0.055 | 0.095 |
| BZX85C100G | 100 | 2.7 | 350 | 3000 | 0.25 | 0.5 | 75 | 9.4 | 0.055 | 0.095 |
| BZX85C110G | 110 | 2.7 | 450 | 4000 | 0.25 | 0.5 | 82 | 8.6 | 0.055 | 0.095 |
| BZX85C120G | 120 | 2.0 | 550 | 4500 | 0.25 | 0.5 | 91 | 7.8 | 0.055 | 0.095 |
| BZX85C130G | 130 | 2.0 | 700 | 5000 | 0.25 | 0.5 | 100 | 7.0 | 0.055 | 0.095 |
| BZX85C150G | 150 | 2.0 | 1000 | 6000 | 0.25 | 0.5 | 110 | 6.4 | 0.055 | 0.095 |
| BZX85C160G | 160 | 1.5 | 1100 | 6500 | 0.25 | 0.5 | 120 | 5.8 | 0.055 | 0.095 |
| BZX85C180G | 180 | 1.5 | 1200 | 7000 | 0.25 | 0.5 | 130 | 5.2 | 0.055 | 0.095 |
| BZX85C200G | 200 | 1.5 | 1500 | 8000 | 0.25 | 0.5 | 150 | 4.7 | 0.055 | 0.095 |

Notes: (1) Measured with pulses tp = 5 ms

(2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case

(3) The type number listed have a standard tolerance on the nominal zener voltage of ± 5%.