



BZX85 ...

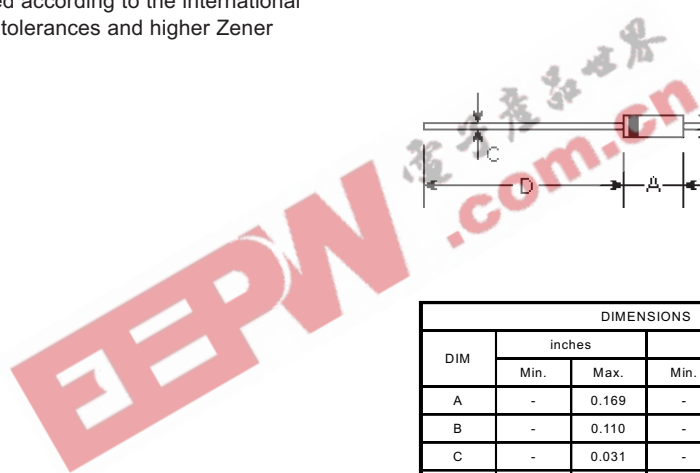
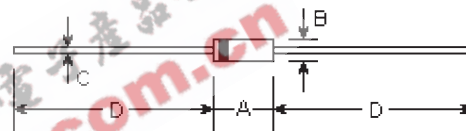
SILICON PLANAR POWER ZENER DIODES

Features

Silicon Planar Power Zener Diodes

for use in stabilizing and clipping circuits with high power rating. The Zener voltages are graded according to the international E 24 standard. Other voltage tolerances and higher Zener voltages upon request.

DO-41



| DIMENSIONS | | | | | |
|------------|--------|-------|------|------|------|
| DIM | inches | | mm | | Note |
| | Min. | Max. | Min. | Max. | |
| A | - | 0.169 | - | 4.3 | |
| B | - | 0.110 | - | 2.8 | φ |
| C | - | 0.031 | - | 0.8 | φ |
| D | 1.102 | - | 28.0 | - | |

Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

| | Symbols | Values | Units |
|---|-----------|--------------------|------------------|
| Zener current see Table "Characteristics" | | | |
| Power dissipation at $T_{amb}=25^\circ\text{C}$ | P_{tot} | 1.3 ⁽¹⁾ | W |
| Junction temperature | T_j | 200 | $^\circ\text{C}$ |
| Storage temperature range | T_s | -55 to +200 | $^\circ\text{C}$ |

Note:

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

Characteristics at $T_{amb}=25^\circ\text{C}$

| | Symbols | Min. | Typ. | Max. | Units |
|--|-----------|------|------|--------------------|-------|
| Thermal resistance junction to ambient Air | R_{thA} | - | - | 130 ⁽¹⁾ | K/W |
| Forward voltage at $I_F=200\text{mA}$ | V_F | - | - | 1.0 | V |

Note:

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

| Type | Zener voltage range ¹⁾ | | | Dynamic resistance | | | Reverse leakage current | | Temp. coefficient of Zener voltage |
|-------------|-----------------------------------|---|---------------|--|-------|------|--|-----|------------------------------------|
| | V _{znom} | I _{ZT} for V _{ZT} ²⁾ | | r _{ZT} and r _{ZK} at I _{ZK} | | | I _R ²⁾ at V _R | | TK _{VZ} %/K |
| | | V | mA | V | Ω | Ω | mA | μA | |
| BZX85/C 2V7 | 2.7 | 80 | 2.5 ... 2.9 | <20 | <400 | 1 | <150 | 1 | -0.08 ... -0.05 |
| BZX85/C 3V0 | 3.0 | 80 | 2.8 ... 3.2 | <20 | <400 | 1 | <100 | 1 | -0.08 ... -0.05 |
| BZX85/C 3V3 | 3.3 | 70 | 3.1 ... 3.5 | <20 | <400 | 1 | <40 | 1 | -0.08 ... -0.05 |
| BZX85/C 3V6 | 3.6 | 60 | 3.4 ... 3.8 | <15 | <500 | 1 | <20 | 1 | -0.08 ... -0.05 |
| BZX85/C 3V9 | 3.9 | 60 | 3.7 ... 4.1 | <15 | <500 | 1 | <10 | 1 | -0.07 ... -0.02 |
| BZX85/C 4V3 | 4.3 | 50 | 4.0 ... 4.6 | <13 | <500 | 1 | <3 | 1 | -0.07 ... +0.01 |
| BZX85/C 4V7 | 4.7 | 45 | 4.4 ... 5.0 | <13 | <600 | 1 | <3 | 1 | -0.03 ... +0.04 |
| BZX85/C 5V1 | 5.1 | 45 | 4.8 ... 5.4 | <10 | <500 | 1 | <1 | 1.5 | -0.01 ... +0.04 |
| BZX85/C 5V6 | 5.6 | 45 | 5.2 ... 6.0 | <7 | <400 | 1 | <1 | 2 | 0 ... +0.045 |
| BZX85/C 6V2 | 6.2 | 35 | 5.8 ... 6.6 | <4 | <300 | 1 | <1 | 3 | +0.01 ... +0.055 |
| BZX85/C 6V8 | 6.8 | 35 | 6.4 ... 7.2 | <3.5 | <300 | 1 | <1 | 4 | +0.015 ... +0.06 |
| BZX85/C 7V5 | 7.5 | 35 | 7.0 ... 7.9 | <3 | <200 | 0.5 | <1 | 4.5 | +0.02 ... +0.065 |
| BZX85/C 8V2 | 8.2 | 25 | 7.7 ... 8.7 | <5 | <200 | 0.5 | <1 | 6.2 | 0.03 ... 0.07 |
| BZX85/C 9V1 | 9.1 | 25 | 8.5 ... 9.6 | <5 | <200 | 0.5 | <1 | 6.8 | 0.035 ... 0.075 |
| BZX85/C 10 | 10 | 25 | 9.4 ... 10.6 | <7 | <200 | 0.5 | <0.5 | 7 | 0.04 ... 0.08 |
| BZX85/C 11 | 11 | 20 | 10.4 ... 11.6 | <8 | <300 | 0.5 | <0.5 | 8.2 | 0.045 ... 0.08 |
| BZX85/C 12 | 12 | 20 | 11.4 ... 12.7 | <9 | <350 | 0.5 | <0.5 | 9.1 | 0.045 ... 0.085 |
| BZX85/C 13 | 13 | 20 | 12.4 ... 14.1 | <10 | <400 | 0.5 | <0.5 | 10 | 0.05 ... 0.085 |
| BZX85/C 15 | 15 | 15 | 13.8 ... 15.6 | <15 | <500 | 0.5 | <0.5 | 11 | 0.055 ... 0.09 |
| BZX85/C 16 | 16 | 15 | 15.3 ... 17.1 | <15 | <500 | 0.5 | <0.5 | 12 | 0.055 ... 0.09 |
| BZX85/C 18 | 18 | 15 | 16.8 ... 19.1 | <20 | <500 | 0.5 | <0.5 | 13 | 0.06 ... 0.09 |
| BZX85/C 20 | 20 | 10 | 18.8 ... 21.2 | <24 | <600 | 0.5 | <0.5 | 15 | 0.06 ... 0.09 |
| BZX85/C 22 | 22 | 10 | 20.8 ... 23.3 | <25 | <600 | 0.5 | <0.5 | 16 | 0.06 ... 0.095 |
| BZX85/C 24 | 24 | 10 | 22.8 ... 25.6 | <25 | <600 | 0.5 | <0.5 | 18 | 0.06 ... 0.095 |
| BZX85/C 27 | 27 | 8 | 25.1 ... 28.9 | <30 | <750 | 0.25 | <0.5 | 20 | 0.06 ... 0.095 |
| BZX85/C 30 | 30 | 8 | 28 ... 32 | <30 | <1000 | 0.25 | <0.5 | 22 | 0.06 ... 0.095 |
| BZX85/C 33 | 33 | 8 | 31 ... 35 | <35 | <1000 | 0.25 | <0.5 | 24 | 0.06 ... 0.095 |
| BZX85/C 36 | 36 | 8 | 34 ... 38 | <40 | <1000 | 0.25 | <0.5 | 27 | 0.06 ... 0.095 |
| BZX85/C 39 | 39 | 6 | 37 ... 41 | <50 | <1000 | 0.25 | <0.5 | 30 | 0.06 ... 0.095 |
| BZX85/C 43 | 43 | 6 | 40 ... 46 | <50 | <1000 | 0.25 | <0.5 | 33 | 0.06 ... 0.095 |
| BZX85/C 47 | 47 | 4 | 44 ... 50 | <90 | <1500 | 0.25 | <0.5 | 36 | 0.06 ... 0.095 |
| BZX85/C 51 | 51 | 4 | 48 ... 54 | <115 | <1500 | 0.25 | <0.5 | 39 | 0.06 ... 0.095 |
| BZX85/C 56 | 56 | 4 | 52 ... 60 | <120 | <2000 | 0.25 | <0.5 | 43 | 0.06 ... 0.095 |
| BZX85/C 62 | 62 | 4 | 58 ... 66 | <125 | <2000 | 0.25 | <0.5 | 47 | 0.06 ... 0.095 |
| BZX85/C 68 | 68 | 4 | 64 ... 72 | <130 | <2000 | 0.25 | <0.5 | 51 | 0.06 ... 0.095 |
| BZX85/C 75 | 75 | 4 | 70 ... 79 | <135 | <2000 | 0.25 | <0.5 | 56 | 0.06 ... 0.095 |
| BZX85/C 82 | 82 | 2.7 | 77 ... 87 | <200 | <3000 | 0.25 | <0.5 | 62 | 0.07 ... 0.10 |
| BZX85/C 91 | 91 | 2.7 | 85 ... 96 | <250 | <3000 | 0.25 | <0.5 | 68 | 0.07 ... 0.10 |
| BZX85/C 100 | 100 | 2.7 | 94 ... 106 | <350 | <3000 | 0.25 | <0.5 | 75 | 0.07 ... 0.11 |
| BZX85/C 110 | 110 | 2.7 | 104 ... 116 | <450 | <4000 | 0.25 | <0.5 | 82 | 0.07 ... 0.11 |
| BZX85/C 120 | 120 | 2 | 114 ... 127 | <550 | <4500 | 0.25 | <0.5 | 91 | 0.07 ... 0.11 |
| BZX85/C 130 | 130 | 2 | 124 ... 141 | <700 | <5000 | 0.25 | <0.5 | 100 | 0.07 ... 0.11 |
| BZX85/C 150 | 150 | 2 | 138 ... 156 | <1000 | <6000 | 0.25 | <0.5 | 110 | 0.07 ... 0.11 |
| BZX85/C 160 | 160 | 1.5 | 153 ... 171 | <1100 | <6500 | 0.25 | <0.5 | 120 | 0.07 ... 0.11 |
| BZX85/C 180 | 180 | 1.5 | 168 ... 191 | <1200 | <7000 | 0.25 | <0.5 | 130 | 0.07 ... 0.11 |
| BZX85/C 200 | 200 | 1.5 | 188 ... 212 | <1500 | <8000 | 0.25 | <0.5 | 150 | 0.07 ... 0.11 |

Notes:

(1) Tested with pulses tp=20ms.

(2) Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

RATINGS AND CHARACTERISTIC CURVES

