



# BZX97 ...

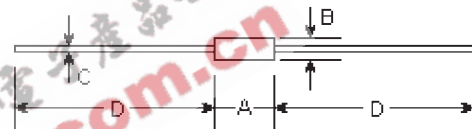
## SILICON PLANAR ZENER DIODES

### Features

#### Silicon Planar Zener Diodes

The Zener voltages are graded according to the international E 24 standard. Other voltage tolerances on request.

#### DO-35



| DIM | DIMENSIONS |       |       |      | Note |
|-----|------------|-------|-------|------|------|
|     | inches     |       | mm    |      |      |
|     | Min.       | Max.  | Min.  | Max. |      |
| A   | -          | 0.154 | -     | 3.9  |      |
| B   | -          | 0.075 | -     | 1.9  | φ    |
| C   | -          | 0.020 | -     | 0.52 | φ    |
| D   | 1.083      | -     | 27.50 | -    |      |

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

|   | Symbols   | Values             | Units            |
|---|-----------|--------------------|------------------|
| Zener current see Table "Characteristics"       |           |                    |                  |
| Power dissipation at $T_{amb}=25^\circ\text{C}$ | $P_{tot}$ | 500 <sup>(1)</sup> | mW               |
| 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 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 | $R_{thA}$ | -    | -    | 0.3 <sup>(1)</sup> | K/mW  |
| Forward voltage at $I_F=100\text{mA}$      | $V_F$     | -    | -    | 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 <sup>1)</sup> |   |               | Dynamic resistance                                     |                     |     | Reverse leakage current   |     |     | Temp. coefficient of Zener voltage |
|-------------|-----------------------------------|---|---------------|--|---------------------|-----|---|-----|-----|------------------------------------|
|             | V <sub>znom</sub>                 | I <sub>zT</sub> for V <sub>zT</sub> <sup>3)</sup> |               | r <sub>zT</sub> and r <sub>zK</sub> at I <sub>zK</sub> |                     |     | I <sub>R</sub> and I <sub>R</sub> <sup>3)</sup> at V <sub>R</sub> |     |     | TK <sub>VZ</sub>                   |
|             | V                                 | mA  | V             | Ω  | Ω                   | mA  | nA  | uA  | V   | %/K                                |
| BZX97/C 2V4 | 2.4                               | 5   | 2.28 ... 2.56 | <85  | <600                | 1   | <10000  | <50 | 1   | 135                                |
| BZX97/C 2V7 | 2.7                               | 5   | 2.5 ... 2.9   | <85  | <600                | 1   | <10000  | <50 | 1   | 135                                |
| BZX97/C 3V0 | 3.0                               | 5   | 2.8 ... 3.2   | <85  | <600                | 1   | <4000   | <40 | 1   | 125                                |
| BZX97/C 3V3 | 3.3                               | 5   | 3.1 ... 3.5   | <85  | <600                | 1   | <2000   | <40 | 1   | 115                                |
| BZX97/C 3V6 | 3.6                               | 5   | 3.4 ... 3.8   | <85  | <600                | 1   | <2000   | <40 | 1   | 105                                |
| BZX97/C 3V9 | 3.9                               | 5   | 3.7 ... 4.1   | <85  | <600                | 1   | <2000   | <40 | 1   | 95                                 |
| BZX97/C 4V3 | 4.3                               | 5   | 4.0 ... 4.6   | <75  | <600                | 1   | <1000   | <20 | 1   | 90                                 |
| BZX97/C 4V7 | 4.7                               | 5   | 4.4 ... 5.0   | <60  | <600                | 1   | <500  | <10 | 1   | 85                                 |
| BZX97/C 5V1 | 5.1                               | 5   | 4.8 ... 5.4   | <35  | <550                | 1   | <100  | <2  | 1   | 80                                 |
| BZX97/C 5V6 | 5.6                               | 5   | 5.2 ... 6.0   | <25  | <450                | 1   | <100  | <2  | 1   | 70                                 |
| BZX97/C 6V2 | 6.2                               | 5   | 5.8 ... 6.6   | <10  | <200                | 1   | <100  | <2  | 2   | 64                                 |
| BZX97/C 6V8 | 6.8                               | 5   | 6.4 ... 7.2   | <8   | <150                | 1   | <100  | <2  | 3   | 58                                 |
| BZX97/C 7V5 | 7.5                               | 5   | 7.0 ... 7.9   | <7   | <50                 | 1   | <100  | <2  | 5   | 53                                 |
| BZX97/C 8V2 | 8.2                               | 5   | 7.7 ... 8.7   | <7   | <50                 | 1   | <100  | <2  | 6   | 47                                 |
| BZX97/C 9V1 | 9.1                               | 5   | 8.5 ... 9.6   | <10  | <50                 | 1   | <100  | <2  | 7   | 43                                 |
| BZX97/C 10  | 10                                | 5   | 9.4 ... 10.6  | <15  | <70                 | 1   | <100  | <2  | 7.5 | 40                                 |
| BZX97/C 11  | 11                                | 5   | 10.4 ... 11.6 | <20  | <70                 | 1   | <100  | <2  | 8.5 | 36                                 |
| BZX97/C 12  | 12                                | 5   | 11.4 ... 12.7 | <20  | <90                 | 1   | <100  | <2  | 9   | 32                                 |
| BZX97/C 13  | 13                                | 5   | 12.4 ... 14.1 | <26  | <110                | 1   | <100  | <2  | 10  | 29                                 |
| BZX97/C 15  | 15                                | 5   | 13.8 ... 15.6 | <30  | <110                | 1   | <100  | <2  | 11  | 27                                 |
| BZX97/C 16  | 16                                | 5   | 15.3 ... 17.1 | <40  | <170                | 1   | <100  | <2  | 12  | 24                                 |
| BZX97/C 18  | 18                                | 5   | 16.8 ... 19.1 | <50  | <170                | 1   | <100  | <2  | 14  | 21                                 |
| BZX97/C 20  | 20                                | 5   | 18.8 ... 21.2 | <55  | <220                | 1   | <100  | <2  | 15  | 20                                 |
| BZX97/C 22  | 22                                | 5   | 20.8 ... 23.3 | <55  | <220                | 1   | <100  | <2  | 17  | 18                                 |
| BZX97/C 24  | 24                                | 5   | 22.8 ... 25.6 | <80  | <220                | 1   | <100  | <2  | 18  | 16                                 |
| BZX97/C 27  | 27                                | 5   | 25.1 ... 28.9 | <80  | <220                | 1   | <100  | <2  | 20  | 14                                 |
| BZX97/C 30  | 30                                | 5   | 28 ... 32     | <80  | <220                | 1   | <100  | <2  | 22  | 13                                 |
| BZX97/C 33  | 33                                | 5   | 31 ... 35     | <80  | <220                | 1   | <100  | <2  | 24  | 12                                 |
| BZX97/C 36  | 36                                | 5   | 34 ... 38     | <90  | <250                | 1   | <100  | <2  | 26  | 11                                 |
| BZX97/C 39  | 39                                | 2.5   | 37 ... 41     | <100   | <600 <sup>2)</sup>  | 0.5 | <100  | <2  | 28  | 10                                 |
| BZX97/C 43  | 43                                | 2.5   | 40 ... 46     | <100   | <700 <sup>2)</sup>  | 0.5 | <100  | <2  | 32  | 9.2                                |
| BZX97/C 47  | 47                                | 2.5   | 44 ... 50     | <120   | <1000 <sup>2)</sup> | 0.5 | <100  | <2  | 34  | 8.5                                |
| BZX97/C 51  | 51                                | 2.5   | 48 ... 54     | <135   | <1000 <sup>2)</sup> | 0.5 | <100  | <2  | 36  | 7.8                                |

Notes:

(1) Tested with pulses tp=20ms.

(2) Measured at I<sub>z</sub>=0.5mA

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