Shanghai Sinble

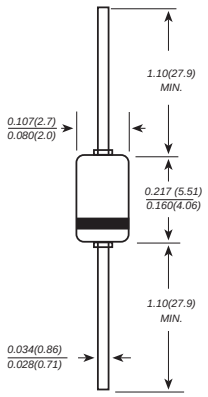
Electronics Co.,Ltd

# BZX85C-SERIES

## ZENER DIODES

*Zener Voltage:2.7-200V  Peak Pulse Power:: 1.3W*

**DO-41(GLASS)**




*Dimensions in inches and (millimeters)*

### FEATURE

- Low zener impedance
- Low regulation factor
- Glass passivated junction
- High temperature soldering guaranteed: 260℃/10S/9.5mm lead length at 5 lbs tension

### MECHANICAL DATA

**Case:** JEDEC DO-41(GLASS) molded glass body

**Terminals**: Plated axial leads, solderable per MIL-STD 750, method 2026

**Polarity**: Color band denotes cathode end

**Mounting Position**: Any

**Weight**: 0.012 ounce,0.35 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

| | *SYMBOLS* | *VALUE* | *UNITS* |
|---|---|---|---|
| Zener Current see Table Characteristics | | | |
| Power Dissipation at Tamb=25℃(Note 1) | $P_{tot}$ | 1000 | mW |
| Junction Temperature | $T_j$ | 200 | °C |
| Storage Temperature Range | $T_{STG}$ | -65 to + 200 | °C |
| Thermal resistance junction ambient(Note 1 | $R_{\theta JA}$ | 170 | K/W |
| Forward voltage at $I_F$=200mA | $V_F$ | 1.2 | V |

Note 1: Valid provided that leads at a distance of 10mm from case are kept at ambient temperature

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## ELECTRICAL CHARACTERISTICS (at $T_A$=25℃ unless otherwise noted)

| Device Type | Zener Voltage range | | | Dynamic resistance | | | Reverse leakage current | | Temp coefficlent of zener voltage |
|---|---|---|---|---|---|---|---|---|---|
| | $V_{ZNOM}$ | $I_{ZT}$ | $V_{ZT}$ | $Z_{ZT}$ | $Z_{ZK}$ | $I_{ZK}$ | $I_R$ at $V_R$ | | $TK_{VZ}$ |
| | V | mA | V | Ohms | Ohms | mA | uA | V | %/℃ |
| BZX85C2V7 | 2.7 | 80 | 2.5...2.9 | 20 | 400 | 1.0 | 150 | 1.0 | -0.08...-0.05 |
| BZX85C3V0 | 3.0 | 80 | 2.8...3.2 | 20 | 400 | 1.0 | 100 | 1.0 | -0.08...-0.05 |
| BZX85C3V3 | 3.3 | 70 | 3.1...3.5 | 20 | 400 | 1.0 | 40 | 1.0 | -0.08...-0.05 |
| BZX85C3V6 | 3.6 | 60 | 3.4...3.8 | 15 | 500 | 1.0 | 20 | 1.0 | -0.08...-0.05 |
| BZX85C3V9 | 3.9 | 60 | 3.7...4.1 | 15 | 500 | 1.0 | 10 | 1.0 | -0.07...-0.02 |
| BZX85C4V3 | 4.3 | 50 | 4.0...4.6 | 13 | 500 | 1.0 | 3 | 1.0 | -0.07...+0.01 |
| BZX85C4V7 | 4.7 | 45 | 4.4...5.0 | 13 | 600 | 1.0 | 3 | 1.0 | -0.03...+0.04 |
| BZX85C5V1 | 5.1 | 45 | 4.8...5.4 | 10 | 500 | 1.0 | 1 | 1.5 | -0.01...+0.04 |
| BZX85C5V6 | 5.6 | 45 | 5.2...6.0 | 7.0 | 400 | 1.0 | 1 | 2.0 | 0...0.045 |
| BZX85C6V2 | 6.2 | 35 | 5.8...6.6 | 4.0 | 300 | 1.0 | 1 | 3.0 | 0.01...0.055 |
| BZX85C6V8 | 6.8 | 35 | 6.4...7.2 | 3.5 | 300 | 1.0 | 1 | 4.0 | 0.015...0.06 |
| BZX85C7V5 | 7.5 | 35 | 7.0...7.9 | 3.0 | 200 | 0.5 | 1 | 4.5 | 0.02...0.065 |
| BZX85C8V2 | 8.2 | 25 | 7.7...8.7 | 5.0 | 200 | 0.5 | 1 | 6.2 | 0.03...0.07 |
| BZX85C9V1 | 9.1 | 25 | 8.5...9.6 | 5.0 | 200 | 0.5 | 1 | 6.8 | 0.035...0.075 |
| BZX85C10 | 10 | 25 | 9.4...10.6 | 7.0 | 200 | 0.5 | 0.5 | 7.0 | 0.04...0.08 |
| BZX85C11 | 11 | 20 | 10.4...11.6 | 8.0 | 300 | 0.5 | 0.5 | 8.2 | 0.045...0.08 |
| BZX85C12 | 12 | 20 | 11.4...12.7 | 9.0 | 350 | 0.5 | 0.5 | 9.1 | 0.045...0.085 |
| BZX85C13 | 13 | 20 | 12.4...14.1 | 10 | 400 | 0.5 | 0.5 | 10 | 0.05...0.085 |
| BZX85C15 | 15 | 15 | 13.8...15.6 | 15 | 500 | 0.5 | 0.5 | 11 | 0.055...0.09 |
| BZX85C16 | 16 | 15 | 15.3...17.1 | 15 | 500 | 0.5 | 0.5 | 12 | 0.055...0.09 |
| BZX85C18 | 18 | 15 | 16.8...19.1 | 20 | 500 | 0.5 | 0.5 | 13 | 0.06...0.09 |
| BZX85C20 | 20 | 10 | 18.8...21.2 | 24 | 600 | 0.5 | 0.5 | 15 | 0.06...0.09 |
| BZX85C22 | 22 | 10 | 20.8...23.3 | 25 | 600 | 0.5 | 0.5 | 16 | 0.06...0.095 |
| BZX85C24 | 24 | 10 | 22.8...25.6 | 25 | 600 | 0.5 | 0.5 | 18 | 0.06...0.095 |
| BZX85C27 | 27 | 8.0 | 25.1...28.9 | 30 | 750 | 0.25 | 0.5 | 20 | 0.06...0.095 |
| BZX85C30 | 30 | 8.0 | 28...32 | 30 | 1000 | 0.25 | 0.5 | 22 | 0.06...0.095 |
| BZX85C33 | 33 | 8.0 | 31...35 | 35 | 1000 | 0.25 | 0.5 | 24 | 0.06...0.095 |
| BZX85C36 | 36 | 8.0 | 34...38 | 40 | 1000 | 0.25 | 0.5 | 27 | 0.06...0.095 |

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## ELECTRICAL CHARACTERISTICS (at $T_A$=25℃ unless otherwise noted)

| Device Type | Zener Voltage range | | | Dynamic resistance | | | Reverse leakage current | | Temp coefficlent of zener voltage |
|---|---|---|---|---|---|---|---|---|---|
| | $V_{ZNOM}$ | $I_{ZT}$ | $V_{ZT}$ | $Z_{ZT}$ | $Z_{ZK}$ | $I_{ZK}$ | $I_R$ at $V_R$ | | $TK_{VZ}$ |
| | V | mA | V | Ohms | Ohms | mA | mA | V | %/℃ |
| BZX85C39 | 39 | 6.0 | 37...41 | 50 | 1000 | 0.25 | 0.5 | 30 | 0.06...0.095 |
| BZX85C43 | 43 | 6.0 | 40...46 | 50 | 1000 | 0.25 | 0.5 | 33 | 0.06...0.095 |
| BZX85C47 | 47 | 4.0 | 44...50 | 90 | 1500 | 0.25 | 0.5 | 36 | 0.06...0.095 |
| BZX85C51 | 51 | 4.0 | 48...54 | 115 | 1500 | 0.25 | 0.5 | 39 | 0.06...0.095 |
| BZX85C56 | 56 | 4.0 | 52...60 | 120 | 2000 | 0.25 | 0.5 | 43 | 0.06...0.095 |
| BZX85C62 | 62 | 4.0 | 58...66 | 125 | 2000 | 0.25 | 0.5 | 47 | 0.06...0.095 |
| BZX85C68 | 68 | 4.0 | 64...72 | 135 | 2000 | 0.25 | 0.5 | 51 | 0.06...0.095 |
| BZX85C75 | 75 | 4.0 | 70...79 | 135 | 2000 | 0.25 | 0.5 | 56 | 0.06...0.095 |
| BZX85C82 | 82 | 2.7 | 77...87 | 200 | 3000 | 0.25 | 0.5 | 62 | 0.07...0.10 |
| BZX85C91 | 91 | 2.7 | 85...96 | 250 | 3000 | 0.25 | 0.5 | 68 | 0.07...0.10 |
| BZX85C100 | 100 | 2.7 | 94...106 | 350 | 3000 | 0.25 | 0.5 | 75 | 0.07...0.11 |
| BZX85C110 | 110 | 2.7 | 104...116 | 450 | 4000 | 0.25 | 0.5 | 82 | 0.07...0.11 |
| BZX85C120 | 120 | 2.0 | 114...127 | 550 | 4500 | 0.25 | 0.5 | 91 | 0.07...0.11 |
| BZX85C130 | 130 | 2.0 | 124...141 | 700 | 5000 | 0.25 | 0.5 | 100 | 0.07...0.11 |
| BZX85C150 | 150 | 2.0 | 138...156 | 1000 | 6000 | 0.25 | 0.5 | 110 | 0.07...0.11 |
| BZX85C160 | 160 | 1.5 | 153...171 | 1100 | 6500 | 0.25 | 0.5 | 120 | 0.07...0.11 |
| BZX85C180 | 180 | 1.5 | 168...191 | 1200 | 7000 | 0.25 | 0.5 | 130 | 0.07...0.11 |
| BZX85C200 | 200 | 1.5 | 188...212 | 1500 | 8000 | 0.25 | 0.5 | 150 | 0.07...0.11 |

**Admissible power dissipation versus ambient temperature**

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