

BZX83C

SILICON EPITAXIAL PLANAR ZENER DIODES

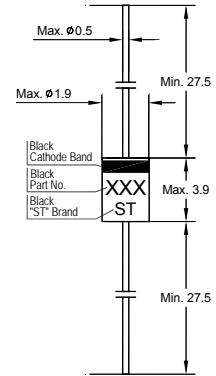
The Zener voltages are graded according to the international E 24 standard. Other tolerances and higher Zener voltages are upon request.

Features

High reliability

Applications

Voltage stabilization



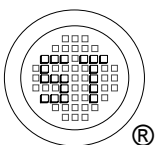
Glass Case DO-35
Dimensions in mm

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

| Parameter | Symbol | Value | Unit |
|---------------------------|------------------|------------------------|------------------|
| Power Dissipation | P_{tot} | 500 | mW |
| Z-Current | I_Z | P_{tot} / V_Z | mA |
| Junction Temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_s | - 65 to + 175 | $^\circ\text{C}$ |

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

| Parameter | Symbol | Max. | Unit |
|--|------------------|------|------|
| Thermal Resistance Junction to Ambient Air | R_{thA} | 350 | K/mW |
| Forward Voltage at $I_F = 50\text{ mA}$ | V_F | 1 | V |



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company
listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
Certificate No. 0506088

Dated : 21/06/2007

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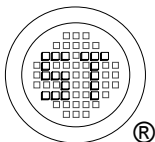
| Type | Zener Voltage Range ^{1), 2)} | | | Dynamic Resistance | | | Reverse Leakage Current | |
|-----------|---------------------------------------|-----------------------|--------------------------|------------------------------|------------------------------|--------------------------|-----------------------------|------------------------|
| | V _{znom} V | I _{ZT} mA | for V _{ZT} V | r _{ZJT} Max. (Ω) | r _{ZJK} Max. (Ω) | at I _{ZK} mA | I _R Max. (μA) | at V _R V |
| BZX83C2V7 | 2.7 | 5 | 2.5...2.9 | 90 | 600 | 1 | 100 | 1 |
| BZX83C3V0 | 3.0 | 5 | 2.8...3.2 | 90 | 600 | 1 | 60 | 1 |
| BZX83C3V3 | 3.3 | 5 | 3.1...3.5 | 90 | 600 | 1 | 30 | 1 |
| BZX83C3V6 | 3.6 | 5 | 3.4...3.8 | 90 | 600 | 1 | 20 | 1 |
| BZX83C3V9 | 3.9 | 5 | 3.7...4.1 | 90 | 600 | 1 | 10 | 1 |
| BZX83C4V3 | 4.3 | 5 | 4...4.6 | 80 | 600 | 1 | 5 | 1 |
| BZX83C4V7 | 4.7 | 5 | 4.4...5 | 80 | 600 | 1 | 2 | 1 |
| BZX83C5V1 | 5.1 | 5 | 4.8...5.4 | 60 | 550 | 1 | 1 | 1 |
| BZX83C5V6 | 5.6 | 5 | 5.2...6.1 | 40 | 450 | 1 | 1 | 1 |
| BZX83C6V2 | 6.2 | 5 | 5.8...6.6 | 10 | 200 | 1 | 1 | 2 |
| BZX83C6V8 | 6.8 | 5 | 6.4...7.2 | 8 | 150 | 1 | 1 | 3 |
| BZX83C7V5 | 7.5 | 5 | 7...7.9 | 7 | 50 | 1 | 1 | 3.6 |
| BZX83C8V2 | 8.2 | 5 | 7.7...8.7 | 7 | 50 | 1 | 1 | 4 |
| BZX83C9V1 | 9.1 | 5 | 8.5...9.6 | 10 | 50 | 1 | 1 | 5 |
| BZX83C10 | 10 | 5 | 9.4...10.6 | 15 | 70 | 1 | 1 | 6 |
| BZX83C11 | 11 | 5 | 10.4...11.6 | 20 | 70 | 1 | 1 | 8.2 |
| BZX83C12 | 12 | 5 | 11.4...12.7 | 20 | 90 | 1 | 1 | 9.1 |
| BZX83C13 | 13 | 5 | 12.4...14.1 | 26 | 110 | 1 | 1 | 10 |
| BZX83C15 | 15 | 5 | 13.8...15.6 | 30 | 110 | 1 | 1 | 11 |
| BZX83C16 | 16 | 5 | 15.3...17.1 | 40 | 170 | 1 | 1 | 12 |
| BZX83C18 | 18 | 5 | 16.8...19.1 | 55 | 170 | 1 | 1 | 13 |
| BZX83C20 | 20 | 5 | 18.8...21.2 | 55 | 220 | 1 | 1 | 15 |
| BZX83C22 | 22 | 5 | 20.8...23.3 | 58 | 220 | 1 | 1 | 16 |
| BZX83C24 | 24 | 5 | 22.8...25.6 | 80 | 220 | 1 | 1 | 18 |
| BZX83C27 | 27 | 5 | 25.1...28.9 | 80 | 220 | 1 | 1 | 20 |
| BZX83C30 | 30 | 5 | 28...32 | 80 | 220 | 1 | 1 | 22 |
| BZX83C33 | 33 | 5 | 31...35 | 90 | 220 | 1 | 1 | 24 |
| BZX83C36 | 36 | 5 | 34...38 | 90 | 220 | 1 | 1 | 27 |
| BZX83C39 | 39 | 2.5 | 37...41 | 100 | 500 | 0.5 | 1 | 30 |
| BZX83C43 | 43 | 2.5 | 40...46 | 100 | 600 | 0.5 | 1 | 33 |
| BZX83C47 | 47 | 2.5 | 44...50 | 120 | 700 | 0.5 | 1 | 36 |
| BZX83C51 | 51 | 2.5 | 48...54 | 125 | 700 | 0.5 | 1 | 39 |
| BZX83C56 | 56 | 2.5 | 52...60 | 135 | 1000 | 0.5 | 1 | 43 |
| BZX83C62 | 62 | 2.5 | 58...66 | 170 | 1000 | 0.5 | 1 | 47 |
| BZX83C68 | 68 | 2.5 | 64...72 | 200 | 1000 | 0.5 | 1 | 51 |
| BZX83C75 | 75 | 2.5 | 70...79 | 250 | 1500 | 0.5 | 1 | 56 |

¹⁾ Tighter tolerances available request:

B-----±2% of V_{znom}

C-----±5% of V_{znom}

²⁾ Tested with pulses t_p = 20 ms.



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