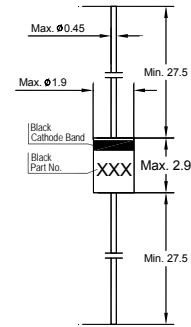


BC Series

Silicon Epitaxial Planar Zener Diodes



Glass Case DO-34
Dimensions in mm

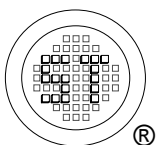
Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

| Parameter | Symbol | Value | Unit |
|---------------------------|------------------|-------------------|------------------|
| Power Dissipation | P_{tot} | 500 ¹⁾ | mW |
| Junction Temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 65 to + 175 | $^\circ\text{C}$ |

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

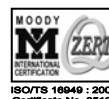
Characteristics at $T_a = 25\text{ }^\circ\text{C}$ ($V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$)

| Type | Zener Voltage ¹⁾ | | | Maximum Dynamic Resistance | | Maximum Standing Dynamic Resistance | | Maximum Reverse Leakage Current | |
|--------|-----------------------------|----------|------------------|----------------------------|------------------|-------------------------------------|------------------|---------------------------------|--------------|
| | Min. (V) | Max. (V) | at I_{ZT} (mA) | Z_{ZT} (Ω) | at I_{ZT} (mA) | Z_{ZK} (Ω) | at I_{ZK} (mA) | I_R (μA) | at V_R (V) |
| 2V2BC | 2.09 | 2.41 | 20 | 120 | 20 | 2000 | 1 | 120 | 0.7 |
| 2V2BCA | 2.12 | 2.3 | 20 | 120 | 20 | 2000 | 1 | 120 | 0.7 |
| 2V2BCB | 2.22 | 2.41 | 20 | 120 | 20 | 2000 | 1 | 120 | 0.7 |
| 2V4BC | 2.3 | 2.64 | 20 | 100 | 20 | 2000 | 1 | 120 | 1 |
| 2V4BCA | 2.33 | 2.52 | 20 | 100 | 20 | 2000 | 1 | 120 | 1 |
| 2V4BCB | 2.43 | 2.63 | 20 | 100 | 20 | 2000 | 1 | 120 | 1 |
| 2V7BC | 2.5 | 2.9 | 20 | 100 | 20 | 1000 | 1 | 100 | 1 |
| 2V7BCA | 2.54 | 2.75 | 20 | 100 | 20 | 1000 | 1 | 100 | 1 |
| 2V7BCB | 2.69 | 2.91 | 20 | 100 | 20 | 1000 | 1 | 100 | 1 |
| 3V0BC | 2.8 | 3.2 | 20 | 80 | 20 | 1000 | 1 | 50 | 1 |
| 3V0BCA | 2.85 | 3.07 | 20 | 80 | 20 | 1000 | 1 | 50 | 1 |
| 3V0BCB | 3.01 | 3.22 | 20 | 80 | 20 | 1000 | 1 | 50 | 1 |
| 3V3BC | 3.1 | 3.5 | 20 | 70 | 20 | 1000 | 1 | 20 | 1 |
| 3V3BCA | 3.16 | 3.38 | 20 | 70 | 20 | 1000 | 1 | 20 | 1 |
| 3V3BCB | 3.32 | 3.53 | 20 | 70 | 20 | 1000 | 1 | 20 | 1 |
| 3V6BC | 3.4 | 3.8 | 20 | 60 | 20 | 1000 | 1 | 10 | 1 |
| 3V6BCA | 3.47 | 3.68 | 20 | 60 | 20 | 1000 | 1 | 10 | 1 |
| 3V6BCB | 3.62 | 3.83 | 20 | 60 | 20 | 1000 | 1 | 10 | 1 |
| 3V9BC | 3.7 | 4.1 | 20 | 50 | 20 | 1000 | 1 | 5 | 1 |
| 3V9BCA | 3.77 | 3.98 | 20 | 50 | 20 | 1000 | 1 | 5 | 1 |
| 3V9BCB | 3.92 | 4.14 | 20 | 50 | 20 | 1000 | 1 | 5 | 1 |
| 4V3BC | 4 | 4.5 | 20 | 40 | 20 | 1000 | 1 | 5 | 1 |
| 4V3BCA | 4.05 | 4.26 | 20 | 40 | 20 | 1000 | 1 | 5 | 1 |
| 4V3BCB | 4.2 | 4.4 | 20 | 40 | 20 | 1000 | 1 | 5 | 1 |



SEMTECH ELECTRONICS LTD.

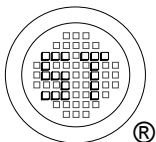
(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



BC Series

Characteristics at $T_a = 25\text{ }^\circ\text{C}$ ($V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$)

| Type | Zener Voltage ¹⁾ | | | Maximum Dynamic Resistance | | Maximum Standing Dynamic Resistance | | Maximum Reverse Leakage Current | |
|--------|-----------------------------|----------|------------------|----------------------------|------------------|-------------------------------------|------------------|---------------------------------|--------------|
| | Min. (V) | Max. (V) | at I_{ZT} (mA) | Z_{ZT} (Ω) | at I_{ZT} (mA) | Z_{ZK} (Ω) | at I_{ZK} (mA) | I_R (μA) | at V_R (V) |
| 4V3BCC | 4.34 | 4.53 | 20 | 40 | 20 | 1000 | 1 | 5 | 1 |
| 4V7BC | 4.4 | 4.9 | 20 | 25 | 20 | 900 | 1 | 5 | 1 |
| 4V7BCA | 4.47 | 4.65 | 20 | 25 | 20 | 900 | 1 | 5 | 1 |
| 4V7BCB | 4.59 | 4.77 | 20 | 25 | 20 | 900 | 1 | 5 | 1 |
| 4V7BCC | 4.71 | 4.91 | 20 | 25 | 20 | 900 | 1 | 5 | 1 |
| 5V1BC | 4.8 | 5.4 | 20 | 20 | 20 | 800 | 1 | 5 | 1.5 |
| 5V1BCA | 4.85 | 5.03 | 20 | 20 | 20 | 800 | 1 | 5 | 1.5 |
| 5V1BCB | 4.97 | 5.18 | 20 | 20 | 20 | 800 | 1 | 5 | 1.5 |
| 5V1BCC | 5.12 | 5.35 | 20 | 20 | 20 | 800 | 1 | 5 | 1.5 |
| 5V6BC | 5.3 | 6 | 20 | 13 | 20 | 500 | 1 | 5 | 2.5 |
| 5V6BCA | 5.29 | 5.52 | 20 | 13 | 20 | 500 | 1 | 5 | 2.5 |
| 5V6BCB | 5.46 | 5.7 | 20 | 13 | 20 | 500 | 1 | 5 | 2.5 |
| 5V6BCC | 5.64 | 5.88 | 20 | 13 | 20 | 500 | 1 | 5 | 2.5 |
| 6V2BC | 5.8 | 6.6 | 20 | 10 | 20 | 300 | 1 | 5 | 3 |
| 6V2BCA | 5.81 | 6.06 | 20 | 10 | 20 | 300 | 1 | 5 | 3 |
| 6V2BCB | 5.99 | 6.24 | 20 | 10 | 20 | 300 | 1 | 5 | 3 |
| 6V2BCC | 6.16 | 6.4 | 20 | 10 | 20 | 300 | 1 | 5 | 3 |
| 6V8BC | 6.4 | 7.2 | 20 | 8 | 20 | 150 | 0.5 | 2 | 3.5 |
| 6V8BCA | 6.32 | 6.59 | 20 | 8 | 20 | 150 | 0.5 | 2 | 3.5 |
| 6V8BCB | 6.52 | 6.79 | 20 | 8 | 20 | 150 | 0.5 | 2 | 3.5 |
| 6V8BCC | 6.7 | 6.97 | 20 | 8 | 20 | 150 | 0.5 | 2 | 3.5 |
| 7V5BC | 7 | 7.9 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 4 |
| 7V5BCA | 6.88 | 7.19 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 4 |
| 7V5BCB | 7.11 | 7.41 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 4 |
| 7V5BCC | 7.33 | 7.64 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 4 |
| 8V2BC | 7.7 | 8.7 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 5 |
| 8V2BCA | 7.56 | 7.9 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 5 |
| 8V2BCB | 7.82 | 8.15 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 5 |
| 8V2BCC | 8.07 | 8.41 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 5 |
| 9V1BC | 8.5 | 9.6 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 6 |
| 9V1BCA | 8.33 | 8.7 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 6 |
| 9V1BCB | 8.61 | 8.99 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 6 |
| 9V1BCC | 8.89 | 9.29 | 20 | 8 | 20 | 120 | 0.5 | 0.5 | 6 |
| 10BC | 9.4 | 10.9 | 20 | 8 | 20 | 120 | 0.5 | 0.2 | 7 |
| 10BCA | 9.19 | 9.59 | 20 | 8 | 20 | 120 | 0.5 | 0.2 | 7 |
| 10BCB | 9.48 | 9.9 | 20 | 8 | 20 | 120 | 0.5 | 0.2 | 7 |
| 10BCC | 9.82 | 10.3 | 20 | 8 | 20 | 120 | 0.5 | 0.2 | 7 |
| 11BC | 10.4 | 11.6 | 10 | 10 | 10 | 120 | 0.5 | 0.2 | 8 |
| 11BCA | 10.18 | 10.63 | 10 | 10 | 10 | 120 | 0.5 | 0.2 | 8 |
| 11BCB | 10.5 | 10.95 | 10 | 10 | 10 | 120 | 0.5 | 0.2 | 8 |
| 11BCC | 10.82 | 11.26 | 10 | 10 | 10 | 120 | 0.5 | 0.2 | 8 |
| 12BC | 11.4 | 12.6 | 10 | 12 | 10 | 110 | 0.5 | 0.2 | 9 |
| 12BCA | 11.13 | 11.63 | 10 | 12 | 10 | 110 | 0.5 | 0.2 | 9 |
| 12BCB | 11.5 | 11.92 | 10 | 12 | 10 | 110 | 0.5 | 0.2 | 9 |
| 12BCC | 11.8 | 12.3 | 10 | 12 | 10 | 110 | 0.5 | 0.2 | 9 |
| 13BC | 12.4 | 14.1 | 10 | 14 | 10 | 110 | 0.5 | 0.2 | 10 |



SEMTECH ELECTRONICS LTD.

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



ISO/TS 18949: 2002
Certificate No. 08103



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
Certificate No. 0808098



BS-OHSAS 18001:2007
Certificate No. 7116



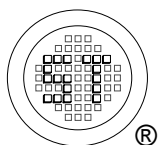
IECQ QC 080000
Certificate No. PC0809881

BC Series

Characteristics at $T_a = 25\text{ }^\circ\text{C}$ ($V_F = 1\text{ V Max. at } I_F = 100\text{ mA}$)

| Type | Zener Voltage ¹⁾ | | | Maximum Dynamic Resistance | | Maximum Standing Dynamic Resistance | | Maximum Reverse Leakage Current | |
|-------|-----------------------------|----------|------------------|----------------------------|------------------|-------------------------------------|------------------|---------------------------------|--------------|
| | Min. (V) | Max. (V) | at I_{ZT} (mA) | Z_{ZT} (Ω) | at I_{ZT} (mA) | Z_{ZK} (Ω) | at I_{ZK} (mA) | I_R (μA) | at V_R (V) |
| 13BCA | 12.18 | 12.71 | 10 | 14 | 10 | 110 | 0.5 | 0.2 | 10 |
| 13BCB | 12.59 | 13.16 | 10 | 14 | 10 | 110 | 0.5 | 0.2 | 10 |
| 13BCC | 13.03 | 13.62 | 10 | 14 | 10 | 110 | 0.5 | 0.2 | 10 |
| 15BC | 13.8 | 15.6 | 10 | 16 | 10 | 110 | 0.5 | 0.2 | 11 |
| 15BCA | 13.48 | 14.09 | 10 | 16 | 10 | 110 | 0.5 | 0.2 | 11 |
| 15BCB | 13.95 | 14.56 | 10 | 16 | 10 | 110 | 0.5 | 0.2 | 11 |
| 15BCC | 14.42 | 15.02 | 10 | 16 | 10 | 110 | 0.5 | 0.2 | 11 |
| 16BC | 15.3 | 17.1 | 10 | 18 | 10 | 150 | 0.5 | 0.2 | 12 |
| 16BCA | 14.87 | 15.5 | 10 | 18 | 10 | 150 | 0.5 | 0.2 | 12 |
| 16BCB | 15.33 | 15.96 | 10 | 18 | 10 | 150 | 0.5 | 0.2 | 12 |
| 16BCC | 15.79 | 16.5 | 10 | 18 | 10 | 150 | 0.5 | 0.2 | 12 |
| 18BC | 16.8 | 19.1 | 10 | 23 | 10 | 150 | 0.5 | 0.2 | 13 |
| 18BCA | 16.34 | 17.06 | 10 | 23 | 10 | 150 | 0.5 | 0.2 | 13 |
| 18BCB | 16.9 | 17.67 | 10 | 23 | 10 | 150 | 0.5 | 0.2 | 13 |
| 18BCC | 17.51 | 18.3 | 10 | 23 | 10 | 150 | 0.5 | 0.2 | 13 |
| 20BC | 18.8 | 21.6 | 10 | 28 | 10 | 200 | 0.5 | 0.2 | 15 |
| 20BCA | 18.11 | 18.92 | 10 | 28 | 10 | 200 | 0.5 | 0.2 | 15 |
| 20BCB | 18.73 | 19.57 | 10 | 28 | 10 | 200 | 0.5 | 0.2 | 15 |
| 20BCC | 19.38 | 20.22 | 10 | 28 | 10 | 200 | 0.5 | 0.2 | 15 |
| 20BCD | 19.88 | 20.72 | 10 | 28 | 10 | 200 | 0.5 | 0.2 | 15 |
| 22BC | 20.8 | 23.3 | 5 | 30 | 5 | 200 | 0.5 | 0.2 | 17 |
| 22BCA | 20.23 | 21.08 | 5 | 30 | 5 | 200 | 0.5 | 0.2 | 17 |
| 22BCB | 20.76 | 21.65 | 5 | 30 | 5 | 200 | 0.5 | 0.2 | 17 |
| 22BCC | 21.22 | 22.09 | 5 | 30 | 5 | 200 | 0.5 | 0.2 | 17 |
| 22BCD | 21.68 | 22.61 | 5 | 30 | 5 | 200 | 0.5 | 0.2 | 17 |
| 24BC | 22.8 | 25.6 | 5 | 35 | 5 | 200 | 0.5 | 0.2 | 19 |
| 24BCA | 22.26 | 23.12 | 5 | 35 | 5 | 200 | 0.5 | 0.2 | 19 |
| 24BCB | 22.75 | 23.73 | 5 | 35 | 5 | 200 | 0.5 | 0.2 | 19 |
| 24BCC | 23.29 | 24.27 | 5 | 35 | 5 | 200 | 0.5 | 0.2 | 19 |
| 24BCD | 23.81 | 24.81 | 5 | 35 | 5 | 200 | 0.5 | 0.2 | 19 |
| 27BC | 25.1 | 28.9 | 5 | 45 | 5 | 250 | 0.5 | 0.2 | 21 |
| 27BCA | 24.26 | 25.52 | 5 | 45 | 5 | 250 | 0.5 | 0.2 | 21 |
| 27BCB | 24.97 | 26.26 | 5 | 45 | 5 | 250 | 0.5 | 0.2 | 21 |
| 27BCC | 25.63 | 26.95 | 5 | 45 | 5 | 250 | 0.5 | 0.2 | 21 |
| 27BCD | 26.29 | 27.64 | 5 | 45 | 5 | 250 | 0.5 | 0.2 | 21 |
| 30BC | 28 | 32 | 5 | 55 | 5 | 250 | 0.5 | 0.2 | 23 |
| 30BCA | 26.99 | 28.39 | 5 | 55 | 5 | 250 | 0.5 | 0.2 | 23 |
| 30BCB | 27.7 | 29.13 | 5 | 55 | 5 | 250 | 0.5 | 0.2 | 23 |
| 30BCC | 28.36 | 29.82 | 5 | 55 | 5 | 250 | 0.5 | 0.2 | 23 |
| 30BCD | 29.02 | 30.51 | 5 | 55 | 5 | 250 | 0.5 | 0.2 | 23 |
| 33BC | 31 | 35 | 5 | 65 | 5 | 250 | 0.5 | 0.2 | 25 |
| 33BCA | 29.68 | 31.22 | 5 | 65 | 5 | 250 | 0.5 | 0.2 | 25 |
| 33BCB | 30.32 | 31.88 | 5 | 65 | 5 | 250 | 0.5 | 0.2 | 25 |
| 33BCC | 30.9 | 32.5 | 5 | 65 | 5 | 250 | 0.5 | 0.2 | 25 |
| 33BCD | 31.49 | 33.11 | 5 | 65 | 5 | 250 | 0.5 | 0.2 | 25 |

¹⁾ Tested with pulse $t_p = 20\text{ ms}$



SEMTECH ELECTRONICS LTD.

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



ISO/TS 18949:2002
Certificate No. 08103

ISO 14001:2004
Certificate No. 7116

ISO 9001:2000
Certificate No. 0808098

BS-OHSAS 18001:2007
Certificate No. 7116

IECQ QC 080000
Certificate No. PC080808