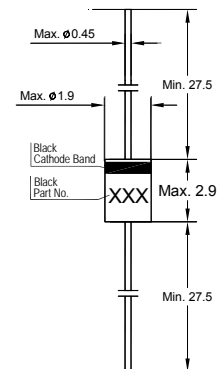


BS Series

SILICON PLANAR ZENER DIODES



Glass Case DO-34
Dimensions in mm

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

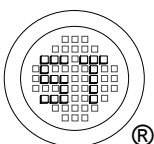
| Parameter | Symbol | Value | Unit |
|---------------------------|-----------|-------------------|------------------|
| Power Dissipation | P_{tot} | 500 ¹⁾ | mW |
| Junction Temperature | T_j | 175 | $^\circ\text{C}$ |
| Storage Temperature Range | T_s | - 65 to + 175 | $^\circ\text{C}$ |

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

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

| Parameter | Symbol | Max. | Unit |
|--|-----------|-------------------|------|
| Thermal Resistance Junction to Ambient Air | R_{thA} | 0.3 ¹⁾ | K/mW |

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



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Certificate No. 71116



ISO 9001:2000
Certificate No. 0506098

Dated : 25/06/2007

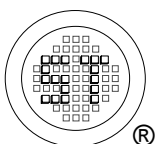
BS Series

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

| Type | Zener Voltage ¹⁾ | | | Maximum Dynamic Resistance | | Reverse Leakage Current ²⁾ (I_R at V_R) | |
|--------|-----------------------------|----------|---------------|----------------------------|---------------|--|-----------|
| | Min. (V) | Max. (V) | I_{ZT} (mA) | (Ω) at I_{ZT} | I_{ZT} (mA) | I_R (μA) Max. | V_R (V) |
| 2V0BS | 1.88 | 2.2 | 5 | 100 | 5 | 120 | 0.5 |
| 2V0BSA | 1.88 | 2.1 | | | | | |
| 2V0BSB | 2.02 | 2.2 | | | | | |
| 2V2BS | 2.12 | 2.41 | 5 | 100 | 5 | 120 | 0.7 |
| 2V2BSA | 2.12 | 2.3 | | | | | |
| 2V2BSB | 2.22 | 2.41 | | | | | |
| 2V4BS | 2.33 | 2.63 | 5 | 100 | 5 | 120 | 1 |
| 2V4BSA | 2.33 | 2.52 | | | | | |
| 2V4BSB | 2.43 | 2.63 | | | | | |
| 2V7BS | 2.54 | 2.91 | 5 | 110 | 5 | 100 | 1 |
| 2V7BSA | 2.54 | 2.75 | | | | | |
| 2V7BSB | 2.69 | 2.91 | | | | | |
| 3V0BS | 2.85 | 3.22 | 5 | 120 | 5 | 50 | 1 |
| 3V0BSA | 2.85 | 3.07 | | | | | |
| 3V0BSB | 3.01 | 3.22 | | | | | |
| 3V3BS | 3.16 | 3.53 | 5 | 120 | 5 | 20 | 1 |
| 3V3BSA | 3.16 | 3.38 | | | | | |
| 3V3BSB | 3.32 | 3.53 | | | | | |
| 3V6BS | 3.47 | 3.83 | 5 | 120 | 5 | 10 | 1 |
| 3V6BSA | 3.47 | 3.68 | | | | | |
| 3V6BSB | 3.62 | 3.83 | | | | | |
| 3V9BS | 3.77 | 4.14 | 5 | 120 | 5 | 5 | 1 |
| 3V9BSA | 3.77 | 3.98 | | | | | |
| 3V9BSB | 3.92 | 4.14 | | | | | |
| 4V3BS | 4.05 | 4.53 | 5 | 120 | 5 | 5 | 1 |
| 4V3BSA | 4.05 | 4.26 | | | | | |
| 4V3BSB | 4.2 | 4.4 | | | | | |
| 4V3BSC | 4.34 | 4.53 | | | | | |
| 4V7BS | 4.47 | 4.91 | 5 | 100 | 5 | 5 | 1 |
| 4V7BSA | 4.47 | 4.65 | | | | | |
| 4V7BSB | 4.59 | 4.77 | | | | | |
| 4V7BSC | 4.71 | 4.91 | | | | | |
| 5V1BS | 4.85 | 5.35 | 5 | 70 | 5 | 5 | 1.5 |
| 5V1BSA | 4.85 | 5.03 | | | | | |
| 5V1BSB | 4.97 | 5.18 | | | | | |
| 5V1BSC | 5.12 | 5.35 | | | | | |

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

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



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Certificate No. 0506098

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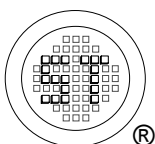
BS Series

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

| Type | Zener Voltage ¹⁾ | | | Maximum Dynamic Resistance | | Reverse Leakage Current ²⁾ (I_R at V_R) | |
|--------|-----------------------------|----------|---------------|----------------------------|---------------|--|-----------|
| | Min. (V) | Max. (V) | I_{ZT} (mA) | (Ω) at I_{ZT} | I_{ZT} (mA) | I_R (μA) Max. | V_R (V) |
| 5V6BS | 5.29 | 5.88 | 5 | 40 | 5 | 5 | 2.5 |
| 5V6BSA | 5.29 | 5.52 | | | | | |
| 5V6BSB | 5.46 | 5.7 | | | | | |
| 5V6BSC | 5.64 | 5.88 | | | | | |
| 6V2BS | 5.81 | 6.4 | 5 | 30 | 5 | 5 | 3 |
| 6V2BSA | 5.81 | 6.06 | | | | | |
| 6V2BSB | 5.99 | 6.24 | | | | | |
| 6V2BSC | 6.16 | 6.4 | | | | | |
| 6V8BS | 6.32 | 6.97 | 5 | 25 | 5 | 2 | 3.5 |
| 6V8BSA | 6.32 | 6.59 | | | | | |
| 6V8BSB | 6.52 | 6.79 | | | | | |
| 6V8BSC | 6.70 | 6.97 | | | | | |
| 7V5BS | 6.88 | 7.64 | 5 | 25 | 5 | 0.5 | 4 |
| 7V5BSA | 6.88 | 7.19 | | | | | |
| 7V5BSB | 7.11 | 7.41 | | | | | |
| 7V5BSC | 7.33 | 7.64 | | | | | |
| 8V2BS | 7.56 | 8.41 | 5 | 20 | 5 | 0.5 | 5 |
| 8V2BSA | 7.56 | 7.9 | | | | | |
| 8V2BSB | 7.82 | 8.15 | | | | | |
| 8V2BSC | 8.07 | 8.41 | | | | | |
| 9V1BS | 8.33 | 9.29 | 5 | 20 | 5 | 0.5 | 6 |
| 9V1BSA | 8.33 | 8.7 | | | | | |
| 9V1BSB | 8.61 | 8.99 | | | | | |
| 9V1BSC | 8.89 | 9.29 | | | | | |
| 10BS | 9.19 | 10.3 | 5 | 20 | 5 | 0.2 | 7 |
| 10BSA | 9.19 | 9.59 | | | | | |
| 10BSB | 9.48 | 9.9 | | | | | |
| 10BSC | 9.82 | 10.3 | | | | | |

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

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



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Dated : 25/06/2007

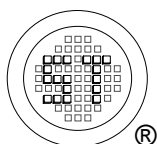
BS Series

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

| Type | Zener Voltage ¹⁾ | | | Maximum Dynamic Resistance | | Reverse Leakage Current ²⁾ (I_R at V_R) | |
|-------|-----------------------------|----------|---------------|----------------------------|---------------|--|-----------|
| | Min. (V) | Max. (V) | I_{ZT} (mA) | (Ω) at I_{ZT} | I_{ZT} (mA) | I_R (μA) Max. | V_R (V) |
| 11BS | 10.18 | 11.26 | 5 | 20 | 5 | 0.2 | 8 |
| 11BSA | 10.18 | 10.63 | | | | | |
| 11BSB | 10.5 | 10.95 | | | | | |
| 11BSC | 10.82 | 11.26 | | | | | |
| 12BS | 11.13 | 12.3 | 5 | 25 | 5 | 0.2 | 9 |
| 12BSA | 11.13 | 11.63 | | | | | |
| 12BSB | 11.5 | 11.92 | | | | | |
| 12BSC | 11.8 | 12.3 | | | | | |
| 13BS | 12.18 | 13.62 | 5 | 25 | 5 | 0.2 | 10 |
| 13BSA | 12.18 | 12.71 | | | | | |
| 13BSB | 12.59 | 13.16 | | | | | |
| 13BSC | 13.03 | 13.62 | | | | | |
| 15BS | 13.48 | 15.02 | 5 | 25 | 5 | 0.2 | 11 |
| 15BSA | 13.48 | 14.09 | | | | | |
| 15BSB | 13.95 | 14.56 | | | | | |
| 15BSC | 14.42 | 15.02 | | | | | |
| 16BS | 14.87 | 16.5 | 5 | 25 | 5 | 0.2 | 12 |
| 16BSA | 14.87 | 15.5 | | | | | |
| 16BSB | 15.33 | 15.96 | | | | | |
| 16BSC | 15.79 | 16.5 | | | | | |
| 18BS | 16.34 | 18.3 | 5 | 30 | 5 | 0.2 | 13 |
| 18BSA | 16.34 | 17.06 | | | | | |
| 18BSB | 16.9 | 17.67 | | | | | |
| 18BSC | 17.51 | 18.3 | | | | | |
| 20BS | 18.14 | 20.45 | 5 | 30 | 5 | 0.2 | 15 |
| 20BSA | 18.14 | 18.96 | | | | | |
| 20BSB | 18.8 | 19.68 | | | | | |
| 20BSC | 19.52 | 20.45 | | | | | |
| 22BS | 20.23 | 22.61 | 5 | 30 | 5 | 0.2 | 17 |
| 22BSA | 20.23 | 21.08 | | | | | |
| 22BSB | 20.76 | 21.65 | | | | | |
| 22BSC | 21.22 | 22.09 | | | | | |
| 22BSD | 21.68 | 22.61 | | | | | |
| 24BS | 22.26 | 24.81 | 5 | 35 | 5 | 0.2 | 19 |
| 24BSA | 22.26 | 23.12 | | | | | |
| 24BSB | 22.75 | 23.73 | | | | | |
| 24BSC | 23.29 | 24.27 | | | | | |
| 24BSD | 23.81 | 24.81 | | | | | |

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

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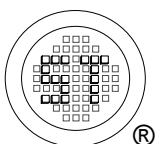
BS Series

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

| Type | Zener Voltage ¹⁾ | | | Maximum Dynamic Resistance | | Reverse Leakage Current ²⁾ (I_R at V_R) | |
|-------|-----------------------------|----------|---------------|----------------------------|---------------|--|-----------|
| | Min. (V) | Max. (V) | I_{ZT} (mA) | (Ω) at I_{ZT} | I_{ZT} (mA) | I_R (μA) Max. | V_R (V) |
| 27BS | 24.26 | 27.64 | 5 | 45 | 5 | 0.2 | 21 |
| 27BSA | 24.26 | 25.52 | | | | | |
| 27BSB | 24.97 | 26.26 | | | | | |
| 27BSC | 25.63 | 26.95 | | | | | |
| 27BSD | 26.29 | 27.64 | | | | | |
| 30BS | 26.99 | 30.51 | 5 | 55 | 5 | 0.2 | 23 |
| 30BSA | 26.99 | 28.39 | | | | | |
| 30BSB | 27.7 | 29.13 | | | | | |
| 30BSC | 28.36 | 29.82 | | | | | |
| 30BSD | 29.02 | 30.51 | | | | | |
| 33BS | 29.68 | 33.11 | 5 | 65 | 5 | 0.2 | 25 |
| 33BSA | 29.68 | 31.22 | | | | | |
| 33BSB | 30.32 | 31.88 | | | | | |
| 33BSC | 30.9 | 32.5 | | | | | |
| 33BSD | 31.49 | 33.11 | | | | | |
| 36BS | 32.14 | 35.77 | 5 | 75 | 5 | 0.2 | 27 |
| 36BSA | 32.14 | 33.79 | | | | | |
| 36BSB | 32.79 | 34.49 | | | | | |
| 36BSC | 33.4 | 35.13 | | | | | |
| 36BSD | 34.01 | 35.77 | | | | | |
| 39BS | 34.68 | 38.52 | 5 | 85 | 5 | 0.2 | 30 |
| 39BSA | 34.68 | 36.47 | | | | | |
| 39BSB | 35.36 | 37.19 | | | | | |
| 39BSC | 36 | 37.85 | | | | | |
| 39BSD | 36.63 | 38.52 | | | | | |

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

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



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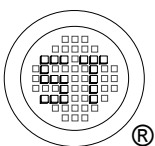
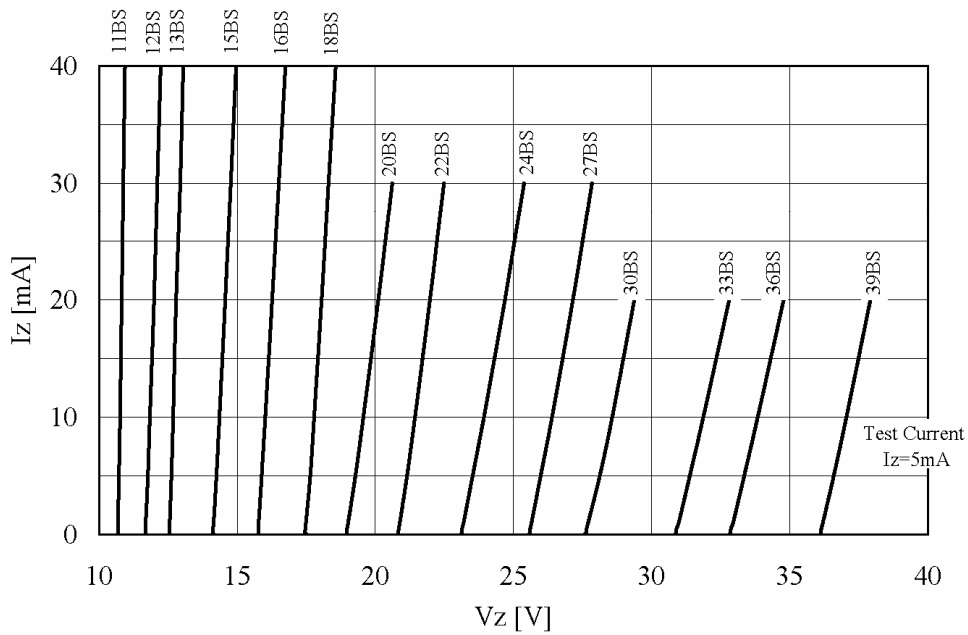
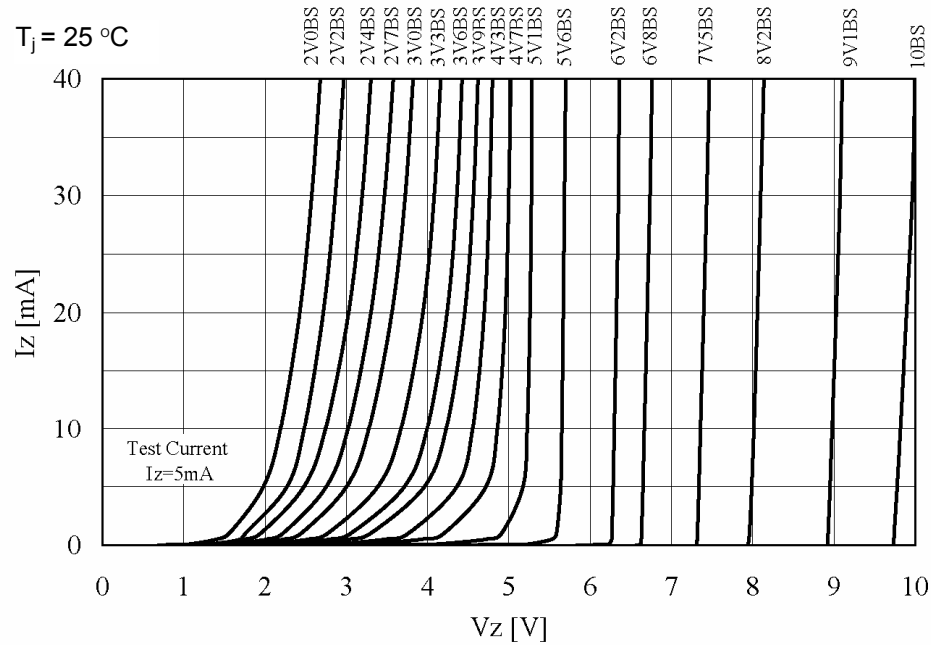
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