

# BZX384C Series

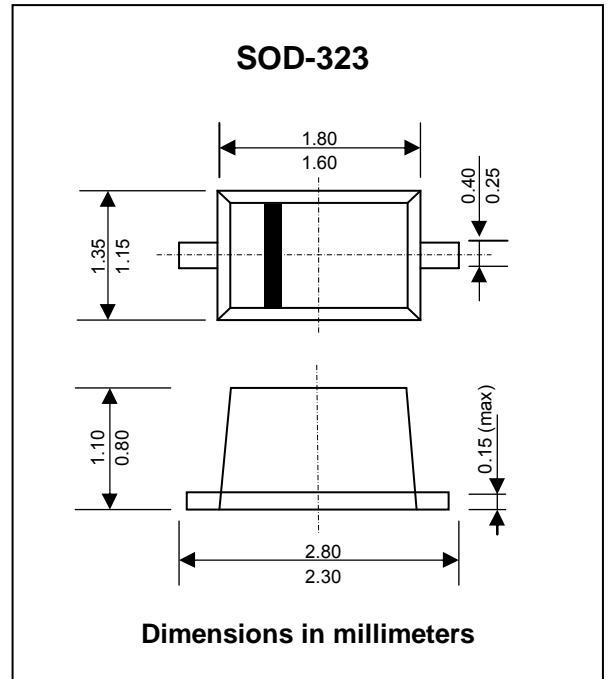
## ZENER DIODES

### FEATURES :

- \* Silicon Planar Power Zener Diodes
- \* The Zener voltages are graded according to the international E 24 standard.
- \* Standard Zener voltage tolerance is  $\pm 5\%$ .  
Replace "C" with "B" for  $\pm 2\%$  tolerance.
- \* Pb / RoHS Free

### MECHANICAL DATA

- \* Case : SOD-323 Plastic Package
- \* Weight : 0.004 gram



### Maximum Ratings and Thermal Characteristics (Ta 25 °C unless otherwise noted)

| Parameter   | Symbol    | Value              | Unit                 |
|---|-----------|--------------------|----------------------|
| Zener Current   | $I_{ZM}$  | 250                | mA                   |
| Power Dissipation at $T_{amp} = 25\text{ }^{\circ}\text{C}$ | $P_{tot}$ | 200 <sup>(1)</sup> | Mw                   |
| Thermal Resistance<br>Junction to Ambient Air               | $R_{eJA}$ | 650 <sup>(2)</sup> | $^{\circ}\text{C/W}$ |
| Junction Temperature  | $T_J$     | 150                | $^{\circ}\text{C}$   |
| Storage Temperature Range                                   | $T_S$     | -65 to + 150       | $^{\circ}\text{C}$   |

#### Notes:

- (1) Device on fiberglass substrate
- (2) Valid provided that electrodes are ambient temperature

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| Type       | Marking | Zener Voltage                    |      | Dynamic Resistance | Temp.Coefficient of Zener voltage at $I_{ZT1}$ |                       | Test Current          | Dynamic Resistance at $I_{ZT2}$ | Test Current | Reverse Leakage Current at |            |
|------------|---------|----------------------------------|------|--------------------|--|-----------------------|-----------------------|---------------------------------|--------------|----------------------------|------------|
|            |         | rang <sup>(1)</sup> at $I_{ZT1}$ |      |                    | $\alpha_{VZ}$ ( $10^{-4}/K$ )                  |                       |                       |                                 |              | $I_{R}$ ( $\mu A$ )        | $V_R$ (V)  |
|            |         | $V_Z$ (V)                        |      | at $I_{ZT1}$       |  | $r_{zj}$ ( $\Omega$ ) | $r_{zj}$ ( $\Omega$ ) | $I_{ZT2}$ (mA)                  |              |                            |            |
| BZX384C2V4 | W1      | 2.20                             | 2.60 | 70 ( $\leq 100$ )  | -9.0   | -4.0                  | 5                     | 275                             | 1.0          | 50.0                       | 1.0        |
| BZX384C2V7 | W2      | 2.50                             | 2.90 | 75 ( $\leq 100$ )  | -9.0   | -4.0                  | 5                     | 300 ( $\leq 600$ )              | 1.0          | 20.0                       | 1.0        |
| BZX384C3V0 | W3      | 2.80                             | 3.20 | 80 ( $\leq 95$ )   | -9.0   | -3.0                  | 5                     | 325 ( $\leq 600$ )              | 1.0          | 10.0                       | 1.0        |
| BZX384C3V3 | W4      | 3.10                             | 3.50 | 85 ( $\leq 95$ )   | -8.0   | -3.0                  | 5                     | 350 ( $\leq 600$ )              | 1.0          | 5.00                       | 1.0        |
| BZX384C3V6 | W5      | 3.40                             | 3.80 | 85 ( $\leq 90$ )   | -8.0   | -3.0                  | 5                     | 375 ( $\leq 600$ )              | 1.0          | 5.00                       | 1.0        |
| BZX384C3V9 | W6      | 3.70                             | 4.10 | 85 ( $\leq 90$ )   | -7.0   | -3.0                  | 5                     | 400 ( $\leq 600$ )              | 1.0          | 3.00                       | 1.0        |
| BZX384C4V3 | W7      | 4.00                             | 4.60 | 80 ( $\leq 90$ )   | -6.0   | -1.0                  | 5                     | 410 ( $\leq 600$ )              | 1.0          | 3.00                       | 1.0        |
| BZX384C4V7 | W8      | 4.40                             | 5.00 | 50 ( $\leq 80$ )   | -5.0   | 2.0                   | 5                     | 425 ( $\leq 500$ )              | 1.0          | 3.00                       | 2.0        |
| BZX384C5V1 | W9      | 4.80                             | 5.40 | 40 ( $\leq 60$ )   | -3.0   | 4.0                   | 5                     | 400 ( $\leq 480$ )              | 1.0          | 2.00                       | 2.0        |
| BZX384C5V6 | WA      | 5.20                             | 6.00 | 15 ( $\leq 40$ )   | -2.0   | 6.0                   | 5                     | 80 ( $\leq 400$ )               | 1.0          | 1.00                       | 2.0        |
| BZX384C6V2 | WB      | 5.80                             | 6.60 | 6.0 ( $\leq 10$ )  | -1.0   | 7.0                   | 5                     | 40 ( $\leq 150$ )               | 1.0          | 3.00                       | 4.0        |
| BZX384C6V8 | WC      | 6.40                             | 7.20 | 6.0 ( $\leq 15$ )  | 2.0  | 7.0                   | 5                     | 30 ( $\leq 80$ )                | 1.0          | 2.00                       | 4.0        |
| BZX384C7V5 | WD      | 7.00                             | 7.90 | 6.0 ( $\leq 15$ )  | 3.0  | 7.0                   | 5                     | 30 ( $\leq 80$ )                | 1.0          | 1.00                       | 5.0        |
| BZX384C8V2 | WE      | 7.70                             | 8.70 | 6.0 ( $\leq 15$ )  | 4.0  | 7.0                   | 5                     | 40 ( $\leq 80$ )                | 1.0          | 0.70                       | 5.0        |
| BZX384C9V1 | WF      | 8.50                             | 9.60 | 6.0 ( $\leq 15$ )  | 5.0  | 8.0                   | 5                     | 40 ( $\leq 100$ )               | 1.0          | 0.50                       | 6.0        |
| BZX384C10  | WG      | 9.40                             | 10.6 | 8.0 ( $\leq 20$ )  | 5.0  | 8.0                   | 5                     | 50 ( $\leq 150$ )               | 1.0          | 0.20                       | 7.0        |
| BZX384C11  | WH      | 10.4                             | 11.6 | 10 ( $\leq 20$ )   | 5.0  | 9.0                   | 5                     | 50 ( $\leq 150$ )               | 1.0          | 0.10                       | 8.0        |
| BZX384C12  | WI      | 11.4                             | 12.7 | 10 ( $\leq 25$ )   | 6.0  | 9.0                   | 5                     | 50 ( $\leq 150$ )               | 1.0          | 0.10                       | 8.0        |
| BZX384C13  | WK      | 12.4                             | 14.1 | 10 ( $\leq 30$ )   | 7.0  | 9.0                   | 5                     | 50 ( $\leq 170$ )               | 1.0          | 0.10                       | 8.0        |
| BZX384C15  | WL      | 13.8                             | 15.6 | 10 ( $\leq 30$ )   | 7.0  | 9.0                   | 5                     | 50 ( $\leq 200$ )               | 1.0          | 0.05                       | 0.7 Vznom. |
| BZX384C16  | WM      | 15.3                             | 17.1 | 10 ( $\leq 40$ )   | 8.0  | 9.5                   | 5                     | 50 ( $\leq 200$ )               | 1.0          | 0.05                       | 0.7 Vznom. |
| BZX384C18  | WN      | 16.8                             | 19.1 | 10 ( $\leq 45$ )   | 8.0  | 9.5                   | 5                     | 50 ( $\leq 225$ )               | 1.0          | 0.05                       | 0.7 Vznom. |
| BZX384C20  | WO      | 18.8                             | 21.2 | 15 ( $\leq 55$ )   | 8.0  | 10.0                  | 5                     | 60 ( $\leq 225$ )               | 1.0          | 0.05                       | 0.7 Vznom. |
| BZX384C22  | WP      | 20.8                             | 23.3 | 20 ( $\leq 55$ )   | 8.0  | 10.0                  | 5                     | 60 ( $\leq 250$ )               | 1.0          | 0.05                       | 0.7 Vznom. |
| BZX384C24  | WR      | 22.8                             | 25.6 | 25 ( $\leq 70$ )   | 8.0  | 10.0                  | 5                     | 60 ( $\leq 250$ )               | 1.0          | 0.05                       | 0.7 Vznom. |
| BZX384C27  | WS      | 25.1                             | 28.9 | 25 ( $\leq 80$ )   | 8.0  | 10.0                  | 2                     | 65 ( $\leq 300$ )               | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C30  | WT      | 28.0                             | 32.0 | 30 ( $\leq 80$ )   | 8.0  | 10.0                  | 2                     | 70 ( $\leq 300$ )               | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C33  | WU      | 31.0                             | 35.0 | 35 ( $\leq 80$ )   | 8.0  | 10.0                  | 2                     | 75 ( $\leq 325$ )               | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C36  | WW      | 34.0                             | 38.0 | 35 ( $\leq 90$ )   | 8.0  | 10.0                  | 2                     | 80 ( $\leq 350$ )               | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C39  | WX      | 37.0                             | 41.0 | 40 ( $\leq 130$ )  | 10.0   | 12.0                  | 2                     | 80 ( $\leq 350$ )               | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C43  | WY      | 40.0                             | 46.0 | 45 ( $\leq 150$ )  | 10.0   | 12.0                  | 2                     | 85 ( $\leq 375$ )               | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C47  | WZ      | 44.0                             | 50.0 | 50 ( $\leq 170$ )  | 10.0   | 12.0                  | 2                     | 85 ( $\leq 375$ )               | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C51  | X1      | 48.0                             | 54.0 | 60 ( $\leq 180$ )  | 10.0   | 12.0                  | 2                     | 85 ( $\leq 400$ )               | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C56  | X2      | 52.0                             | 60.0 | 70 ( $\leq 200$ )  | 9.0  | 11.0                  | 2                     | 100 ( $\leq 425$ )              | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C62  | X3      | 58.0                             | 66.0 | 80 ( $\leq 215$ )  | 9.0  | 12.0                  | 2                     | 100 ( $\leq 450$ )              | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C68  | X4      | 64.0                             | 72.0 | 90 ( $\leq 240$ )  | 10.0   | 12.0                  | 2                     | 150 ( $\leq 475$ )              | 0.5          | 0.05                       | 0.7 Vznom. |
| BZX384C75  | X5      | 70.0                             | 79.0 | 95 ( $\leq 255$ )  | 10.0   | 12.0                  | 2                     | 170 ( $\leq 500$ )              | 0.5          | 0.05                       | 0.7 Vznom. |

Notes :

(1) Measured with pulses  $p_p = 5$  ms