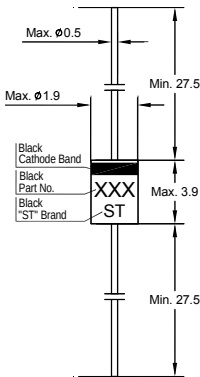


# BZX79C

## SILICON PLANAR ZENER DIODES



Glass Case DO-35  
Dimensions in mm

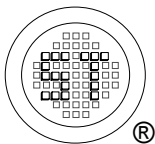
### Absolute Maximum Ratings ( $T_a = 25\text{ }^{\circ}\text{C}$ )

| Parameter                                  | Symbol          | Value             | Unit                         |
|--------------------------------------------|-----------------|-------------------|------------------------------|
| Continuous Forward Current                 | $I_F$           | 250               | mA                           |
| Power Dissipation                          | $P_{tot}$       | 500 <sup>1)</sup> | mW                           |
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$ | 0.3 <sup>1)</sup> | $^{\circ}\text{C}/\text{mW}$ |
| Junction Temperature                       | $T_j$           | - 65 to + 200     | $^{\circ}\text{C}$           |
| Storage Temperature Range                  | $T_S$           | - 65 to + 200     | $^{\circ}\text{C}$           |

<sup>1)</sup> 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 |
|---------------------------------------------|--------|------|------|
| Forward Voltage<br>at $I_F = 100\text{ mA}$ | $V_F$  | 1.5  | V    |



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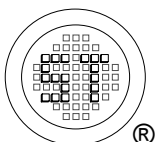
## Characteristics at $T_a = 25\text{ }^{\circ}\text{C}$

| Type      | Zener Voltage <sup>1), 3)</sup> |      |               | Maximum Zener Impedance <sup>2)</sup> | Maximum Leakage Current |              |
|-----------|---------------------------------|------|---------------|---------------------------------------|-------------------------|--------------|
|           | Min.                            | Max. | $I_{ZT}$ (mA) |                                       | $I_R$ ( $\mu\text{A}$ ) | at $V_R$ (V) |
| BZX79C2V4 | 2.2                             | 2.6  | 5             | 100                                   | 100                     | 1            |
| BZX79C2V7 | 2.5                             | 2.9  | 5             | 100                                   | 75                      | 1            |
| BZX79C3V0 | 2.8                             | 3.2  | 5             | 95                                    | 50                      | 1            |
| BZX79C3V3 | 3.1                             | 3.5  | 5             | 95                                    | 25                      | 1            |
| BZX79C3V6 | 3.4                             | 3.8  | 5             | 90                                    | 15                      | 1            |
| BZX79C3V9 | 3.7                             | 4.1  | 5             | 90                                    | 10                      | 1            |
| BZX79C4V3 | 4                               | 4.6  | 5             | 90                                    | 5                       | 1            |
| BZX79C4V7 | 4.4                             | 5    | 5             | 80                                    | 3                       | 2            |
| BZX79C5V1 | 4.8                             | 5.4  | 5             | 60                                    | 2                       | 2            |
| BZX79C5V6 | 5.2                             | 6    | 5             | 40                                    | 1                       | 2            |
| BZX79C6V2 | 5.8                             | 6.6  | 5             | 10                                    | 3                       | 4            |
| BZX79C6V8 | 6.4                             | 7.2  | 5             | 15                                    | 2                       | 4            |
| BZX79C7V5 | 7                               | 7.9  | 5             | 15                                    | 1                       | 5            |
| BZX79C8V2 | 7.7                             | 8.7  | 5             | 15                                    | 0.7                     | 5            |
| BZX79C9V1 | 8.5                             | 9.6  | 5             | 15                                    | 0.5                     | 6            |
| BZX79C10  | 9.4                             | 10.6 | 5             | 20                                    | 0.2                     | 7            |
| BZX79C11  | 10.4                            | 11.6 | 5             | 20                                    | 0.1                     | 8            |
| BZX79C12  | 11.4                            | 12.7 | 5             | 25                                    | 0.1                     | 8            |
| BZX79C13  | 12.4                            | 14.1 | 5             | 30                                    | 0.1                     | 8            |
| BZX79C15  | 13.8                            | 15.6 | 5             | 30                                    | 0.05                    | 10.5         |
| BZX79C16  | 15.3                            | 17.1 | 5             | 40                                    | 0.05                    | 11.2         |
| BZX79C18  | 16.8                            | 19.1 | 5             | 45                                    | 0.05                    | 12.6         |
| BZX79C20  | 18.8                            | 21.2 | 5             | 55                                    | 0.05                    | 14           |
| BZX79C22  | 20.8                            | 23.3 | 5             | 55                                    | 0.05                    | 15.4         |
| BZX79C24  | 22.8                            | 25.6 | 5             | 70                                    | 0.05                    | 16.8         |
| BZX79C27  | 25.1                            | 28.9 | 2             | 80                                    | 0.05                    | 18.9         |
| BZX79C30  | 28                              | 32   | 2             | 80                                    | 0.05                    | 21           |
| BZX79C33  | 31                              | 35   | 2             | 80                                    | 0.05                    | 23.1         |
| BZX79C36  | 34                              | 38   | 2             | 90                                    | 0.05                    | 25.2         |
| BZX79C39  | 37                              | 41   | 2             | 130                                   | 0.05                    | 27.3         |
| BZX79C43  | 40                              | 46   | 2             | 150                                   | 0.05                    | 30.1         |
| BZX79C47  | 44                              | 50   | 2             | 170                                   | 0.05                    | 32.9         |
| BZX79C51  | 48                              | 54   | 2             | 180                                   | 0.05                    | 35.7         |
| BZX79C56  | 52                              | 60   | 2             | 200                                   | 0.05                    | 39.2         |
| BZX79C62  | 58                              | 66   | 2             | 215                                   | 0.05                    | 43.4         |
| BZX79C68  | 64                              | 72   | 2             | 240                                   | 0.05                    | 47.6         |
| BZX79C75  | 70                              | 79   | 2             | 255                                   | 0.05                    | 52.5         |
| BZX79C82  | 77                              | 87   | 2             | 280                                   | 0.1                     | 62           |
| BZX79C91  | 85                              | 96   | 2             | 300                                   | 0.1                     | 69           |
| BZX79C100 | 94                              | 106  | 1             | 500                                   | 0.1                     | 76           |
| BZX79C110 | 104                             | 116  | 1             | 650                                   | 0.1                     | 84           |
| BZX79C120 | 114                             | 127  | 1             | 800                                   | 0.1                     | 91           |
| BZX79C130 | 124                             | 141  | 1             | 950                                   | 0.1                     | 99           |
| BZX79C150 | 138                             | 156  | 1             | 1250                                  | 0.1                     | 114          |
| BZX79C160 | 153                             | 171  | 1             | 1400                                  | 0.1                     | 122          |
| BZX79C180 | 168                             | 191  | 1             | 1700                                  | 0.1                     | 137          |
| BZX79C200 | 188                             | 212  | 1             | 2000                                  | 0.1                     | 152          |

<sup>1)</sup> Zener voltage is measured under pulse conditions such that  $T_J$  is no more than  $2\text{ }^{\circ}\text{C}$  above  $T_a$

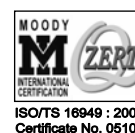
<sup>2)</sup>  $Z_{ZT}$  is measured by dividing the ac voltage drop across the device by the ac current applied. The specified limits are for  $I_Z$  (ac) =  $0.1I_Z$  (dc) with the ac frequency = 1 KHz

<sup>3)</sup> Tested with pulses  $t_p = 20\text{ ms}$ .



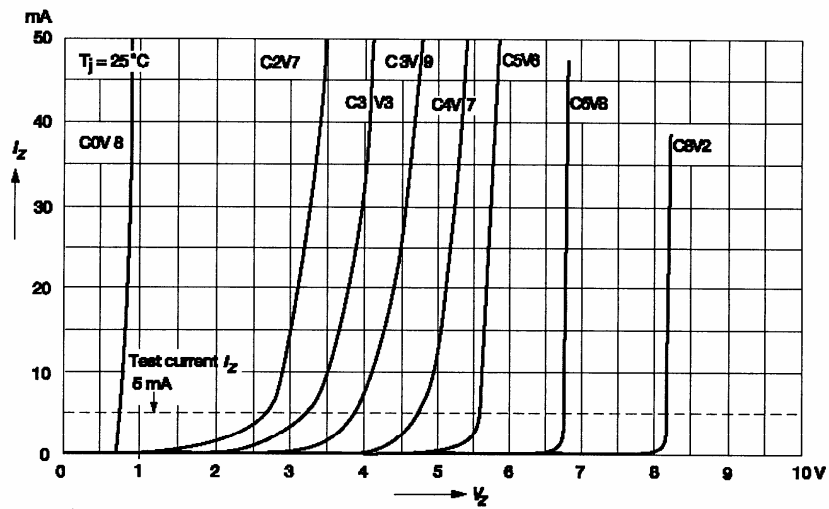
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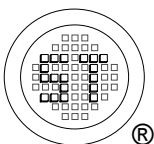
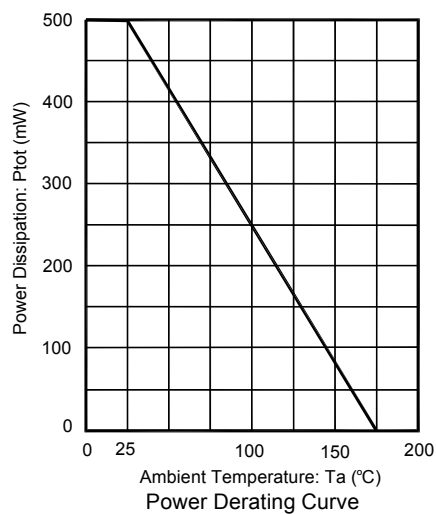
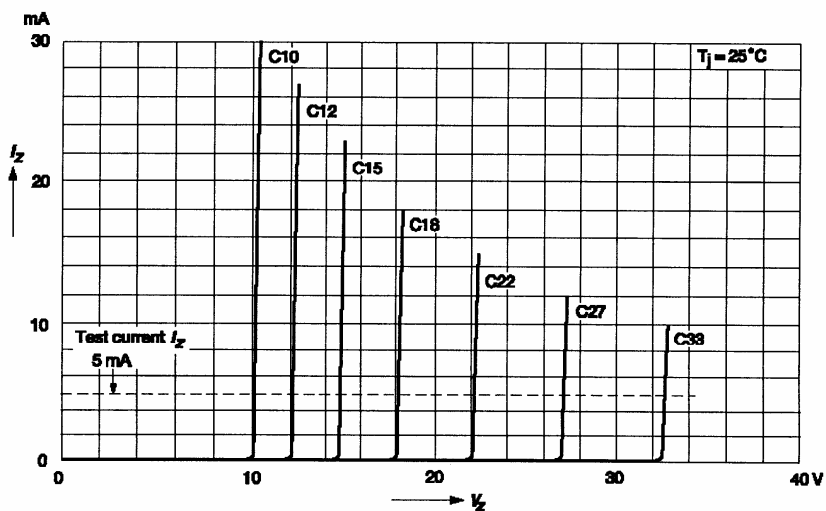


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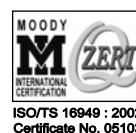
**Breakdown characteristics**  
at  $T_j = \text{constant}$  (pulsed)



**Breakdown characteristics**  
at  $T_j = \text{constant}$  (pulsed)



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ISO/TS 16949 : 2002  
Certificate No. 05103

ISO 14001:2004  
Certificate No. 7116

ISO 9001:2000  
Certificate No. 0506098

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