



## Zeners

### BZX85C 3V3 - BZX85C 33

#### Absolute Maximum Ratings\*

T<sub>A</sub> = 25°C unless otherwise noted

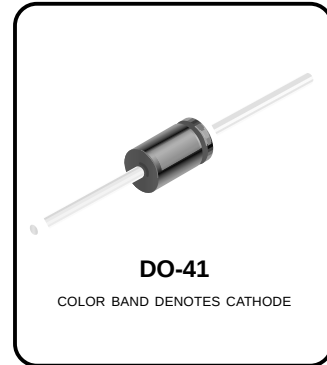
| Symbol           | Parameter                                         | Value       | Units |
|------------------|---------------------------------------------------|-------------|-------|
| P <sub>D</sub>   | Power Dissipation                                 | 1.3         | W     |
| T <sub>STG</sub> | Storage Temperature Range                         | -65 to +200 | °C    |
| T <sub>J</sub>   | Operating Junction Temperature                    | + 200       | °C    |
|                  | Lead Temperature (1/16" from case for 10 seconds) | + 230       | °C    |

\*These ratings are limiting values above which the serviceability of the diode may be impaired.

#### NOTES:

- 1) These ratings are based on a maximum junction temperature of 200 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Tolerance: C = 5%



#### Electrical Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

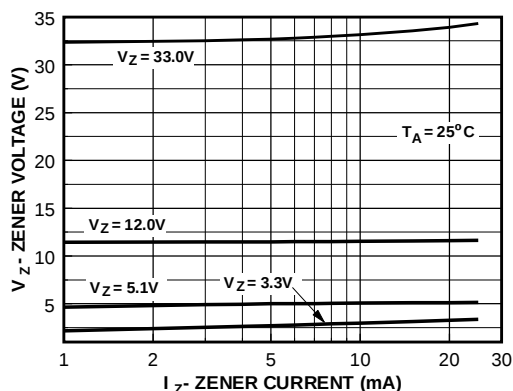
| Device     | V <sub>Z</sub> (V) | Z <sub>Z</sub> (Ω) @ I <sub>Z</sub> (mA) | Z <sub>ZK</sub> (Ω) @ I <sub>ZK</sub> (mA) | I <sub>R</sub> (μA) @ V <sub>R</sub> (V) | I <sub>SURGE</sub> (mA) | I <sub>ZRM</sub> (mA) |
|------------|--------------------|------------------------------------------|--------------------------------------------|------------------------------------------|-------------------------|-----------------------|
| BZX85C 3V3 | 3.3                | 20 80                                    | 400 1.0                                    | 60 1.0                                   | 1,380                   | 276                   |
| BZX85C 3V6 | 3.6                | 15 60                                    | 500 1.0                                    | 30 1.0                                   | 1,260                   | 252                   |
| BZX85C 3V9 | 3.9                | 15 60                                    | 500 1.0                                    | 5.0 1.0                                  | 1,190                   | 234                   |
| BZX85C 4V3 | 4.3                | 13 50                                    | 500 1.0                                    | 3.0 1.0                                  | 1,070                   | 217                   |
| BZX85C 4V7 | 4.7                | 13 45                                    | 600 1.0                                    | 3.0 1.5                                  | 970                     | 193                   |
| BZX85C 5V1 | 5.1                | 10 45                                    | 500 1.0                                    | 1.0 2.0                                  | 890                     | 178                   |
| BZX85C 5V6 | 5.6                | 7.0 45                                   | 400 1.0                                    | 1.0 2.0                                  | 810                     | 162                   |
| BZX85C 6V2 | 6.2                | 4.0 35                                   | 300 1.0                                    | 1.0 3.0                                  | 730                     | 146                   |
| BZX85C 6V8 | 6.8                | 3.5 35                                   | 300 1.0                                    | 1.0 4.0                                  | 660                     | 133                   |
| BZX85C 7V5 | 7.5                | 3.0 35                                   | 200 1.0                                    | 1.0 4.5                                  | 605                     | 121                   |
| BZX85C 8V2 | 8.2                | 5.0 25                                   | 200 0.5                                    | 1.0 5.0                                  | 550                     | 110                   |
| BZX85C 9V1 | 9.1                | 5.0 25                                   | 200 0.5                                    | 1.0 6.5                                  | 500                     | 100                   |
| BZX85C 10  | 10                 | 7.0 25                                   | 200 0.5                                    | 0.5 7.0                                  | 454                     | 91                    |
| BZX85C 11  | 11                 | 8.0 20                                   | 300 0.5                                    | 0.5 7.7                                  | 414                     | 83                    |
| BZX85C 12  | 12                 | 9.0 20                                   | 350 0.5                                    | 0.5 8.4                                  | 380                     | 76                    |
| BZX85C 13  | 13                 | 10 20                                    | 400 0.5                                    | 0.5 9.1                                  | 344                     | 69                    |
| BZX85C 15  | 15                 | 15 15                                    | 500 0.5                                    | 0.5 10.5                                 | 304                     | 61                    |
| BZX85C 16  | 16                 | 15 15                                    | 500 0.5                                    | 0.5 11                                   | 285                     | 57                    |
| BZX85C 18  | 18                 | 20 15                                    | 500 0.5                                    | 0.5 12.5                                 | 250                     | 50                    |
| BZX85C 20  | 20                 | 24 10                                    | 600 0.5                                    | 0.5 14                                   | 225                     | 45                    |
| BZX85C 22  | 22                 | 25 10                                    | 600 0.5                                    | 0.5 15.5                                 | 205                     | 41                    |
| BZX85C 24  | 24                 | 25 10                                    | 600 0.5                                    | 0.5 17                                   | 190                     | 38                    |
| BZX85C 27  | 27                 | 30 8.0                                   | 750 0.25                                   | 0.5 19                                   | 170                     | 34                    |
| BZX85C 30  | 30                 | 30 8.0                                   | 1,000 0.25                                 | 0.5 21                                   | 150                     | 30                    |
| BZX85C 33  | 33                 | 35 8.0                                   | 1,200 0.25                                 | 0.5 23                                   | 135                     | 27                    |

V<sub>F</sub> Forward Voltage = 1.2 V Maximum @ I<sub>F</sub> = 200 mA for all BZX85 series

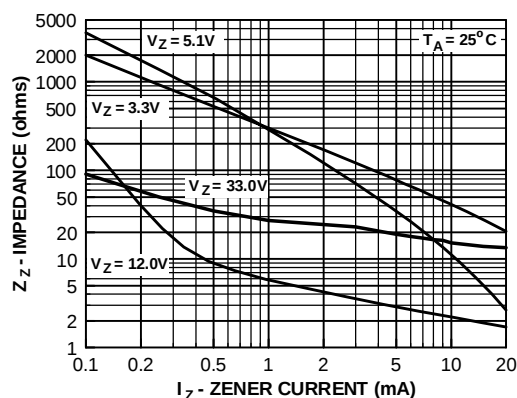
# Zeners (BZX85C 3V3 - BZX85C 33)

(continued)

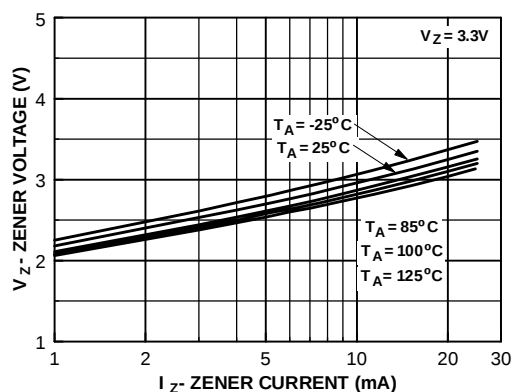
## Typical Characteristics



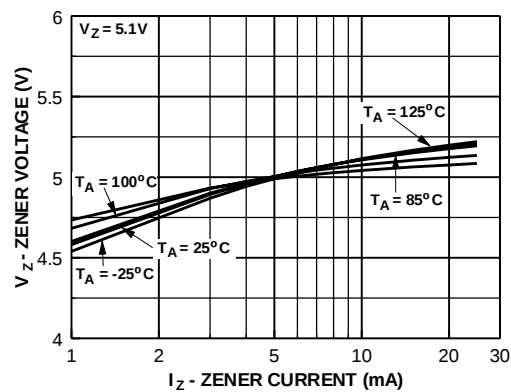
Zener Current vs. Zener Voltage



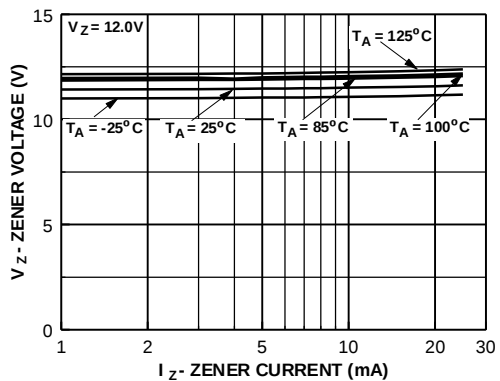
Zener Current vs. Zener Impedance



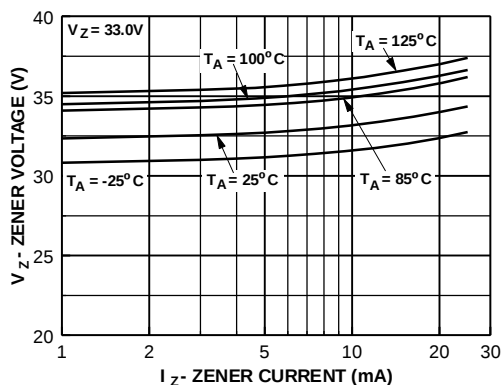
3.3 Zener Voltage vs. Temperature



5.1 Zener Voltage vs. Temperature



12 Zener Voltage vs. Zener Temperature



33 Zener Voltage vs. Zener Temperature

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