



## Zeners BZX55C 3V3 - BZX55C 33

### Absolute Maximum Ratings\*

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

| Symbol           | Parameter                                         | Value       | Units |
|------------------|---------------------------------------------------|-------------|-------|
| P <sub>D</sub>   | Power Dissipation                                 | 500         | mW    |
| T <sub>STG</sub> | Storage Temperature Range                         | -65 to +200 | °C    |
| T <sub>J</sub>   | Maximum Junction Operating Temperature            | + 200       | °C    |
|                  | Lead Temperature (1/16" from case for 10 seconds) | + 230       | °C    |
|                  | Surge Power**                                     | 30          | W     |

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

\*\*Non-recurrent square wave PW= 8.3 ms, TA= 50 degrees C.

#### 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>R1</sub> (μA) @ V <sub>R</sub> (V) |     | I <sub>R2</sub> (μA) @ V <sub>R</sub> (V)<br>T <sub>A</sub> = 150°C |     | T <sub>C</sub><br>(%/°C) | I <sub>ZRM</sub><br>(mA) |
|------------|--------------------|------|------------------------------------------|-----|--------------------------------------------|-----|-------------------------------------------|-----|---------------------------------------------------------------------|-----|--------------------------|--------------------------|
|            | MIN                | MAX  |                                          |     |                                            |     |                                           |     |                                                                     |     |                          |                          |
| BZX55C 3V3 | 3.1                | 3.5  | 85                                       | 5.0 | 600                                        | 1.0 | 2.0                                       | 1.0 | 40                                                                  | 1.0 | - 0.060                  | 115                      |
| BZX55C 3V6 | 3.4                | 3.8  | 85                                       | 5.0 | 600                                        | 1.0 | 2.0                                       | 1.0 | 40                                                                  | 1.0 | - 0.055                  | 105                      |
| BZX55C 3V9 | 3.7                | 4.1  | 85                                       | 5.0 | 600                                        | 1.0 | 2.0                                       | 1.0 | 40                                                                  | 1.0 | - 0.050                  | 95                       |
| BZX55C 4V3 | 4.0                | 4.6  | 75                                       | 5.0 | 600                                        | 1.0 | 1.0                                       | 1.0 | 20                                                                  | 1.0 | - 0.040                  | 90                       |
| BZX55C 4V7 | 4.4                | 5.0  | 60                                       | 5.0 | 600                                        | 1.0 | 0.5                                       | 1.0 | 10                                                                  | 1.0 | - 0.020                  | 85                       |
| BZX55C 5V1 | 4.8                | 5.4  | 35                                       | 5.0 | 550                                        | 1.0 | 0.1                                       | 1.0 | 2.0                                                                 | 1.0 | +0.010                   | 80                       |
| BZX55C 5V6 | 5.2                | 6.0  | 25                                       | 5.0 | 450                                        | 1.0 | 0.1                                       | 1.0 | 2.0                                                                 | 1.0 | +0.025                   | 70                       |
| BZX55C 6V2 | 5.8                | 6.6  | 10                                       | 5.0 | 200                                        | 1.0 | 0.1                                       | 2.0 | 2.0                                                                 | 2.0 | +0.032                   | 64                       |
| BZX55C 6V8 | 6.4                | 7.2  | 8.0                                      | 5.0 | 150                                        | 1.0 | 0.1                                       | 3.0 | 2.0                                                                 | 3.0 | +0.040                   | 58                       |
| BZX55C 7V5 | 7.0                | 7.9  | 7.0                                      | 5.0 | 50                                         | 1.0 | 0.1                                       | 5.0 | 2.0                                                                 | 5.0 | +0.045                   | 53                       |
| BZX55C 8V2 | 7.7                | 8.7  | 7.0                                      | 5.0 | 50                                         | 1.0 | 0.1                                       | 6.2 | 2.0                                                                 | 6.2 | +0.048                   | 47                       |
| BZX55C 9V1 | 8.5                | 9.6  | 10                                       | 5.0 | 50                                         | 1.0 | 0.1                                       | 6.8 | 2.0                                                                 | 6.8 | +0.050                   | 43                       |
| BZX55C 10  | 9.4                | 10.6 | 15                                       | 5.0 | 70                                         | 1.0 | 0.1                                       | 7.5 | 2.0                                                                 | 7.5 | +0.055                   | 40                       |
| BZX55C 11  | 10.4               | 11.6 | 20                                       | 5.0 | 70                                         | 1.0 | 0.1                                       | 8.2 | 2.0                                                                 | 8.2 | +0.060                   | 36                       |
| BZX55C 12  | 11.4               | 12.7 | 20                                       | 5.0 | 90                                         | 1.0 | 0.1                                       | 9.1 | 2.0                                                                 | 9.1 | +0.065                   | 32                       |
| BZX55C 13  | 12.4               | 14.1 | 26                                       | 5.0 | 110                                        | 1.0 | 0.1                                       | 10  | 2.0                                                                 | 10  | 0.070                    | 29                       |
| BZX55C 15  | 13.8               | 15.6 | 30                                       | 5.0 | 110                                        | 1.0 | 0.1                                       | 11  | 2.0                                                                 | 11  | 0.070                    | 27                       |
| BZX55C 16  | 15.3               | 17.1 | 40                                       | 5.0 | 170                                        | 1.0 | 0.1                                       | 12  | 2.0                                                                 | 12  | 0.075                    | 24                       |
| BZX55C 18  | 16.8               | 19.1 | 50                                       | 5.0 | 170                                        | 1.0 | 0.1                                       | 13  | 2.0                                                                 | 13  | 0.075                    | 21                       |
| BZX55C 20  | 18.8               | 21.1 | 55                                       | 5.0 | 220                                        | 1.0 | 0.1                                       | 15  | 2.0                                                                 | 15  | 0.080                    | 20                       |
| BZX55C 22  | 20.8               | 23.3 | 55                                       | 5.0 | 220                                        | 1.0 | 0.1                                       | 16  | 2.0                                                                 | 16  | 0.080                    | 18                       |
| BZX55C 24  | 22.8               | 25.6 | 80                                       | 5.0 | 220                                        | 1.0 | 0.1                                       | 18  | 2.0                                                                 | 18  | 0.080                    | 16                       |
| BZX55C 27  | 25.1               | 28.9 | 80                                       | 5.0 | 220                                        | 1.0 | 0.1                                       | 20  | 2.0                                                                 | 20  | 0.085                    | 14                       |
| BZX55C 30  | 28.0               | 32.0 | 80                                       | 5.0 | 220                                        | 1.0 | 0.1                                       | 22  | 2.0                                                                 | 22  | 0.085                    | 13                       |
| BZX55C 33  | 31.0               | 35.0 | 80                                       | 5.0 | 220                                        | 1.0 | 0.1                                       | 24  | 2.0                                                                 | 24  | 0.085                    | 12                       |

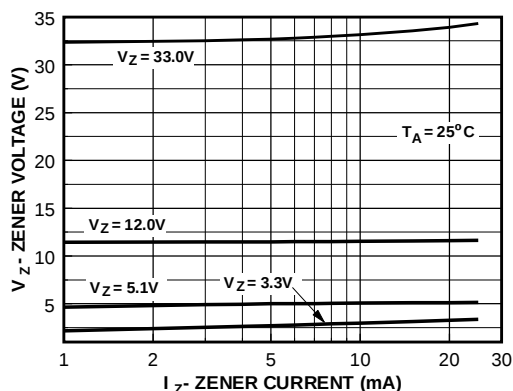
V<sub>F</sub> Forward Voltage = 1.0 V Maximum @ I<sub>F</sub> = 100 mA for all BZX 55 series

Zeners (BZX55C 3V3 - BZX55C 33)

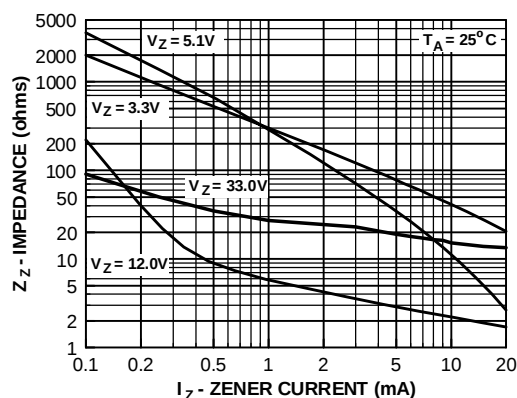
# Zeners (BZX55C 3V3 - BZX55C 33)

(continued)

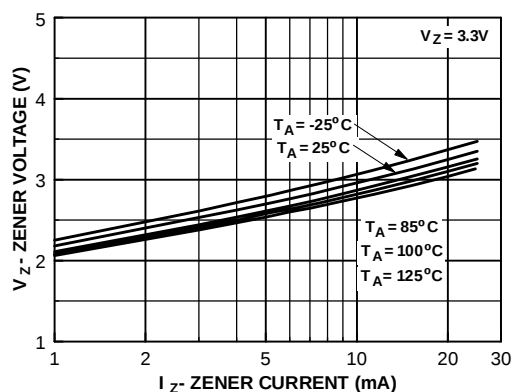
## Typical Characteristics



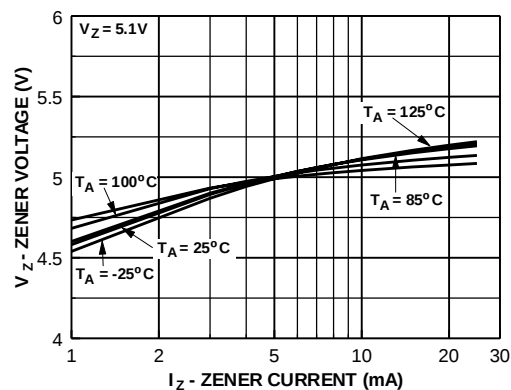
Zener Current vs. Zener Voltage



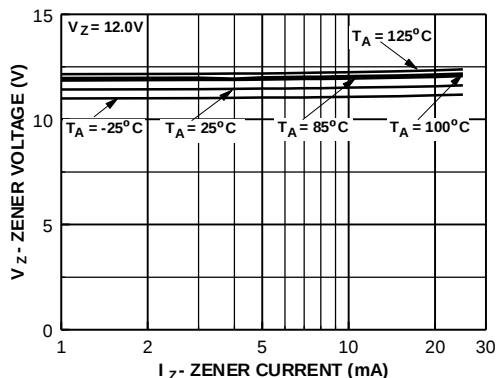
Zener Current vs. Zener Impedance



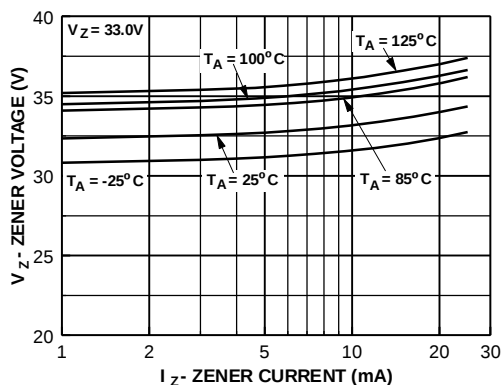
3.3 Zener Voltage vs. Temperature



5.1 Zener Voltage vs. Temperature



12 Zener Voltage vs. Zener Temperature



33 Zener Voltage vs. Zener Temperature

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