

# EVVOSEMI<sup>®</sup>

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

## Product Specification

|              |             |               |
|--------------|-------------|---------------|
| ▶ Domestic   | Part Number | BZV55C Series |
| ▶ Overseas   | Part Number | BZV55C Series |
| ▶ Equivalent | Part Number | BZV55C Series |

EV is the abbreviation of name EVVO

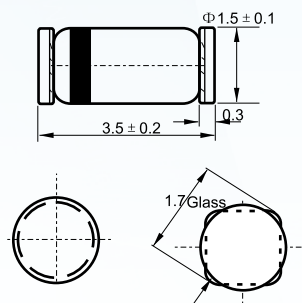
500mW.Hermetically Sealed Glass Zener Voltage Rectifiers



## Features

- ✧ Zener voltage range 2.0 to 75 volts
- ✧ LL-34(Mini-MELF) package
- ✧ Surface device type mounting
- ✧ Hermetically sealed glass
- ✧ Compression Bonded Construction
- ✧ All external surfaces are corrosion resistant and terminals are readily solderable
- ✧ RoHS compliant
- ✧ Matte Tin(Sn) lead finish
- ✧ Blue color band indicates negative polarity

## MINI-MELF



Dimension in millimeters

## Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

| Type Number                             | Symbol                            | Value        | Units |
|-----------------------------------------|-----------------------------------|--------------|-------|
| Power Dissipation                       | P <sub>tot</sub>                  | 500          | mW    |
| Operating and Storage Temperature Range | T <sub>J</sub> , T <sub>STG</sub> | -65 to + 200 | °C    |

Notes: These ratings are limiting values above which the serviceability of the diode may be impaired

## RATINGS AND CHARACTERISTIC CURVES (BZV55C SERIES)

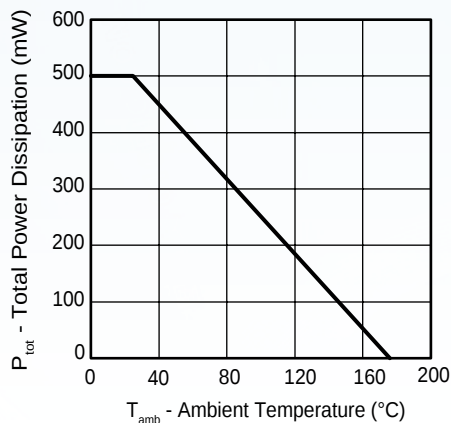


Figure 1. Total Power Dissipation vs. Ambient Temperature

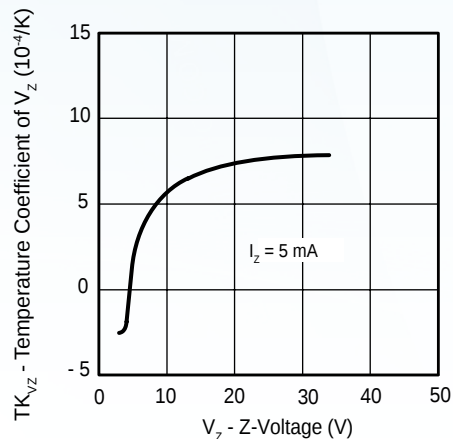


Figure 4. Temperature Coefficient of  $V_z$  vs. Z-Voltage

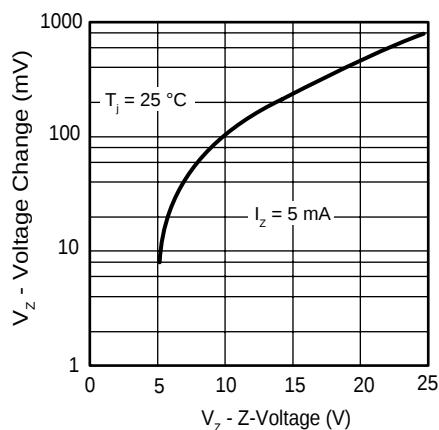


Figure 2. Typical Change of Working Voltage under Operating Conditions at  $T_{amb}=25^{\circ}\text{C}$

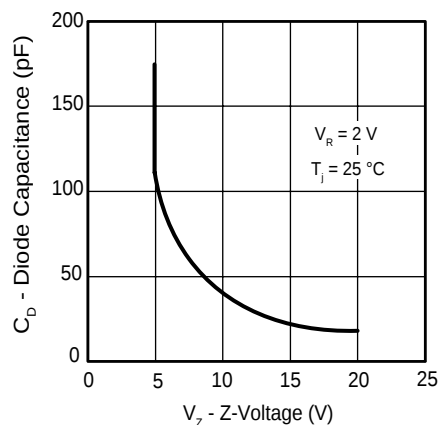


Figure 5. Diode Capacitance vs. Z-Voltage

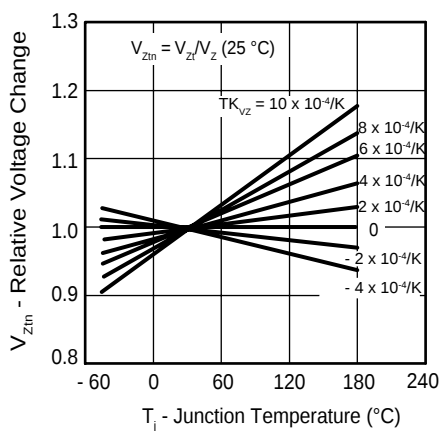


Figure 3. Typical Change of Working Voltage vs. Junction Temperature

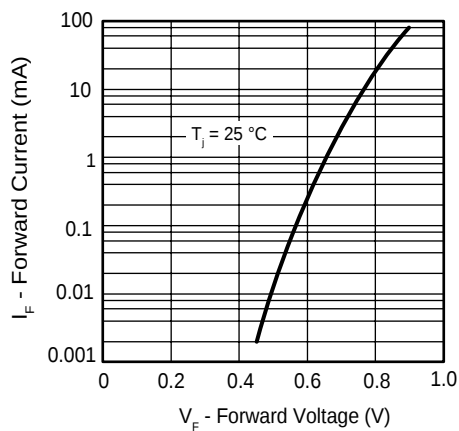


Figure 6. Forward Current vs. Forward Voltage

## RATINGS AND CHARACTERISTIC CURVES (BZV55C SERIES)

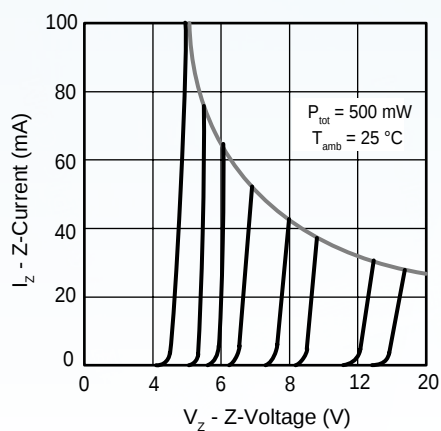


Figure 7. Z-Current vs. Z-Voltage

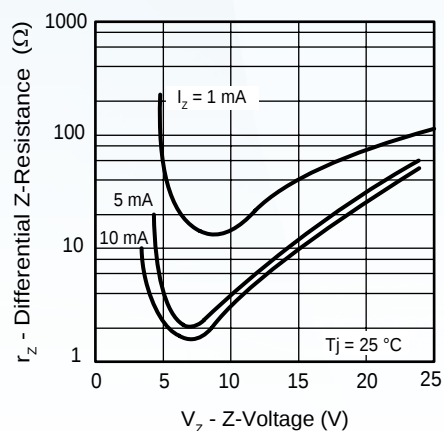


Figure 9. Differential Z-Resistance vs. Z-Voltage

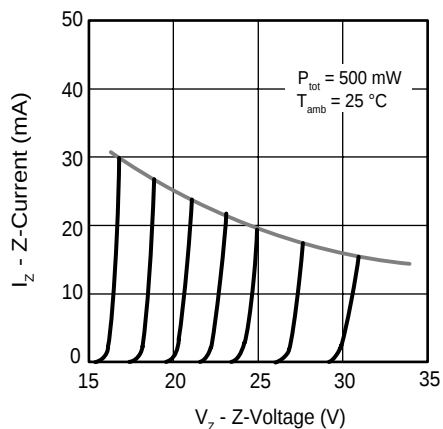


Figure 8. Z-Current vs. Z-Voltage

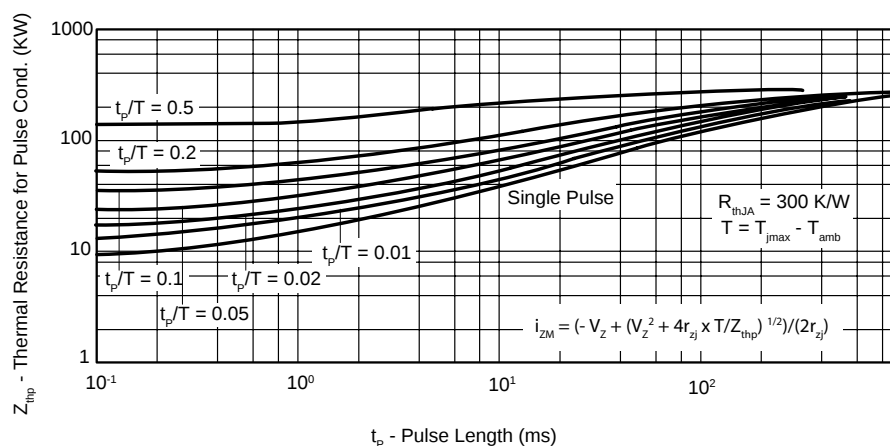


Figure 10. Thermal Response

## ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

| Type Number                                                 | V <sub>Z</sub> @ I <sub>ZT</sub><br>(Volts) |                           | I <sub>ZT</sub><br>mA | Z <sub>ZT</sub> @ I <sub>ZT</sub><br>Ohms<br>Max | I <sub>ZK</sub><br>mA | Z <sub>ZK</sub> @ I <sub>ZK</sub><br>Ohms | I <sub>R</sub> @ V <sub>R</sub><br>uA<br>Max | V <sub>R</sub><br>V |
|-------------------------------------------------------------|---------------------------------------------|---------------------------|-----------------------|--------------------------------------------------|-----------------------|-------------------------------------------|----------------------------------------------|---------------------|
|                                                             | V <sub>Z</sub><br>Min (V)                   | V <sub>Z</sub><br>Max (V) |                       |                                                  |                       |                                           |                                              |                     |
| BZV55C2V0                                                   | 1.88                                        | 2.11                      | 5                     | 100                                              | 1.0                   | 600                                       | 50                                           | 1.0                 |
| BZV55C2V2                                                   | 2.08                                        | 2.33                      | 5                     | 100                                              | 1.0                   | 600                                       | 50                                           | 1.0                 |
| BZV55C2V4                                                   | 2.28                                        | 2.56                      | 5                     | 85                                               | 1.0                   | 600                                       | 50                                           | 1.0                 |
| BZV55C2V7                                                   | 2.51                                        | 2.89                      | 5                     | 85                                               | 1.0                   | 600                                       | 10                                           | 1.0                 |
| BZV55C3V0                                                   | 2.8                                         | 3.2                       | 5                     | 85                                               | 1.0                   | 600                                       | 4                                            | 1.0                 |
| BZV55C3V3                                                   | 3.1                                         | 3.5                       | 5                     | 85                                               | 1.0                   | 600                                       | 2                                            | 1.0                 |
| BZV55C3V6                                                   | 3.4                                         | 3.8                       | 5                     | 85                                               | 1.0                   | 600                                       | 2                                            | 1.0                 |
| BZV55C3V9                                                   | 3.7                                         | 4.1                       | 5                     | 85                                               | 1.0                   | 600                                       | 2                                            | 1.0                 |
| BZV55C4V3                                                   | 4.0                                         | 4.6                       | 5                     | 75                                               | 1.0                   | 600                                       | 1                                            | 1.0                 |
| BZV55C4V7                                                   | 4.4                                         | 5.0                       | 5                     | 60                                               | 1.0                   | 600                                       | 0.5                                          | 1.0                 |
| BZV55C5V1                                                   | 4.8                                         | 5.4                       | 5                     | 35                                               | 1.0                   | 550                                       | 0.1                                          | 1.0                 |
| BZV55C5V6                                                   | 5.2                                         | 6.0                       | 5                     | 25                                               | 1.0                   | 450                                       | 0.1                                          | 1.0                 |
| BZV55C6V2                                                   | 5.8                                         | 6.6                       | 5                     | 10                                               | 1.0                   | 200                                       | 0.1                                          | 2.0                 |
| BZV55C6V8                                                   | 6.4                                         | 7.2                       | 5                     | 8                                                | 1.0                   | 150                                       | 0.1                                          | 3.0                 |
| BZV55C7V5                                                   | 7.0                                         | 7.9                       | 5                     | 7                                                | 1.0                   | 50                                        | 0.1                                          | 5.0                 |
| BZV55C8V2                                                   | 7.7                                         | 8.7                       | 5                     | 7                                                | 1.0                   | 50                                        | 0.1                                          | 6.2                 |
| BZV55C9V1                                                   | 8.5                                         | 9.6                       | 5                     | 10                                               | 1.0                   | 50                                        | 0.1                                          | 6.8                 |
| BZV55C10                                                    | 9.4                                         | 10.6                      | 5                     | 15                                               | 1.0                   | 70                                        | 0.1                                          | 7.5                 |
| BZV55C11                                                    | 10.4                                        | 11.6                      | 5                     | 20                                               | 1.0                   | 70                                        | 0.1                                          | 8.2                 |
| BZV55C12                                                    | 11.4                                        | 12.7                      | 5                     | 20                                               | 1.0                   | 90                                        | 0.1                                          | 9.1                 |
| BZV55C13                                                    | 12.4                                        | 14.1                      | 5                     | 26                                               | 1.0                   | 110                                       | 0.1                                          | 10                  |
| BZV55C15                                                    | 13.8                                        | 15.6                      | 5                     | 30                                               | 1.0                   | 110                                       | 0.1                                          | 11                  |
| BZV55C16                                                    | 15.3                                        | 17.1                      | 5                     | 40                                               | 1.0                   | 170                                       | 0.1                                          | 12                  |
| BZV55C18                                                    | 16.8                                        | 19.1                      | 5                     | 50                                               | 1.0                   | 170                                       | 0.1                                          | 13                  |
| BZV55C20                                                    | 18.8                                        | 21.1                      | 5                     | 55                                               | 1.0                   | 220                                       | 0.1                                          | 15                  |
| BZV55C22                                                    | 20.8                                        | 23.3                      | 5                     | 55                                               | 1.0                   | 220                                       | 0.1                                          | 16                  |
| BZV55C24                                                    | 22.8                                        | 25.6                      | 5                     | 80                                               | 1.0                   | 220                                       | 0.1                                          | 18                  |
| BZV55C27                                                    | 25.1                                        | 28.9                      | 2                     | 80                                               | 1.0                   | 220                                       | 0.1                                          | 20                  |
| BZV55C30                                                    | 28                                          | 32                        | 2                     | 80                                               | 1.0                   | 220                                       | 0.1                                          | 22                  |
| BZV55C33                                                    | 31                                          | 35                        | 2                     | 80                                               | 1.0                   | 220                                       | 0.1                                          | 24                  |
| BZV55C36                                                    | 34                                          | 38                        | 2                     | 80                                               | 1.0                   | 220                                       | 0.1                                          | 27                  |
| BZV55C39                                                    | 37                                          | 41                        | 2                     | 90                                               | 0.5                   | 500                                       | 0.1                                          | 28                  |
| BZV55C43                                                    | 40                                          | 46                        | 2                     | 90                                               | 0.5                   | 600                                       | 0.1                                          | 32                  |
| BZV55C47                                                    | 44                                          | 50                        | 2                     | 110                                              | 0.5                   | 700                                       | 0.1                                          | 35                  |
| BZV55C51                                                    | 48                                          | 54                        | 2                     | 125                                              | 0.5                   | 700                                       | 0.1                                          | 38                  |
| BZV55C56                                                    | 52                                          | 60                        | 2                     | 135                                              | 0.5                   | 1000                                      | 0.1                                          | 42                  |
| BZV55C62                                                    | 58                                          | 66                        | 2.5                   | 150                                              | 0.5                   | 1000                                      | 0.1                                          | 47                  |
| BZV55C68                                                    | 64                                          | 72                        | 2.5                   | 160                                              | 0.5                   | 1000                                      | 0.1                                          | 51                  |
| BZV55C75                                                    | 70                                          | 80                        | 2.5                   | 170                                              | 0.5                   | 1000                                      | 0.1                                          | 56                  |
| VF Forward Voltage = 1.0v Maximum @ IF=100mA for all types. |                                             |                           |                       |                                                  |                       |                                           |                                              |                     |

- Notes:
1. The type numbers listed have zener voltage min/max limits as shown.
  2. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed to I<sub>ZT</sub> or I<sub>ZK</sub>.

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