

# MSKSEMI 美森科

SEMICONDUCTOR



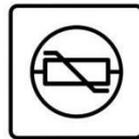
ESD



TVS



TSS



MOV



GDT



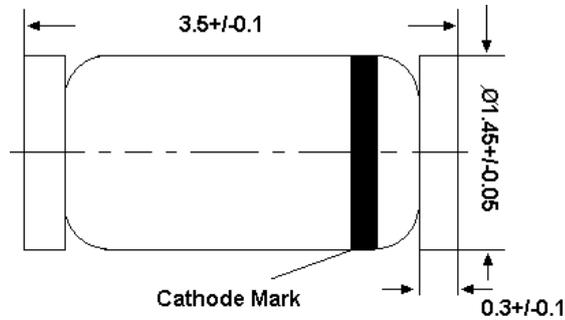
PLED

## BZV55C2V0-MS THRU BZV55C75-MS

### Product specification

## Silicon Epitaxial Planar Zener Diodes

in MiniMELF case especially for automatic insertion. The Zener voltages are graded according to the international E24 standard. Smaller voltage tolerances and higher Zener voltages are upon request.



**Glass case MiniMELF**  
**Dimensions in mm**

## REEL SPECIFICATION

| P/N                           | PKG  | QTY  |
|-------------------------------|------|------|
| BZV55C2V0-MS THRU BZV55C75-MS | LL34 | 2500 |

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

| Parameter                 | Symbol    | Value             | Unit             |
|---------------------------|-----------|-------------------|------------------|
| Power Dissipation         | $P_{tot}$ | 500 <sup>1)</sup> | mW               |
| Junction Temperature      | $T_j$     | 175               | $^\circ\text{C}$ |
| Storage Temperature Range | $T_{stg}$ | - 55 to + 175     | $^\circ\text{C}$ |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature

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

|  |           |                   |      |
|--|-----------|-------------------|------|
| Thermal Resistance Junction to Ambient Air   | $R_{thA}$ | 0.3 <sup>1)</sup> | K/mW |
| Forward Voltage<br>at $I_F = 100 \text{ mA}$ | $V_F$     | 1                 | V    |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature

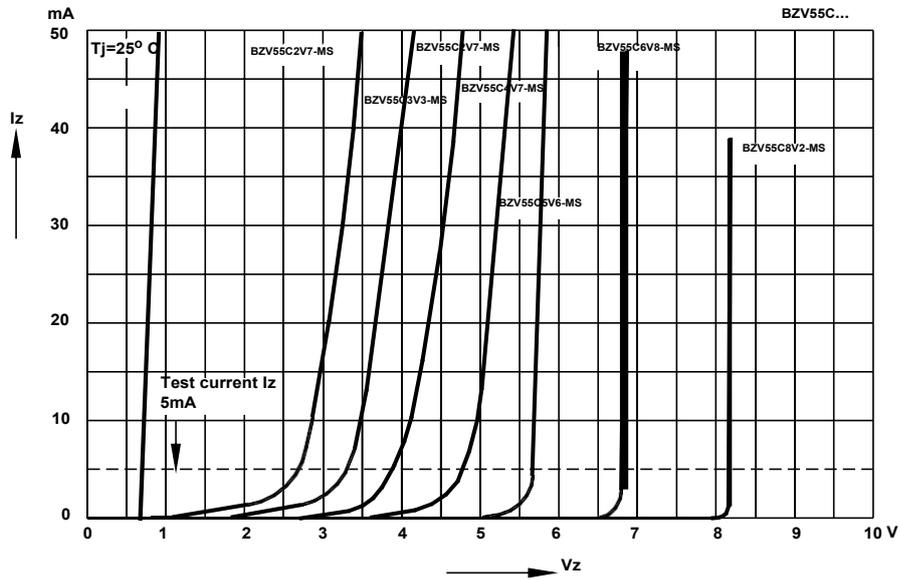
**Characteristics at Ta = 25°C**

| P/N          | Zener Voltage Range <sup>1)</sup> |                 |                    | Dynamic Resistance |                 |                    | Reverse Leakage Current |                        |                   | Temp. Coefficient of Zener Voltage |
|--------------|-----------------------------------|-----------------|--------------------|--------------------|-----------------|--------------------|-------------------------|------------------------|-------------------|------------------------------------|
|              | V <sub>Zno</sub> <sub>m</sub>     | V <sub>ZT</sub> | at I <sub>ZT</sub> | Z <sub>ZT</sub>    | Z <sub>ZK</sub> | at I <sub>ZK</sub> | T <sub>a</sub> = 25°C   | T <sub>a</sub> = 125°C | at V <sub>R</sub> |                                    |
|              | (V)                               | (V)             | (mA)               | Max. (Ω)           | Max. (Ω)        | (mA)               | Max. (μA)               | Max. (μA)              | (V)               | TKvz (%/K)                         |
| BZV55C2V0-MS | 2.0                               | 1.8...2.15      | 5                  | 85                 | 600             | 1                  | 100                     | 200                    | 1                 | -0.09...-0.06                      |
| BZV55C2V2-MS | 2.2                               | 2.08...2.33     | 5                  | 85                 | 600             | 1                  | 75                      | 160                    | 1                 | -0.09...-0.06                      |
| BZV55C2V4-MS | 2.4                               | 2.28...2.56     | 5                  | 85                 | 600             | 1                  | 50                      | 100                    | 1                 | -0.09...-0.06                      |
| BZV55C2V7-MS | 2.7                               | 2.5...2.9       | 5                  | 85                 | 600             | 1                  | 10                      | 50                     | 1                 | -0.09...-0.06                      |
| BZV55C3V0-MS | 3.0                               | 2.8...3.2       | 5                  | 85                 | 600             | 1                  | 4                       | 40                     | 1                 | -0.08...-0.05                      |
| BZV55C3V3-MS | 3.3                               | 3.1...3.5       | 5                  | 85                 | 600             | 1                  | 2                       | 40                     | 1                 | -0.08...-0.05                      |
| BZV55C3V6-MS | 3.6                               | 3.4...3.8       | 5                  | 85                 | 600             | 1                  | 2                       | 40                     | 1                 | -0.08...-0.05                      |
| BZV55C3V9-MS | 3.9                               | 3.7...4.1       | 5                  | 85                 | 600             | 1                  | 2                       | 40                     | 1                 | -0.08...-0.05                      |
| BZV55C4V3-MS | 4.3                               | 4...4.6         | 5                  | 75                 | 600             | 1                  | 1                       | 20                     | 1                 | -0.06...-0.03                      |
| BZV55C4V7-MS | 4.7                               | 4.4...5         | 5                  | 60                 | 600             | 1                  | 0.5                     | 10                     | 1                 | -0.05...+0.02                      |
| BZV55C5V1-MS | 5.1                               | 4.8...5.4       | 5                  | 35                 | 550             | 1                  | 0.1                     | 2                      | 1                 | -0.02...+0.02                      |
| BZV55C5V6-MS | 5.6                               | 5.2...6         | 5                  | 25                 | 450             | 1                  | 0.1                     | 2                      | 1                 | -0.05...+0.05                      |
| BZV55C6V2-MS | 6.2                               | 5.8...6.6       | 5                  | 10                 | 200             | 1                  | 0.1                     | 2                      | 2                 | 0.03...0.06                        |
| BZV55C6V8-MS | 6.8                               | 6.4...7.2       | 5                  | 8                  | 150             | 1                  | 0.1                     | 2                      | 3                 | 0.03...0.07                        |
| BZV55C7V5-MS | 7.5                               | 7...7.9         | 5                  | 7                  | 50              | 1                  | 0.1                     | 2                      | 5                 | 0.03...0.07                        |
| BZV55C8V2-MS | 8.2                               | 7.7...8.7       | 5                  | 7                  | 50              | 1                  | 0.1                     | 2                      | 6.2               | 0.03...0.08                        |
| BZV55C9V1-MS | 9.1                               | 8.5...9.6       | 5                  | 10                 | 50              | 1                  | 0.1                     | 2                      | 6.8               | 0.03...0.09                        |
| BZV55C10-MS  | 10                                | 9.4...10.6      | 5                  | 15                 | 70              | 1                  | 0.1                     | 2                      | 7.5               | 0.03...0.1                         |
| BZV55C11-MS  | 11                                | 10.4...11.6     | 5                  | 20                 | 70              | 1                  | 0.1                     | 2                      | 8.2               | 0.03...0.11                        |
| BZV55C12-MS  | 12                                | 11.4...12.7     | 5                  | 20                 | 90              | 1                  | 0.1                     | 2                      | 9.1               | 0.03...0.11                        |
| BZV55C13-MS  | 13                                | 12.4...14.1     | 5                  | 26                 | 110             | 1                  | 0.1                     | 2                      | 10                | 0.03...0.11                        |
| BZV55C15-MS  | 15                                | 13.8...15.6     | 5                  | 30                 | 110             | 1                  | 0.1                     | 2                      | 11                | 0.03...0.11                        |
| BZV55C16-MS  | 16                                | 15.3...17.1     | 5                  | 40                 | 170             | 1                  | 0.1                     | 2                      | 12                | 0.03...0.11                        |
| BZV55C18-MS  | 18                                | 16.8...19.1     | 5                  | 50                 | 170             | 1                  | 0.1                     | 2                      | 13                | 0.03...0.11                        |
| BZV55C20-MS  | 20                                | 18.8...21.2     | 5                  | 55                 | 220             | 1                  | 0.1                     | 2                      | 15                | 0.03...0.11                        |
| BZV55C22-MS  | 22                                | 20.8...23.3     | 5                  | 55                 | 220             | 1                  | 0.1                     | 2                      | 16                | 0.04...0.12                        |
| BZV55C24-MS  | 24                                | 22.8...25.6     | 5                  | 80                 | 220             | 1                  | 0.1                     | 2                      | 18                | 0.04...0.12                        |
| BZV55C27-MS  | 27                                | 25.1...28.9     | 5                  | 80                 | 220             | 1                  | 0.1                     | 2                      | 20                | 0.04...0.12                        |
| BZV55C30-MS  | 30                                | 28...32         | 5                  | 80                 | 220             | 1                  | 0.1                     | 2                      | 22                | 0.04...0.12                        |
| BZV55C33-MS  | 33                                | 31...35         | 5                  | 80                 | 220             | 1                  | 0.1                     | 2                      | 24                | 0.04...0.12                        |
| BZV55C36-MS  | 36                                | 34...38         | 5                  | 80                 | 220             | 1                  | 0.1                     | 2                      | 27                | 0.04...0.12                        |
| BZV55C39-MS  | 39                                | 37...41         | 2.5                | 90                 | 500             | 0.5                | 0.1                     | 5                      | 30                | 0.04...0.12                        |
| BZV55C43-MS  | 43                                | 40...46         | 2.5                | 90                 | 500             | 0.5                | 0.1                     | 5                      | 33                | 0.04...0.12                        |
| BZV55C47-MS  | 47                                | 44...50         | 2.5                | 110                | 600             | 0.5                | 0.1                     | 5                      | 36                | 0.04...0.12                        |
| BZV55C51-MS  | 51                                | 48...54         | 2.5                | 125                | 700             | 0.5                | 0.1                     | 10                     | 39                | 0.04...0.12                        |
| BZV55C56-MS  | 56                                | 52...60         | 2.5                | 135                | 700             | 0.5                | 0.1                     | 10                     | 43                | 0.04...0.12                        |
| BZV55C62-MS  | 62                                | 58...66         | 2.5                | 150                | 1000            | 0.5                | 0.1                     | 10                     | 47                | 0.04...0.12                        |
| BZV55C68-MS  | 68                                | 64...72         | 2.5                | 200                | 1000            | 0.5                | 0.1                     | 10                     | 51                | 0.04...0.12                        |
| BZV55C75-MS  | 75                                | 70...79         | 2.5                | 250                | 1000            | 0.5                | 0.1                     | 10                     | 56                | 0.04...0.12                        |

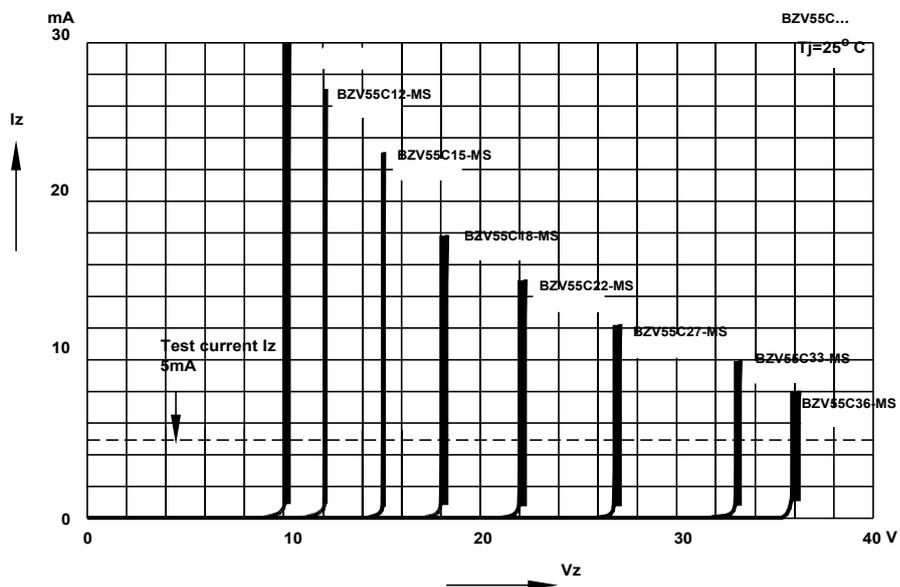
1) Tested with pulses t<sub>p</sub> = 20 ms.

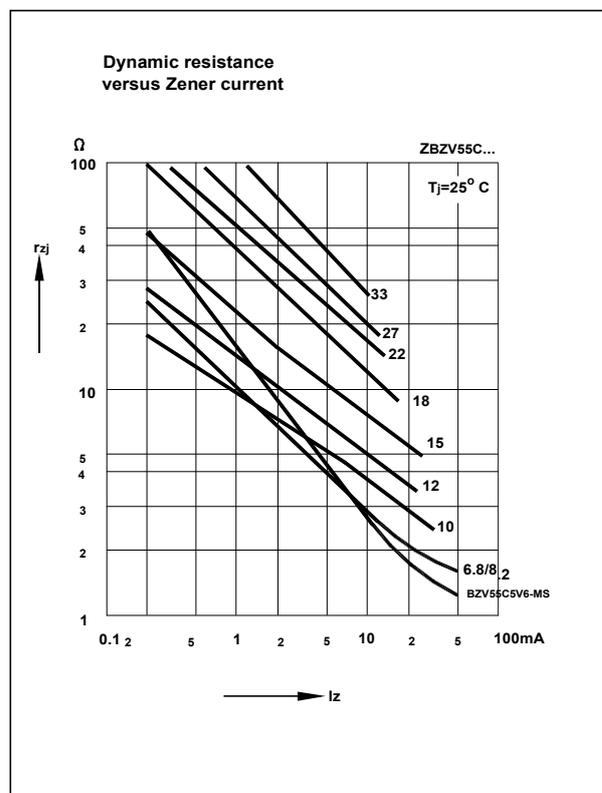
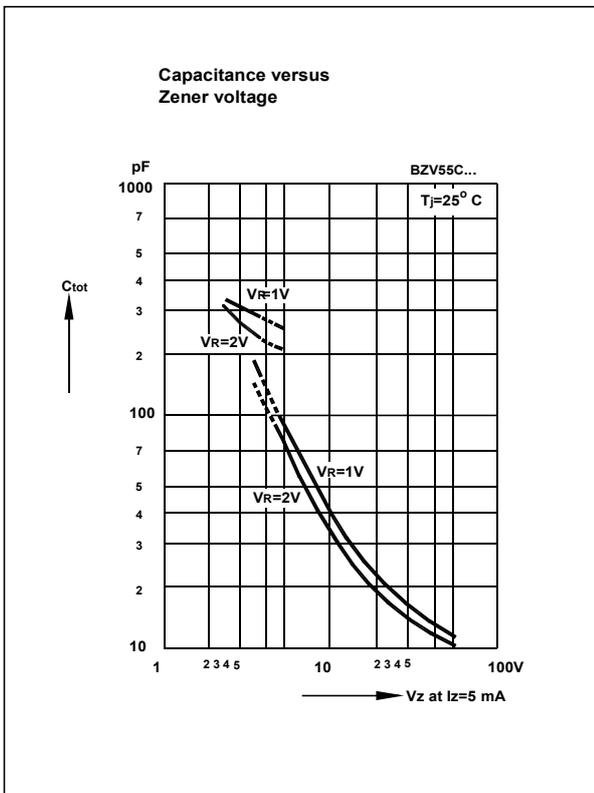
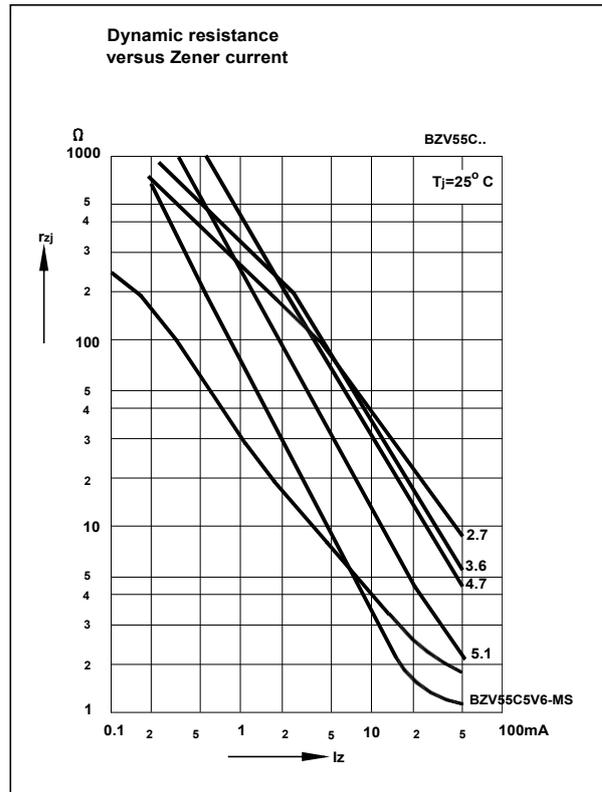
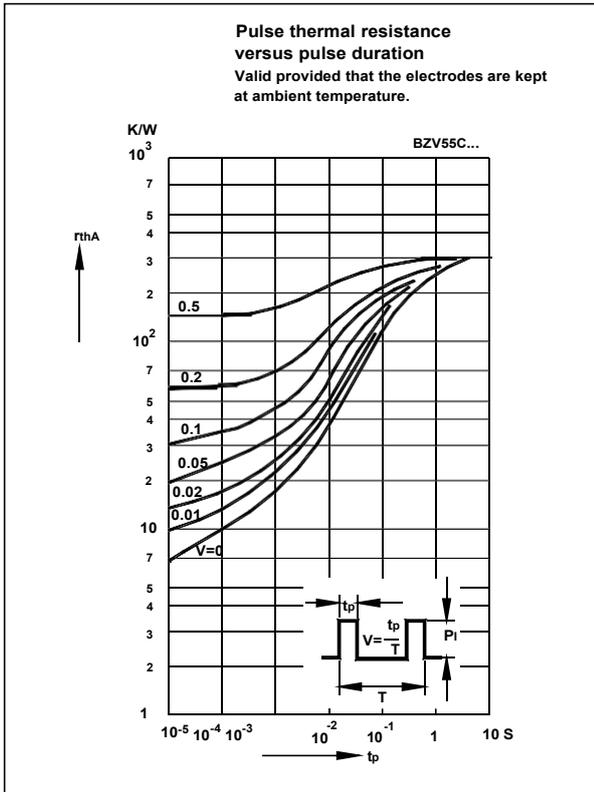
2) The BZV55C is a silicon diode with operation in forward direction. Hence, the index of all parameters should be "F" instead of "Z". Connect the cathode electrode to the negative pole.

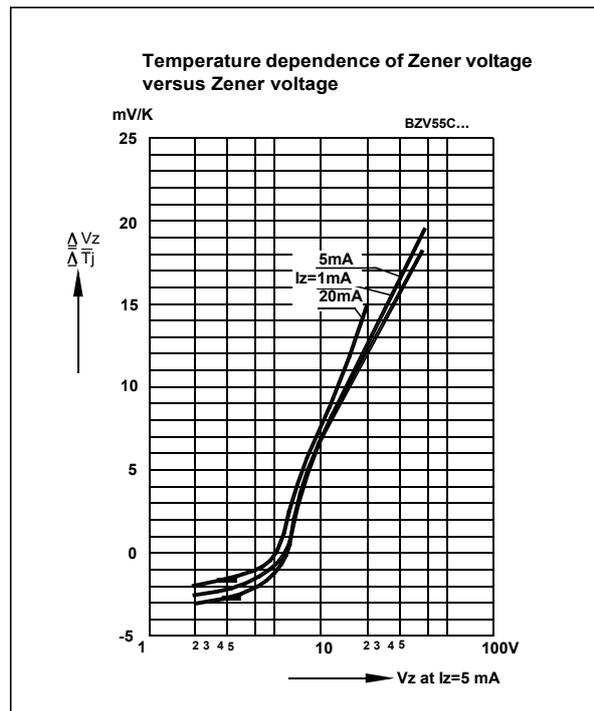
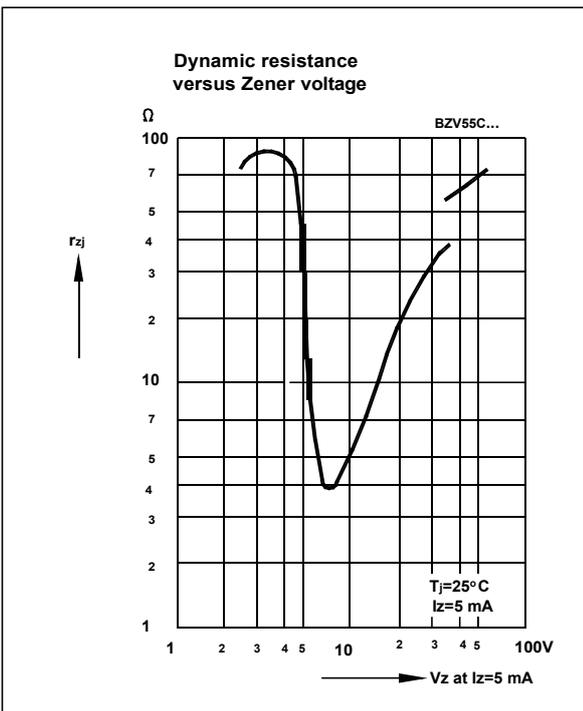
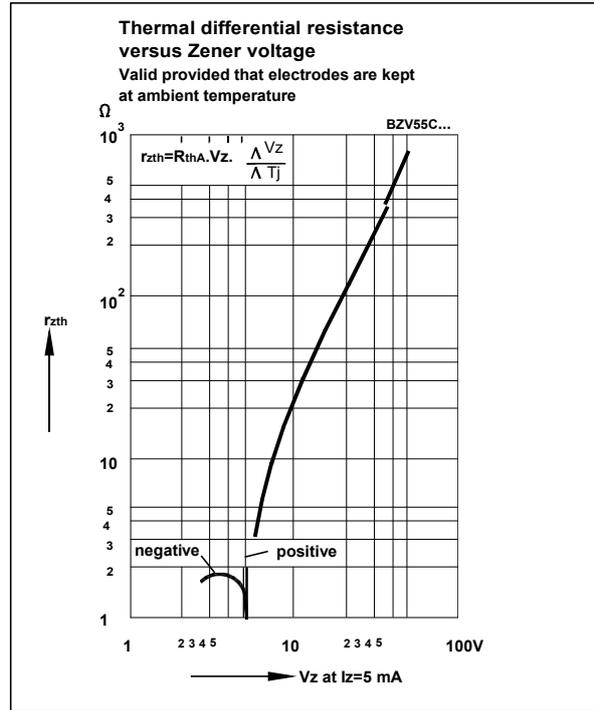
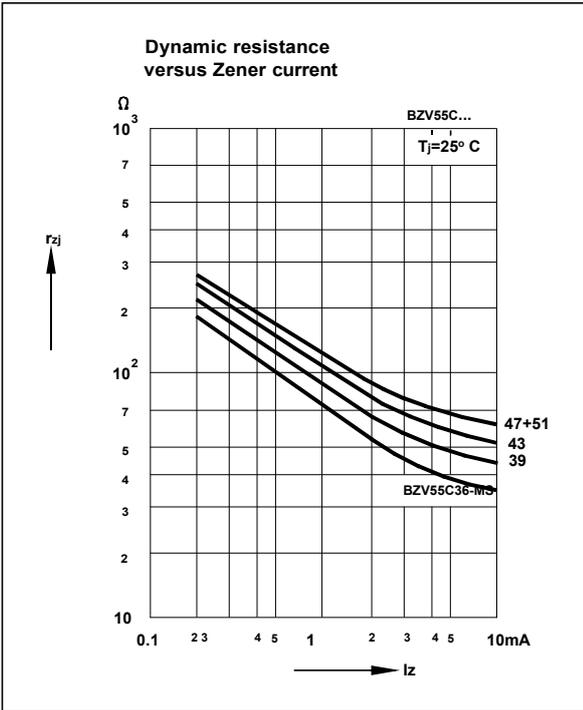
**Breakdown characteristics**  
T<sub>j</sub> = constant (pulsed)

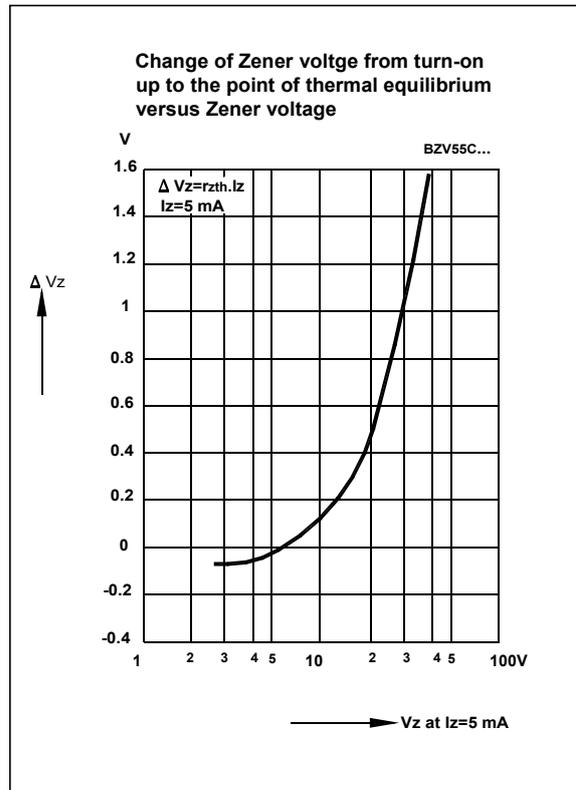
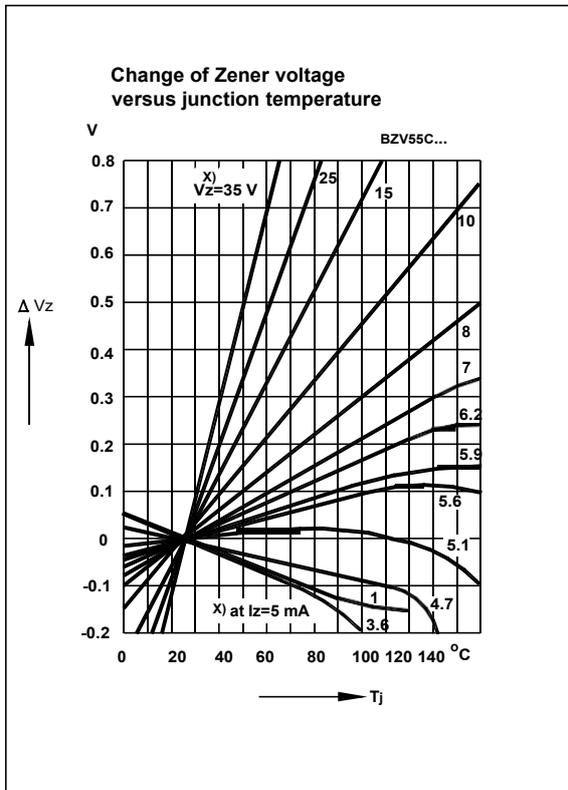
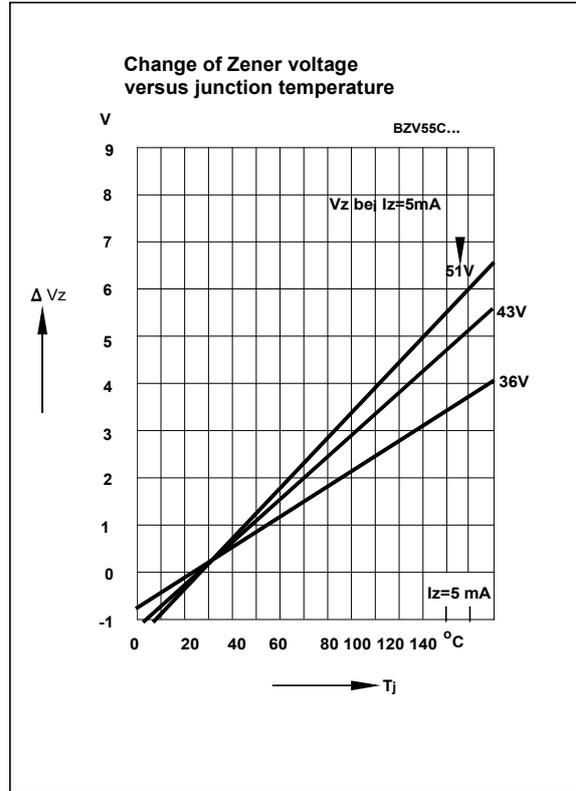
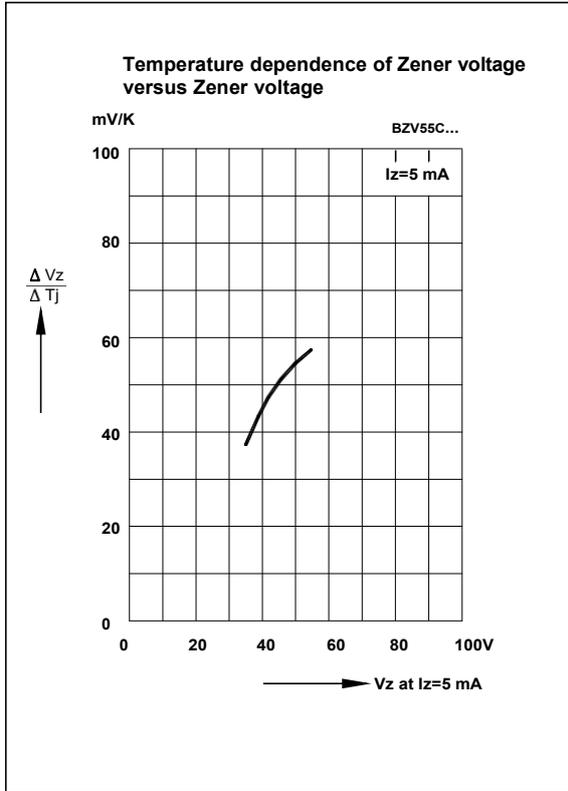


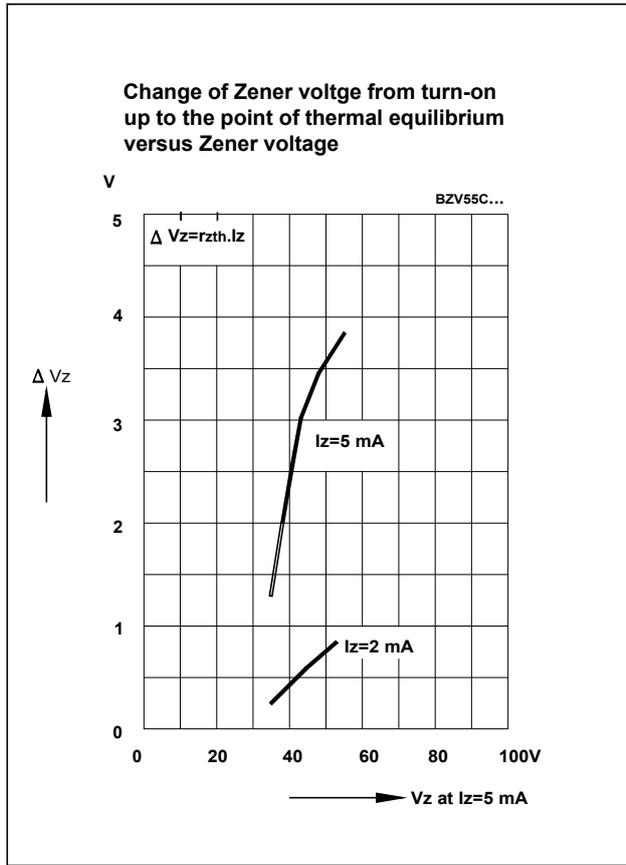
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T<sub>j</sub> = constant (pulsed)











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