



## BZX55C2V4 ~ BZX55C200

## SILICON ZENER DIODES

$V_Z$  : 2.4 - 200 Volts

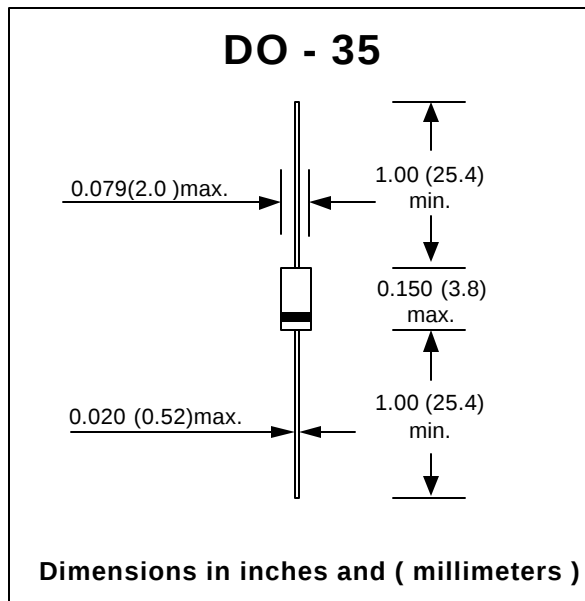
$P_D$  : 500 mW

### FEATURES :

- \* Complete 2.4 to 200 Volts
- \* High surge current capability
- \* High peak reverse power dissipation
- \* High reliability
- \* Low leakage current

### MECHANICAL DATA

- \* Case : Molded glass
- \* Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity : Color band denotes cathode end. When operated in zener mode, cathode will be positive with respect to anode
- \* Mounting position : Any
- \* Weight : 0.13 gram



### MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Rating                                                     | Symbol          | Value         | Unit   |
|------------------------------------------------------------|-----------------|---------------|--------|
| Power Dissipation (Note)                                   | $P_D$           | 500           | mW     |
| Maximum Forward Voltage at $I_F = 100$ mA                  | $V_F$           | 1.0           | V      |
| Maximum Thermal Resistance Junction to Ambient Air (Note1) | $R_{\theta JA}$ | 0.3           | K / mW |
| Junction Temperature Range                                 | $T_j$           | - 55 to + 175 | °C     |
| Storage Temperature Range                                  | $T_s$           | - 55 to + 175 | °C     |

**Note** : 1. Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case.

**UPDATE : JANUARY 18, 2002**

## ELECTRICAL CHARACTERISTICS

Rating at = 25 °C ambient temperature unless otherwise specified

| TYPE<br><br>Number | Zener Voltage<br>V <sub>Z</sub> @ I <sub>ZT</sub> |                          |                          |                         | Maximum Zener<br>Impedance                  |                                             |                         | Maximum Reverse<br>Leakage Current |                                                |     | Temp. coefficient<br>of Zener Voltage<br><br>TK <sub>VZ</sub><br>(% / K) |
|--------------------|---------------------------------------------------|--------------------------|--------------------------|-------------------------|---------------------------------------------|---------------------------------------------|-------------------------|------------------------------------|------------------------------------------------|-----|--------------------------------------------------------------------------|
|                    | Nom <sup>1)</sup><br>(V)                          | Min <sup>2)</sup><br>(V) | Max <sup>2)</sup><br>(V) | I <sub>ZT</sub><br>(mA) | Z <sub>ZT</sub> @ I <sub>ZT</sub><br>(Ohms) | Z <sub>Zk</sub> @ I <sub>ZK</sub><br>(Ohms) | I <sub>ZK</sub><br>(mA) | I <sub>R</sub><br>(μA)             | I <sub>R</sub> <sup>2)</sup> at V <sub>R</sub> |     |                                                                          |
|                    |                                                   |                          |                          |                         |                                             |                                             |                         |                                    | (μA)                                           | (V) |                                                                          |
| BZX55C2V4          | 2.4                                               | 2.28                     | 2.56                     | 5                       | 85                                          | 600                                         | 1                       | 50                                 | 100                                            | 1   | -0.09...-0.06                                                            |
| BZX55C2V7          | 2.7                                               | 2.5                      | 2.9                      | 5                       | 85                                          | 600                                         | 1                       | 10                                 | 50                                             | 1   | -0.09...-0.06                                                            |
| BZX55C3V0          | 3.0                                               | 2.8                      | 3.2                      | 5                       | 85                                          | 600                                         | 1                       | 4                                  | 40                                             | 1   | -0.08...-0.05                                                            |
| BZX55C3V3          | 3.3                                               | 3.1                      | 3.5                      | 5                       | 85                                          | 600                                         | 1                       | 2                                  | 40                                             | 1   | -0.08...-0.05                                                            |
| BZX55C3V6          | 3.6                                               | 3.4                      | 3.8                      | 5                       | 85                                          | 600                                         | 1                       | 2                                  | 40                                             | 1   | -0.08...-0.05                                                            |
| BZX55C3V9          | 3.9                                               | 3.7                      | 4.1                      | 5                       | 85                                          | 600                                         | 1                       | 2                                  | 40                                             | 1   | -0.08...-0.05                                                            |
| BZX55C4V3          | 4.3                                               | 4.0                      | 4.6                      | 5                       | 75                                          | 600                                         | 1                       | 1                                  | 20                                             | 1   | -0.06...-0.03                                                            |
| BZX55C4V7          | 4.7                                               | 4.4                      | 5.0                      | 5                       | 60                                          | 600                                         | 1                       | 0.5                                | 10                                             | 1   | -0.05...+0.02                                                            |
| BZX55C5V1          | 5.1                                               | 4.8                      | 5.4                      | 5                       | 35                                          | 550                                         | 1                       | 0.1                                | 2                                              | 1   | -0.02...+0.02                                                            |
| BZX55C5V6          | 5.6                                               | 5.2                      | 6.0                      | 5                       | 25                                          | 450                                         | 1                       | 0.1                                | 2                                              | 1   | -0.05...+0.05                                                            |
| BZX55C6V2          | 6.2                                               | 5.8                      | 6.6                      | 5                       | 10                                          | 200                                         | 1                       | 0.1                                | 2                                              | 2   | 0.03...0.06                                                              |
| BZX55C6V8          | 6.8                                               | 6.4                      | 7.2                      | 5                       | 8                                           | 150                                         | 1                       | 0.1                                | 2                                              | 3   | 0.03...0.07                                                              |
| BZX55C7V5          | 7.5                                               | 7.0                      | 7.9                      | 5                       | 7                                           | 50                                          | 1                       | 0.1                                | 2                                              | 5   | 0.03...0.07                                                              |
| BZX55C8V2          | 8.2                                               | 7.7                      | 8.7                      | 5                       | 7                                           | 50                                          | 1                       | 0.1                                | 2                                              | 6.2 | 0.03...0.08                                                              |
| BZX55C9V1          | 9.1                                               | 8.5                      | 9.6                      | 5                       | 10                                          | 50                                          | 1                       | 0.1                                | 2                                              | 6.8 | 0.03...0.09                                                              |
| BZX55C10           | 10                                                | 9.4                      | 10.6                     | 5                       | 15                                          | 70                                          | 1                       | 0.1                                | 2                                              | 7.5 | 0.03...0.10                                                              |
| BZX55C11           | 11                                                | 10.4                     | 11.6                     | 5                       | 20                                          | 70                                          | 1                       | 0.1                                | 2                                              | 8.2 | 0.03...0.11                                                              |
| BZX55C12           | 12                                                | 11.4                     | 12.7                     | 5                       | 20                                          | 90                                          | 1                       | 0.1                                | 2                                              | 9.1 | 0.03...0.11                                                              |
| BZX55C13           | 13                                                | 12.4                     | 14.1                     | 5                       | 26                                          | 110                                         | 1                       | 0.1                                | 2                                              | 10  | 0.03...0.11                                                              |
| BZX55C15           | 14                                                | 13.8                     | 15.6                     | 5                       | 30                                          | 110                                         | 1                       | 0.1                                | 2                                              | 11  | 0.03...0.11                                                              |
| BZX55C16           | 16                                                | 15.3                     | 17.1                     | 5                       | 40                                          | 170                                         | 1                       | 0.1                                | 2                                              | 12  | 0.03...0.11                                                              |
| BZX55C18           | 18                                                | 16.8                     | 19.1                     | 5                       | 50                                          | 170                                         | 1                       | 0.1                                | 2                                              | 13  | 0.03...0.11                                                              |
| BZX55C20           | 20                                                | 18.8                     | 21.2                     | 5                       | 55                                          | 220                                         | 1                       | 0.1                                | 2                                              | 15  | 0.03...0.11                                                              |
| BZX55C22           | 22                                                | 20.8                     | 23.3                     | 5                       | 55                                          | 220                                         | 1                       | 0.1                                | 2                                              | 16  | 0.04...0.12                                                              |
| BZX55C24           | 24                                                | 22.8                     | 25.6                     | 5                       | 80                                          | 220                                         | 1                       | 0.1                                | 2                                              | 18  | 0.04...0.12                                                              |
| BZX55C27           | 27                                                | 25.1                     | 28.9                     | 5                       | 80                                          | 220                                         | 1                       | 0.1                                | 2                                              | 20  | 0.04...0.12                                                              |
| BZX55C30           | 30                                                | 28                       | 32                       | 5                       | 80                                          | 220                                         | 1                       | 0.1                                | 2                                              | 22  | 0.04...0.12                                                              |
| BZX55C33           | 33                                                | 31                       | 35                       | 5                       | 80                                          | 220                                         | 1                       | 0.1                                | 2                                              | 24  | 0.04...0.12                                                              |
| BZX55C36           | 36                                                | 34                       | 38                       | 5                       | 80                                          | 220                                         | 1                       | 0.1                                | 2                                              | 27  | 0.04...0.12                                                              |
| BZX55C39           | 39                                                | 37                       | 41                       | 2.5                     | 90                                          | 500                                         | 0.5                     | 0.1                                | 5                                              | 30  | 0.04...0.12                                                              |
| BZX55C43           | 43                                                | 40                       | 46                       | 2.5                     | 90                                          | 500                                         | 0.5                     | 0.1                                | 5                                              | 33  | 0.04...0.12                                                              |
| BZX55C47           | 47                                                | 44                       | 50                       | 2.5                     | 110                                         | 600                                         | 0.5                     | 0.1                                | 5                                              | 36  | 0.04...0.12                                                              |
| BZX55C51           | 51                                                | 48                       | 54                       | 2.5                     | 125                                         | 700                                         | 0.5                     | 0.1                                | 10                                             | 39  | 0.04...0.12                                                              |
| BZX55C56           | 56                                                | 52                       | 60                       | 2.5                     | 135                                         | 700                                         | 0.5                     | 0.1                                | 10                                             | 43  | 0.04...0.12                                                              |
| BZX55C62           | 62                                                | 58                       | 66                       | 2.5                     | 150                                         | 1000                                        | 0.5                     | 0.1                                | 10                                             | 47  | 0.04...0.12                                                              |
| BZX55C68           | 68                                                | 64                       | 72                       | 2.5                     | 200                                         | 1000                                        | 0.5                     | 0.1                                | 10                                             | 51  | 0.04...0.12                                                              |
| BZX55C75           | 75                                                | 70                       | 79                       | 2.5                     | 250                                         | 1000                                        | 0.5                     | 0.1                                | 10                                             | 56  | 0.04...0.12                                                              |
| BZX55C82           | 82                                                | 77                       | 87                       | 2.5                     | 300                                         | 1500                                        | 0.25                    | 0.1                                | 10                                             | 62  | 0.05...0.12                                                              |
| BZX55C91           | 91                                                | 85                       | 96                       | 1                       | 450                                         | 2000                                        | 0.1                     | 0.1                                | 10                                             | 68  | 0.05...0.12                                                              |
| BZX55C100          | 100                                               | 94                       | 106                      | 1                       | 450                                         | 5000                                        | 0.1                     | 0.1                                | 10                                             | 75  | 0.05...0.12                                                              |
| BZX55C110          | 110                                               | 104                      | 116                      | 1                       | 600                                         | 5000                                        | 0.1                     | 0.1                                | 10                                             | 82  | 0.05...0.12                                                              |
| BZX55C120          | 120                                               | 114                      | 127                      | 1                       | 800                                         | 5500                                        | 0.1                     | 0.1                                | 10                                             | 91  | 0.05...0.12                                                              |
| BZX55C130          | 130                                               | 124                      | 141                      | 1                       | 950                                         | 6000                                        | 0.1                     | 0.1                                | 10                                             | 100 | 0.05...0.12                                                              |
| BZX55C150          | 150                                               | 138                      | 156                      | 1                       | 1250                                        | 6500                                        | 0.1                     | 0.1                                | 10                                             | 110 | 0.05...0.12                                                              |
| BZX55C160          | 160                                               | 153                      | 171                      | 1                       | 1400                                        | 7000                                        | 0.1                     | 0.1                                | 10                                             | 120 | 0.05...0.12                                                              |
| BZX55C180          | 180                                               | 168                      | 191                      | 1                       | 1700                                        | 8500                                        | 0.1                     | 0.1                                | 10                                             | 130 | 0.05...0.12                                                              |
| BZX55C200          | 200                                               | 188                      | 212                      | 1                       | 2000                                        | 10000                                       | 0.1                     | 0.1                                | 10                                             | 150 | 0.05...0.12                                                              |

Note 1) Tested with pulses tp = 20 ms

2) Valid Provided that leads are kept at ambient temperature at a distance of 8 mm from case