

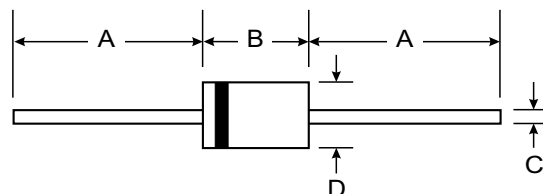
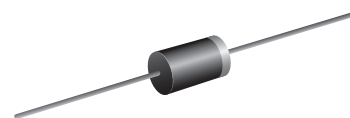
**VOLTAGE RANGE: 6.8 - 270V**  
**POWER: 6.0Watts**

### Features

- Complete Voltage Range 6.8 to 270 Volts
- High peak reverse power dissipation
- High reliability
- Low leakage current

### Mechanical Data

- Case: DO-201AD, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.2 grams (approx.)
- Mounting Position: Any
- Marking: Type Number



| DO-201AD             |       |      |
|----------------------|-------|------|
| Dim                  | Min   | Max  |
| A                    | 25.40 | —    |
| B                    | 7.20  | 9.50 |
| C                    | 1.20  | 1.30 |
| D                    | 4.80  | 5.30 |
| All Dimensions in mm |       |      |

### Maximum Ratings and Electrical Characteristics T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter                                   | Test condition                                  | Symbol            | Value         | Unit |
|---------------------------------------------|-------------------------------------------------|-------------------|---------------|------|
| Power dissipation                           | I = 10 mm, T <sub>L</sub> = 25 °C               | P <sub>diss</sub> | 6.0           | W    |
|                                             | T <sub>amb</sub> = 45 °C                        | P <sub>diss</sub> | 1.85          | W    |
| Repetitive peak reverse power dissipation   |                                                 | P <sub>ZRM</sub>  | 20            | W    |
| Non repetitive peak surge power dissipation | t <sub>p</sub> = 100 μs, T <sub>j</sub> = 25 °C | P <sub>ZSM</sub>  | 1000          | W    |
| Junction temperature                        |                                                 | T <sub>j</sub>    | 175           | °C   |
| Storage temperature range                   |                                                 | T <sub>stg</sub>  | - 65 to + 175 | °C   |
| Junction ambient                            | I = 25 mm, T <sub>L</sub> = constant            | R <sub>thJA</sub> | 30            | K/W  |
|                                             | on PC board with spacing 37.5 mm                | R <sub>thJA</sub> | 70            | K/W  |

| Parameter       | Test condition       | Symbol         | Min | Typ. | Max | Unit |
|-----------------|----------------------|----------------|-----|------|-----|------|
| Forward voltage | I <sub>F</sub> = 1 A | V <sub>F</sub> |     |      | 1.2 | V    |

<sup>1)</sup> Exp. falling pulse, t<sub>p</sub> = 500 μs down to 37 %

<sup>2)</sup> Stand-off reverse voltage = recommended supply voltage

| TYPE      | Zener Voltage Range |     |      | Dynamic Resistance           |      | Test Current | Temperature Coefficient of Zener Voltage |      | Reverse Leakage Current |     | Clamping                   |      | Stand off        |     |
|-----------|---------------------|-----|------|------------------------------|------|--------------|------------------------------------------|------|-------------------------|-----|----------------------------|------|------------------|-----|
|           | $V_Z @ I_Z$         |     |      | $r_{zj}$ and $TK_{VZ} @ I_Z$ |      | $I_Z$        | $TC_{VZ} @ I_{ZT}$                       |      | $I_R @ V_R$             |     | $V_{(CL)R}^{1)} @ I_{RMS}$ |      | $I_R @ V_R^{2)}$ |     |
|           | V                   |     |      | $\Omega$                     |      | mA           | % / K                                    |      | $\mu A$                 | V   | V                          | A    | $\mu A$          | V   |
|           | min                 | typ | max  | typ                          | max  |              | min                                      | max  | max                     |     | max                        |      | max              |     |
| BZW03C6V8 | 6.4                 | 6.8 | 7.2  | 0.7                          | 1.5  | 175          | 0                                        | 0.07 | 2000                    | 5.1 | 10.3                       | 48.5 | 4000             | 5.6 |
| BZW03C7V5 | 7.0                 | 7.5 | 7.9  | 0.7                          | 1.5  | 175          | 0                                        | 0.07 | 1500                    | 5.6 | 11.3                       | 44.2 | 3000             | 6.2 |
| BZW03C8V2 | 7.7                 | 8.2 | 8.7  | 0.8                          | 1.5  | 150          | 0.03                                     | 0.08 | 1200                    | 6.2 | 12.3                       | 40.6 | 2400             | 6.8 |
| BZW03C9V1 | 8.5                 | 9.1 | 9.6  | 0.9                          | 2    | 150          | 0.03                                     | 0.08 | 40                      | 6.8 | 13.3                       | 37.6 | 100              | 7.5 |
| BZW03C10  | 9.4                 | 10  | 10.6 | 1                            | 2    | 125          | 0.05                                     | 0.09 | 20                      | 7.5 | 14.8                       | 34   | 40               | 8.2 |
| BZW03C11  | 10.4                | 11  | 11.6 | 1.1                          | 2.5  | 125          | 0.05                                     | 0.1  | 15                      | 8.2 | 15.7                       | 31.8 | 30               | 9.1 |
| BZW03C12  | 11.4                | 12  | 12.7 | 1.1                          | 2.5  | 100          | 0.05                                     | 0.1  | 10                      | 9.1 | 17.0                       | 29.4 | 20               | 10  |
| BZW03C13  | 12.4                | 14  | 14.1 | 1.2                          | 2.5  | 100          | 0.05                                     | 0.1  | 4                       | 10  | 18.9                       | 26.4 | 10               | 11  |
| BZW03C15  | 13.8                | 15  | 15.6 | 1.2                          | 2.5  | 75           | 0.05                                     | 0.1  | 2                       | 11  | 20.9                       | 23.9 | 10               | 12  |
| BZW03C16  | 15.3                | 16  | 17.1 | 1.3                          | 2.5  | 75           | 0.06                                     | 0.11 | 2                       | 12  | 22.9                       | 21.8 | 10               | 13  |
| BZW03C18  | 16.8                | 18  | 19.1 | 1.3                          | 2.5  | 65           | 0.06                                     | 0.11 | 2                       | 13  | 25.6                       | 19.5 | 10               | 15  |
| BZW03C20  | 18.8                | 20  | 21.2 | 1.5                          | 3    | 65           | 0.06                                     | 0.11 | 2                       | 15  | 28.4                       | 17.6 | 10               | 16  |
| BZW03C22  | 20.8                | 22  | 23.3 | 1.6                          | 3.5  | 50           | 0.06                                     | 0.11 | 2                       | 16  | 31.0                       | 16.1 | 10               | 18  |
| BZW03C24  | 22.8                | 24  | 25.6 | 1.8                          | 3.5  | 50           | 0.06                                     | 0.11 | 2                       | 18  | 33.8                       | 14.8 | 10               | 20  |
| BZW03C27  | 25.1                | 27  | 28.9 | 2.5                          | 5    | 50           | 0.06                                     | 0.11 | 2                       | 20  | 38.1                       | 13.1 | 10               | 22  |
| BZW03C30  | 28                  | 30  | 32   | 4                            | 8    | 40           | 0.06                                     | 0.11 | 2                       | 22  | 42.2                       | 11.8 | 10               | 24  |
| BZW03C33  | 31                  | 33  | 35   | 5                            | 10   | 40           | 0.06                                     | 0.11 | 2                       | 24  | 46.2                       | 10.8 | 10               | 27  |
| BZW03C36  | 34                  | 36  | 38   | 6                            | 11   | 30           | 0.06                                     | 0.11 | 2                       | 27  | 50.1                       | 10   | 10               | 30  |
| BZW03C39  | 37                  | 39  | 41   | 7                            | 14   | 30           | 0.06                                     | 0.11 | 2                       | 30  | 54.1                       | 9.2  | 10               | 33  |
| BZW03C43  | 40                  | 43  | 46   | 10                           | 20   | 30           | 0.07                                     | 0.12 | 2                       | 33  | 60.7                       | 8.2  | 10               | 36  |
| BZW03C47  | 44                  | 47  | 50   | 12                           | 25   | 25           | 0.07                                     | 0.12 | 2                       | 36  | 65.5                       | 7.6  | 10               | 39  |
| BZW03C51  | 48                  | 51  | 54   | 14                           | 27   | 25           | 0.07                                     | 0.12 | 2                       | 39  | 70.8                       | 7.0  | 10               | 43  |
| BZW03C56  | 52                  | 56  | 60   | 18                           | 35   | 20           | 0.07                                     | 0.12 | 2                       | 43  | 78.6                       | 6.3  | 10               | 47  |
| BZW03C62  | 58                  | 62  | 66   | 20                           | 42   | 20           | 0.08                                     | 0.13 | 2                       | 47  | 86.5                       | 5.8  | 10               | 51  |
| BZW03C68  | 64                  | 68  | 72   | 22                           | 44   | 20           | 0.08                                     | 0.13 | 2                       | 51  | 94.4                       | 5.3  | 10               | 56  |
| BZW03C75  | 70                  | 75  | 79   | 25                           | 45   | 20           | 0.08                                     | 0.13 | 2                       | 56  | 103.5                      | 4.8  | 10               | 62  |
| BZW03C82  | 77                  | 82  | 87   | 30                           | 65   | 15           | 0.08                                     | 0.13 | 2                       | 62  | 114                        | 4.3  | 10               | 68  |
| BZW03C91  | 85                  | 91  | 96   | 40                           | 75   | 15           | 0.09                                     | 0.13 | 2                       | 68  | 126                        | 3.9  | 10               | 75  |
| BZW03C100 | 94                  | 100 | 106  | 45                           | 90   | 12           | 0.09                                     | 0.13 | 2                       | 75  | 139                        | 3.6  | 10               | 82  |
| BZW03C110 | 104                 | 110 | 116  | 65                           | 125  | 12           | 0.09                                     | 0.13 | 2                       | 82  | 152                        | 3.3  | 10               | 91  |
| BZW03C120 | 114                 | 120 | 127  | 90                           | 170  | 10           | 0.09                                     | 0.13 | 2                       | 91  | 167                        | 3.0  | 10               | 100 |
| BZW03C130 | 124                 | 130 | 141  | 100                          | 190  | 10           | 0.09                                     | 0.13 | 2                       | 100 | 185                        | 2.7  | 10               | 110 |
| BZW03C150 | 138                 | 150 | 156  | 150                          | 330  | 8            | 0.09                                     | 0.13 | 2                       | 110 | 204                        | 2.4  | 10               | 120 |
| BZW03C160 | 153                 | 160 | 171  | 180                          | 350  | 8            | 0.09                                     | 0.13 | 2                       | 120 | 224                        | 2.2  | 10               | 130 |
| BZW03C180 | 168                 | 180 | 191  | 210                          | 430  | 5            | 0.09                                     | 0.13 | 2                       | 130 | 249                        | 2.0  | 10               | 150 |
| BZW03C200 | 188                 | 200 | 212  | 250                          | 500  | 5            | 0.09                                     | 0.13 | 2                       | 150 | 276                        | 1.8  | 10               | 160 |
| BZW03C220 | 208                 | 220 | 233  | 350                          | 700  | 5            | 0.09                                     | 0.13 | 2                       | 160 | 305                        | 1.6  | 10               | 180 |
| BZW03C240 | 228                 | 240 | 256  | 450                          | 900  | 5            | 0.09                                     | 0.13 | 2                       | 180 | 336                        | 1.5  | 10               | 200 |
| BZW03C270 | 251                 | 270 | 289  | 600                          | 1200 | 5            | 0.09                                     | 0.13 | 2                       | 200 | 380                        | 1.3  | 10               | 220 |

1) Exp. falling pulse,  $t_p = 500 \mu s$  down to 37 %

2) Stand-off reverse voltage = recommended supply voltage