

# BZW 04-5V8 ... BZW 04-376B



**Axial lead diode**

## Unidirectional and bidirectional Transient Voltage Suppressor diodes

**BZW 04-5V8...BZW 04-376B**

**Pulse Power Dissipation: 400 W**

**Maximum Stand-off voltage: 5,8...376 V**

### Features

- Max. solder temperature: 260°C
- Plastic material has UL classification 94V-0
- For bidirectional types ( suffix "B" ), electrical characteristics apply in both directions.
- The standard tolerance of the breakdown voltage for each type is  $\pm 5\%$ .

### Mechanical Data

- Plastic case DO-15 / DO-204AC
- Weight approx.: 0,4 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 4000 pieces per ammo

- 1) Non-repetitive current pulse see curve  $I_{PPM} = f(t_r)$
- 2) Valid, if leads are kept at ambient temperature at a distance of 10 mm from case
- 3) Unidirectional diodes only

| Absolute Maximum Ratings |  | $T_A = 25^\circ\text{C}$ , unless otherwise specified |                  |
|--------------------------|--|---|------------------|
| Symbol                   | Conditions   | Values  | Units            |
| $P_{PPM}$                | Peak pulse power dissipation (10 / 1000 $\mu\text{s}$ waveform) <sup>1)</sup> $T_a = 25^\circ\text{C}$ | 400   | W                |
| $P_{M(AV)}$              | Steady state power dissipation <sup>2)</sup> , $T_a = 25^\circ\text{C}$                                | 1   | W                |
| $I_{FSM}$                | Peak forward surge current, 60 Hz half sine-wave <sup>3)</sup> $T_a = 25^\circ\text{C}$                | 40  | A                |
| $R_{thA}$                | Max. thermal resistance junction to ambient <sup>2)</sup>  | 45  | K/W              |
| $R_{thT}$                | Max. thermal resistance junction to terminal   | 15  | K/W              |
| $T_j$                    | Operating junction temperature   | - 50 ... + 175  | $^\circ\text{C}$ |
| $T_s$                    | Storage temperature  | - 50 ... + 175  | $^\circ\text{C}$ |
| $V_f$                    | Max. instant. forw. voltage $I_f = 25\text{ A}$ <sup>3)</sup>  | $V_{BR} \leq 200\text{V}, V_F < 3,0$                  | V                |
|                          |  | $V_{BR} > 200\text{V}, V_F < 6,5$                     | V                |

| Type       | Characteristics              |                        |                          |           |                          |                                  |                |
|------------|------------------------------|------------------------|--------------------------|-----------|--------------------------|----------------------------------|----------------|
|            | Max stand-off voltage@ $I_D$ |                        | Breakdown voltage@ $I_T$ |           | Test current $I_T$<br>mA | Max. clamping voltage@ $I_{PPM}$ |                |
|            | $V_{WM}$<br>V                | $I_D$<br>$\mu\text{A}$ | min.<br>V                | max.<br>V |                          | $V_C$<br>V                       | $I_{PPM}$<br>A |
| BZW 04-5V8 | 5,8                          | 1000                   | 6,45                     | 7,14      | 10                       | 10,5                             | 38             |
| BZW 04-6V4 | 6,4                          | 500                    | 7,13                     | 7,88      | 10                       | 11,3                             | 35,4           |
| BZW 04-7V0 | 7,02                         | 200                    | 7,79                     | 8,61      | 10                       | 12,1                             | 33             |
| BZW 04-7V8 | 7,78                         | 50                     | 8,65                     | 9,55      | 1                        | 13,4                             | 30             |
| BZW 04-8V5 | 8,55                         | 10                     | 9,5                      | 10,5      | 1                        | 14,5                             | 27,6           |
| BZW 04-9V4 | 9,4                          | 5                      | 10,5                     | 11,6      | 1                        | 15,6                             | 25,7           |
| BZW 04-10  | 10,2                         | 5                      | 11,4                     | 12,6      | 1                        | 16,7                             | 24             |
| BZW 04-11  | 11,1                         | 5                      | 12,4                     | 13,7      | 1                        | 18,2                             | 22             |
| BZW 04-13  | 12,8                         | 5                      | 14,3                     | 15,8      | 1                        | 21,2                             | 19             |
| BZW 04-14  | 13,6                         | 5                      | 15,2                     | 16,8      | 1                        | 22,5                             | 17,8           |
| BZW 04-15  | 15,3                         | 5                      | 17,1                     | 18,9      | 1                        | 25,2                             | 16             |
| BZW 04-17  | 17,1                         | 5                      | 19                       | 21        | 1                        | 27,7                             | 14,5           |
| BZW 04-19  | 18,8                         | 5                      | 20,9                     | 23,1      | 1                        | 30,6                             | 13             |
| BZW 04-20  | 20,5                         | 5                      | 22,8                     | 25,2      | 1                        | 33,2                             | 12             |
| BZW 04-23  | 23,1                         | 5                      | 25,7                     | 28,4      | 1                        | 37,5                             | 10,7           |
| BZW 04-26  | 25,6                         | 5                      | 28,5                     | 31,5      | 1                        | 41,5                             | 9,6            |
| BZW 04-28  | 28,2                         | 5                      | 31,4                     | 34,7      | 1                        | 45,7                             | 8,8            |
| BZW 04-31  | 30,8                         | 5                      | 34,2                     | 37,8      | 1                        | 49,9                             | 8              |
| BZW 04-33  | 33,3                         | 5                      | 37,1                     | 41        | 1                        | 53,9                             | 7,4            |
| BZW 04-37  | 36,8                         | 5                      | 40,9                     | 45,2      | 1                        | 59,3                             | 6,7            |
| BZW 04-40  | 40,2                         | 5                      | 44,7                     | 49,4      | 1                        | 64,8                             | 6,2            |
| BZW 04-44  | 43,6                         | 5                      | 48,5                     | 53,6      | 1                        | 70,1                             | 5,7            |
| BZW 04-48  | 47,8                         | 5                      | 53,2                     | 58,8      | 1                        | 77                               | 5,2            |
| BZW 04-53  | 53                           | 5                      | 58,9                     | 65,1      | 1                        | 85                               | 4,7            |
| BZW 04-58  | 58,1                         | 5                      | 64,6                     | 71,4      | 1                        | 92                               | 4,3            |
| BZW 04-64  | 64,1                         | 5                      | 71,3                     | 78,8      | 1                        | 103                              | 3,9            |
| BZW 04-70  | 70,1                         | 5                      | 77,9                     | 86,1      | 1                        | 113                              | 3,5            |
| BZW 04-78  | 77,8                         | 5                      | 86,5                     | 95,5      | 1                        | 125                              | 3,2            |
| BZW 04-85  | 85,8                         | 5                      | 95                       | 105       | 1                        | 137                              | 2,9            |
| BZW 04-94  | 94                           | 5                      | 105                      | 116       | 1                        | 152                              | 2,6            |
| BZW 04-102 | 102                          | 5                      | 114                      | 126       | 1                        | 165                              | 2,4            |
| BZW 04-111 | 111                          | 5                      | 124                      | 137       | 1                        | 179                              | 2,2            |
| BZW 04-128 | 128                          | 5                      | 143                      | 158       | 1                        | 207                              | 2              |
| BZW 04-136 | 136                          | 5                      | 152                      | 168       | 1                        | 219                              | 1,8            |
| BZW 04-145 | 145                          | 5                      | 162                      | 179       | 1                        | 234                              | 1,7            |
| BZW 04-154 | 154                          | 5                      | 171                      | 189       | 1                        | 246                              | 1,6            |
| BZW 04-171 | 171                          | 5                      | 190                      | 210       | 1                        | 274                              | 1,5            |
| BZW 04-188 | 188                          | 5                      | 209                      | 231       | 1                        | 301                              | 1,4            |
| BZW 04-213 | 213                          | 5                      | 237                      | 263       | 1                        | 344                              | 1,3            |

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| Type       | Characteristics                      |                      |                                  |           |                                   |  |                       |
|------------|--------------------------------------|----------------------|----------------------------------|-----------|-----------------------------------|--|-----------------------|
|            | Max stand-off voltage@I <sub>D</sub> |                      | Breakdown voltage@I <sub>T</sub> |           | Test current I <sub>T</sub><br>mA | Max. clamping voltage@I <sub>PPM</sub> |                       |
|            | V <sub>WM</sub><br>V                 | I <sub>D</sub><br>μA | min.<br>V                        | max.<br>V |                                   | V <sub>C</sub><br>V                    | I <sub>PPM</sub><br>A |
| BZW 04-239 | 239                                  | 5                    | 266                              | 294       | 1                                 | 384                                    | 1,2                   |
| BZW 04-256 | 256                                  | 5                    | 285                              | 315       | 1                                 | 414                                    | 1,1                   |
| BZW 04-273 | 273                                  | 5                    | 304                              | 336       | 1                                 | 438                                    | 1                     |
| BZW 04-299 | 299                                  | 5                    | 332                              | 368       | 1                                 | 482                                    | 0,9                   |
| BZW 04-342 | 342                                  | 5                    | 380                              | 420       | 1                                 | 548                                    | 0,9                   |
| BZW 04-376 | 376                                  | 5                    | 418                              | 462       | 1                                 | 603                                    | 0,8                   |

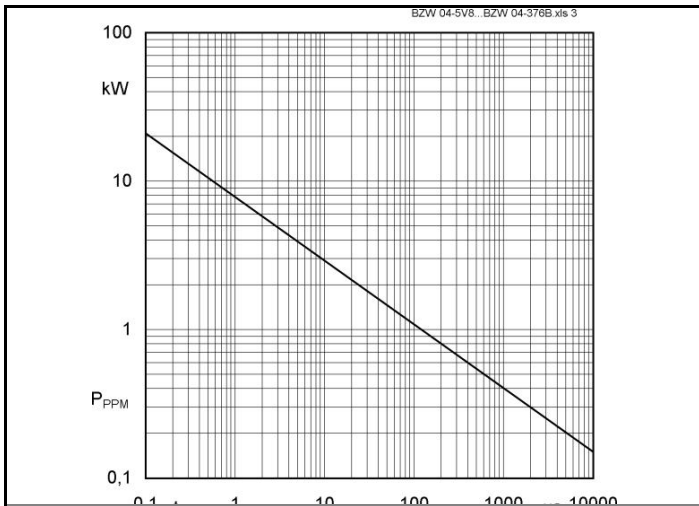
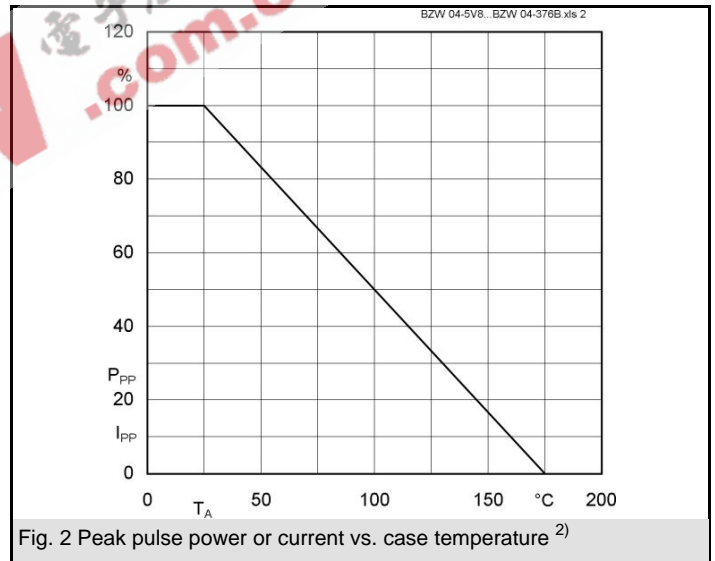
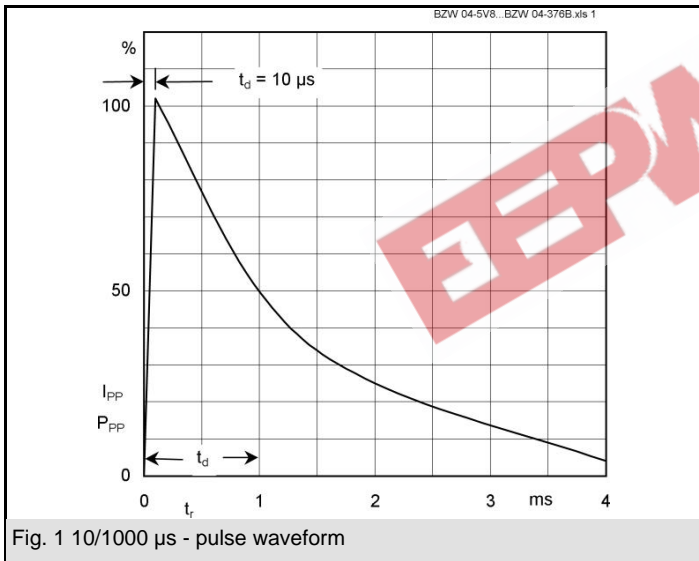
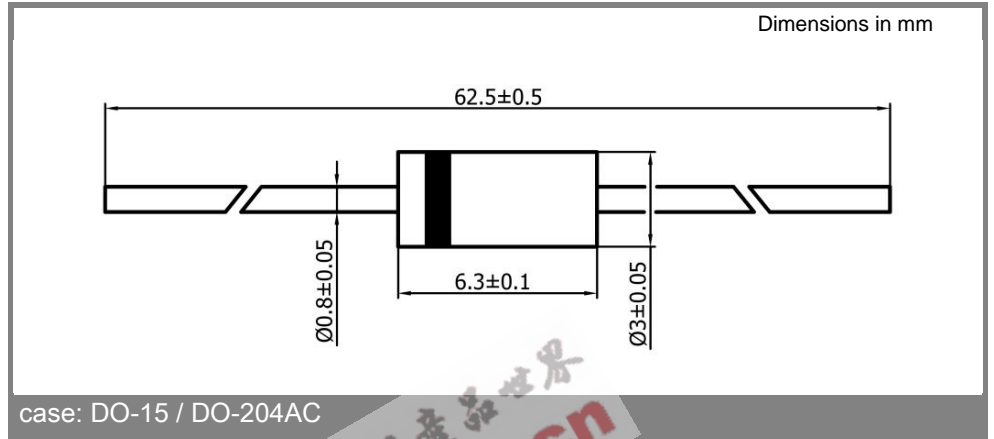


Fig. 3 Peak pulse power versus pulse duration

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