

BZW 06-5V8 ... BZW 06-376B



Axial lead diode

Unidirectional and bidirectional Transient Voltage Suppressor diodes

BZW 06-5V8...BZW 06-376B

Pulse Power

Dissipation: 600 W

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 $I_{PPM} = f(tr)$

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 μs waveform) ¹⁾ $T_a = 25^\circ\text{C}$ | 600 | W |
| $P_{M(AV)}$ | Steady state power dissipation ²⁾ , $T_a = 25^\circ\text{C}$ | 5 | W |
| I_{FSM} | Peak forward surge current, 60 Hz half sine-wave ³⁾ $T_a = 25^\circ\text{C}$ | 100 | A |
| R_{thA} | Max. thermal resistance junction to ambient ²⁾ | 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 $I_f = 50\text{ A}$ ³⁾ | $V_{BR} \leq 200\text{V}, V_F < 3,0$ | V |
| | | $V_{BR} > 200\text{V}, V_F < 6.5$ | V |

| Type | Characteristics | | | | | | |
|------------|--------------------------|------------------------|--------------------------|-----------|--------------------------|----------------------------------|----------------|
| | Stand-off voltage@ I_D | | Breakdown voltage@ I_T | | Test current I_T mA | Max. clamping voltage@ I_{PPM} | |
| | V_{WM} V | I_D μA | min. V | max. V | | V_C V | I_{PPM} A |
| BZW 06-5V8 | 5,8 | 1000 | 6,45 | 7,14 | 10 | 10,5 | 57 |
| BZW 06-6V4 | 6,4 | 500 | 7,13 | 7,88 | 10 | 11,3 | 53 |
| BZW 06-7V0 | 7,02 | 200 | 7,79 | 8,61 | 10 | 12,1 | 50 |
| BZW 06-7V8 | 7,78 | 50 | 8,65 | 9,55 | 1 | 13,4 | 45 |
| BZW 06-8V5 | 8,55 | 10 | 9,5 | 10,5 | 1 | 14,5 | 41 |
| BZW 06-9V4 | 9,4 | 5 | 10,5 | 11,6 | 1 | 15,6 | 38 |
| BZW 06-10 | 10,2 | 5 | 11,4 | 12,6 | 1 | 16,7 | 36 |
| BZW 06-11 | 11,1 | 5 | 12,4 | 13,7 | 1 | 18,2 | 33 |
| BZW 06-13 | 12,8 | 5 | 14,3 | 15,8 | 1 | 21,2 | 28 |
| BZW 06-14 | 13,6 | 5 | 15,2 | 16,8 | 1 | 22,5 | 27 |
| BZW 06-15 | 15,3 | 5 | 17,1 | 18,9 | 1 | 25,2 | 24 |
| BZW 06-17 | 17,1 | 5 | 19 | 21 | 1 | 27,7 | 22 |
| BZW 06-19 | 18,8 | 5 | 20,9 | 23,1 | 1 | 30,6 | 20 |
| BZW 06-20 | 20,5 | 5 | 22,8 | 25,2 | 1 | 33,2 | 18 |
| BZW 06-23 | 23,1 | 5 | 25,7 | 28,4 | 1 | 37,5 | 16 |
| BWZ 06-26 | 25,6 | 5 | 28,5 | 31,5 | 1 | 41,5 | 14,5 |
| BZW 06-28 | 28,2 | 5 | 31,4 | 34,7 | 1 | 45,7 | 13,1 |
| BZW 06-31 | 30,8 | 5 | 34,2 | 37,8 | 1 | 49,9 | 12 |
| BZW 06-33 | 33,3 | 5 | 37,1 | 41 | 1 | 53,9 | 11,1 |
| BZW 06-37 | 36,8 | 5 | 40,9 | 45,2 | 1 | 59,3 | 10,1 |
| BZW 06-40 | 40,2 | 5 | 44,7 | 49,4 | 1 | 64,8 | 9,3 |
| BZW 06-44 | 43,6 | 5 | 48,5 | 53,6 | 1 | 70,1 | 8,6 |
| BZW 06-48 | 47,8 | 5 | 53,2 | 58,8 | 1 | 77 | 7,8 |
| BZW 06-53 | 53 | 5 | 58,9 | 65,1 | 1 | 85 | 7,1 |
| BZW 06-58 | 58,1 | 5 | 64,6 | 71,4 | 1 | 92 | 6,5 |
| BZW 06-64 | 64,1 | 5 | 71,3 | 78,8 | 1 | 103 | 5,8 |
| BZW 06-70 | 70,1 | 5 | 77,9 | 86,1 | 1 | 113 | 5,3 |
| BZW 06-78 | 77,8 | 5 | 86,5 | 95,5 | 1 | 125 | 4,8 |
| BZW 06-85 | 85,8 | 5 | 95 | 105 | 1 | 137 | 4,4 |
| BZW 06-94 | 94 | 5 | 105 | 116 | 1 | 152 | 3,9 |
| BZW 06-102 | 102 | 5 | 114 | 126 | 1 | 165 | 3,6 |
| BZW 06-111 | 111 | 5 | 124 | 137 | 1 | 179 | 3,4 |
| BZW 06-128 | 128 | 5 | 143 | 158 | 1 | 207 | 2,9 |
| BZW 06-136 | 136 | 5 | 152 | 168 | 1 | 219 | 2,7 |
| BZW 06-145 | 145 | 5 | 162 | 179 | 1 | 234 | 2,6 |
| BZW 06-154 | 154 | 5 | 171 | 189 | 1 | 246 | 2,4 |
| BZW 06-171 | 171 | 5 | 190 | 210 | 1 | 274 | 2,2 |
| BZW 06-188 | 188 | 5 | 209 | 231 | 1 | 301 | 2 |
| BZW 06-213 | 213 | 5 | 237 | 263 | 1 | 344 | 1,8 |

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| Type | Characteristics | | | | | | |
|------------|--------------------------|------------------|--------------------------|-----------|--------------------------|----------------------------------|----------------|
| | Stand-off voltage@ I_D | | Breakdown voltage@ I_T | | Test current I_T mA | Max. clamping voltage@ I_{PPM} | |
| | V_{WM} V | I_D μA | min. V | max. V | | V_C V | I_{PPM} A |
| BZW 06-239 | 239 | 5 | 266 | 294 | 1 | 384 | 1,7 |
| BZW 06-256 | 256 | 5 | 285 | 315 | 1 | 414 | 1,6 |
| BZW 06-273 | 273 | 5 | 304 | 336 | 1 | 438 | 1,6 |
| BZW 06-299 | 299 | 5 | 332 | 368 | 1 | 482 | 1,6 |
| BZW 06-342 | 342 | 5 | 380 | 420 | 1 | 548 | 1,3 |
| BZW 06-376 | 376 | 5 | 418 | 462 | 1 | 603 | 1,3 |

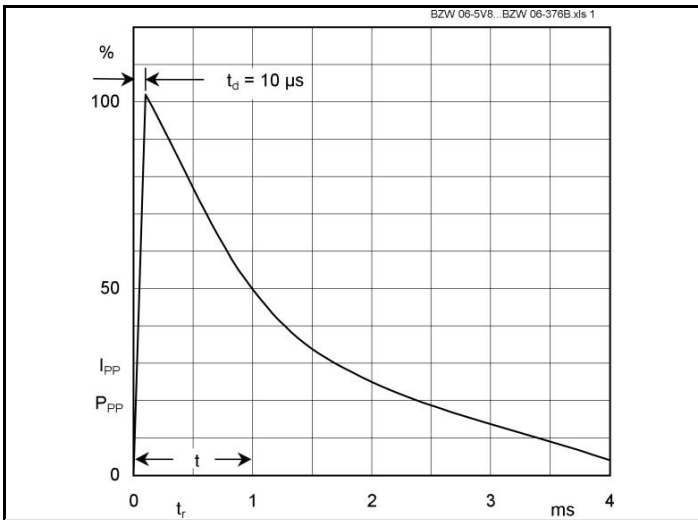


Fig. 1 10/1000 μs - pulse waveform

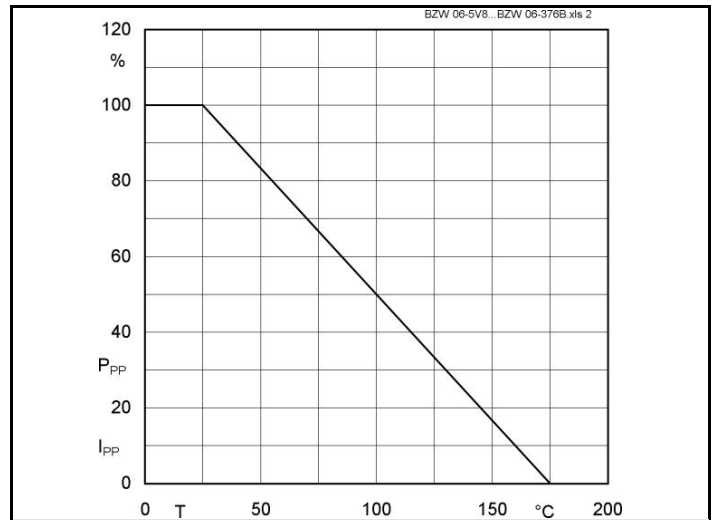


Fig. 2 Peak pulse power or current vs. case temperature ²⁾

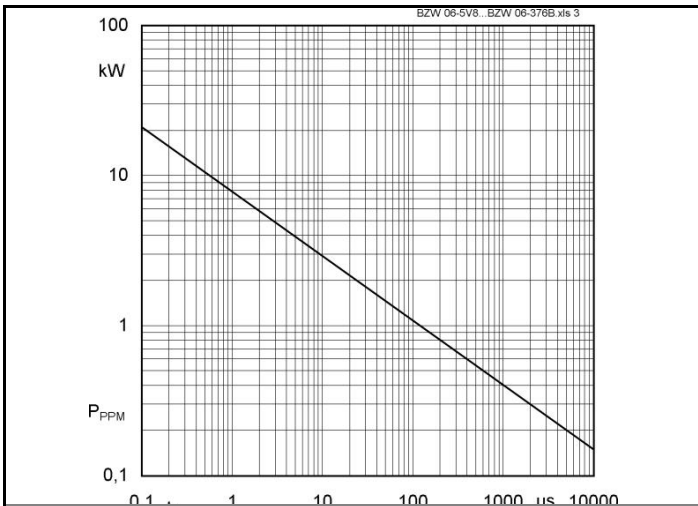


Fig. 3 Peak pulse power versus pulse duration