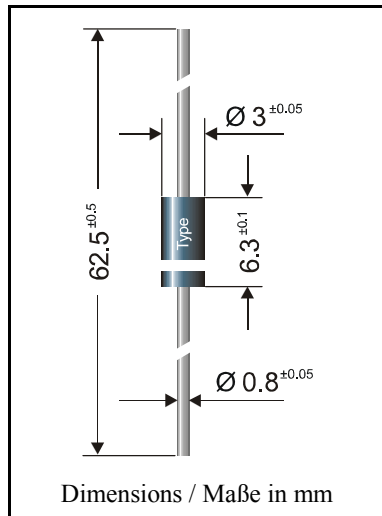


**Unidirectional and bidirectional  
Transient Voltage Suppressor Diodes**
**Unidirektionale und bidirektionale  
Spannungs-Begrenzer-Dioden**


|                                                                                       |                               |
|---------------------------------------------------------------------------------------|-------------------------------|
| Peak pulse power dissipation<br>Impuls-Verlustleistung                                | 600 W                         |
| Maximum stand-off voltage<br>Maximale Sperrspannung                                   | 5.8...376 V                   |
| Plastic case – Kunststoffgehäuse                                                      | DO-15 (DO-204AC)              |
| Weight approx. – Gewicht ca.                                                          | 0.4 g                         |
| Plastic material has UL classification 94V-0<br>Gehäusematerial UL94V-0 klassifiziert |                               |
| Standard packaging taped in ammo pack<br>Standard Lieferform gegurtet in Ammo-Pack    | see page 16<br>siehe Seite 16 |

For bidirectional types (suffix “B”), electrical characteristics apply in both directions.  
Für bidirektionale Dioden (Suffix “B”) gelten die elektrischen Werte in beiden Richtungen.

**Maximum ratings and Characteristics**
**Kenn- und Grenzwerte**

|                                                                                                                  |                          |                                                       |                                                                          |
|------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------|--------------------------------------------------------------------------|
| Peak pulse power dissipation (10/1000 $\mu$ s waveform)<br>Impuls-Verlustleistung (Strom-Impuls 10/1000 $\mu$ s) | $T_A = 25^\circ\text{C}$ | $P_{PPM}$                                             | 600 W <sup>1)</sup>                                                      |
| Steady state power dissipation<br>Verlustleistung im Dauerbetrieb                                                | $T_A = 25^\circ\text{C}$ | $P_{M(AV)}$                                           | 5 W <sup>2)</sup>                                                        |
| Peak forward surge current, 60 Hz half sine-wave<br>Stoßstrom für eine 60 Hz Sinus-Halbwellen                    | $T_A = 25^\circ\text{C}$ | $I_{FSM}$                                             | 100 A <sup>3)</sup>                                                      |
| Operating junction temperature – Sperrschichttemperatur<br>Storage temperature – Lagerungstemperatur             |                          | $T_j$<br>$T_s$                                        | $-50...+175^\circ\text{C}$<br>$-50...+175^\circ\text{C}$                 |
| Max. instantaneous forward voltage<br>Augenblickswert der Durchlaßspannung                                       | $I_F = 50\text{ A}$      | $V_{BR} \leq 200\text{ V}$<br>$V_{BR} > 200\text{ V}$ | $V_F < 3.0\text{ V}$ <sup>3)</sup><br>$V_F < 6.5\text{ V}$ <sup>3)</sup> |
| Thermal resistance junction to ambient air<br>Wärmewiderstand Sperrschicht – umgebende Luft                      |                          | $R_{thA}$                                             | $< 45\text{ K/W}$ <sup>2)</sup>                                          |
| Thermal resistance junction to lead<br>Wärmewiderstand Sperrschicht – Anschlußdraht                              |                          | $R_{thL}$                                             | $< 15\text{ K/W}$                                                        |

<sup>1)</sup> Non-repetitive current pulse see curve  $I_{PPM} = f(t_r)$

Höchstzulässiger Spitzenwert eines einmaligen Strom-Impulses, siehe Kurve  $I_{PPM} = f(t_r)$

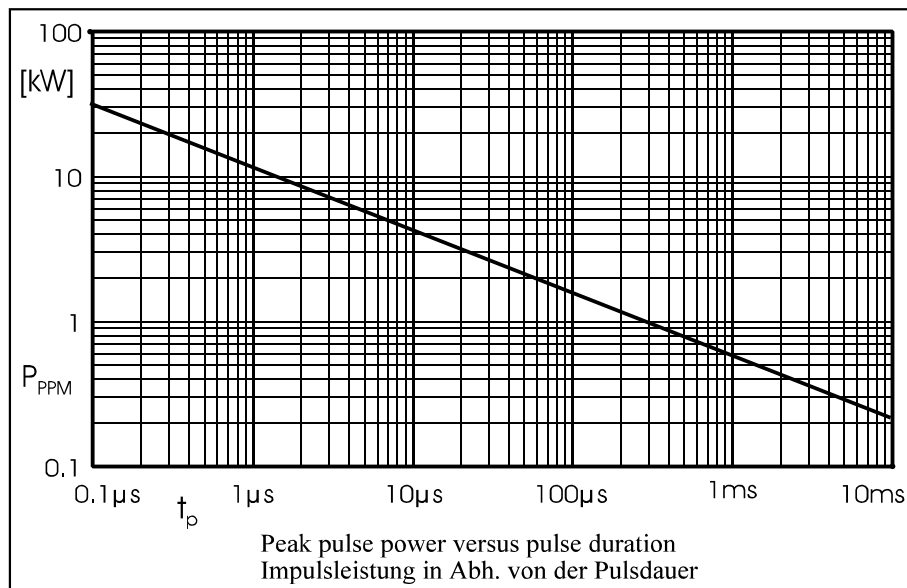
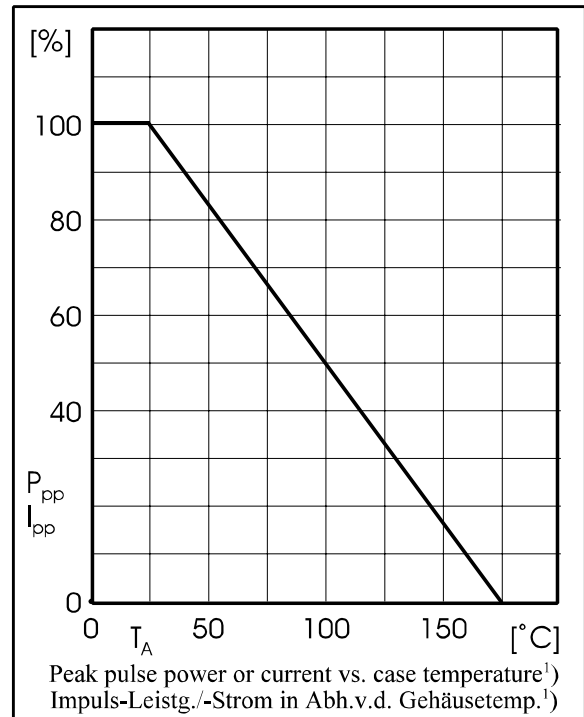
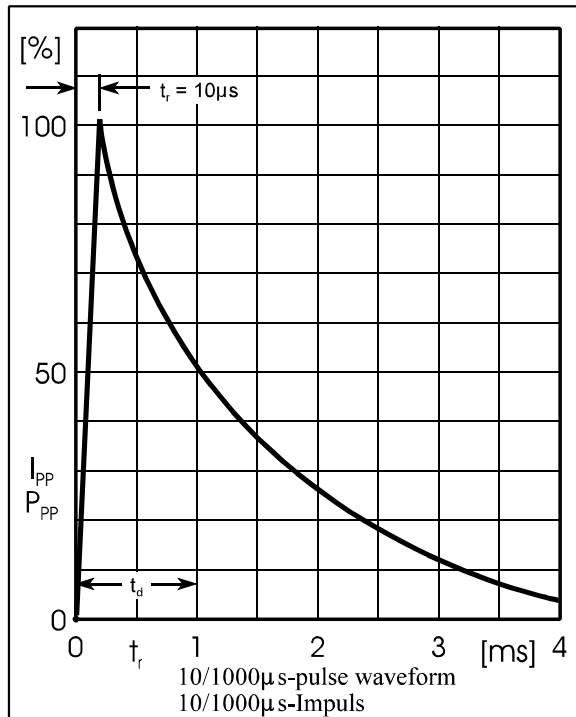
<sup>2)</sup> Valid, if leads are kept at ambient temperature at a distance of 10 mm from case

Gültig, wenn die Anschlußdrähte in 10 mm Abstand von Gehäuse auf Umgebungstemperatur gehalten werden

<sup>3)</sup> Unidirectional diodes only – Nur für unidirektionale Dioden

**Maximum ratings**
**Grenzwerte**

| Type<br>Typ | Stand-off<br>voltage<br>Sperrspannung | Max. rev. current<br>Max. Sperrstrom<br>at / bei $V_{WM}$ | Breakdown voltage at $I_T = 1 \text{ mA}$<br>Abbruch-Spannung bei $I_T = 1 \text{ mA}$<br>) at / bei $I_T = 10 \text{ mA}$ |                                   | Max. clamping voltage<br>Max. Begrenzer-Spannung<br>at / bei $I_{PPM} (10/1000\mu\text{s})$ |                      |
|-------------|---------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------|----------------------|
|             | $V_{WM} [\text{V}]$                   | $I_D [\mu\text{A}]$                                       | $V_{BR} \text{ min. } [\text{V}]$                                                                                          | $V_{BR} \text{ max. } [\text{V}]$ | $V_C [\text{V}]$                                                                            | $I_{PPM} [\text{A}]$ |
| BZW 06-5V8  | 5.8                                   | 1000                                                      | 6.8 $\pm$ 5%                                                                                                               | 6.45...7.14 *)                    | 10.5                                                                                        | 57                   |
| BZW 06-6V4  | 6.4                                   | 500                                                       | 7.5 $\pm$ 5%                                                                                                               | 7.13...7.88 *)                    | 11.3                                                                                        | 53                   |
| BZW 06-7V0  | 7.02                                  | 200                                                       | 8.2 $\pm$ 5%                                                                                                               | 7.79...8.61 *)                    | 12.1                                                                                        | 50                   |
| BZW 06-7V8  | 7.78                                  | 50                                                        | 9.1 $\pm$ 5%                                                                                                               | 8.65...9.55                       | 13.4                                                                                        | 45                   |
| BZW 06-8V5  | 8.55                                  | 10                                                        | 10 $\pm$ 5%                                                                                                                | 9.5...10.5                        | 14.5                                                                                        | 41                   |
| BZW 06-9V4  | 9.4                                   | 5                                                         | 11 $\pm$ 5%                                                                                                                | 10.5...11.6                       | 15.6                                                                                        | 38                   |
| BZW 06-10   | 10.2                                  | 5                                                         | 12 $\pm$ 5%                                                                                                                | 11.4...12.6                       | 16.7                                                                                        | 36                   |
| BZW 06-11   | 11.1                                  | 5                                                         | 13 $\pm$ 5%                                                                                                                | 12.4...13.7                       | 18.2                                                                                        | 33                   |
| BZW 06-13   | 12.8                                  | 5                                                         | 15 $\pm$ 5%                                                                                                                | 14.3...15.8                       | 21.2                                                                                        | 28                   |
| BZW 06-14   | 13.6                                  | 5                                                         | 16 $\pm$ 5%                                                                                                                | 15.2...16.8                       | 22.5                                                                                        | 27                   |
| BZW 06-15   | 15.3                                  | 5                                                         | 18 $\pm$ 5%                                                                                                                | 17.1...18.9                       | 25.2                                                                                        | 24                   |
| BZW 06-17   | 17.1                                  | 5                                                         | 20 $\pm$ 5%                                                                                                                | 19.0...21.0                       | 27.7                                                                                        | 22                   |
| BZW 06-19   | 18.8                                  | 5                                                         | 22 $\pm$ 5%                                                                                                                | 20.9...23.1                       | 30.6                                                                                        | 20                   |
| BZW 06-20   | 20.5                                  | 5                                                         | 24 $\pm$ 5%                                                                                                                | 22.8...25.2                       | 33.2                                                                                        | 18                   |
| BZW 06-23   | 23.1                                  | 5                                                         | 27 $\pm$ 5%                                                                                                                | 25.7...28.4                       | 37.5                                                                                        | 16                   |
| BZW 06-26   | 25.6                                  | 5                                                         | 30 $\pm$ 5%                                                                                                                | 28.5...31.5                       | 41.5                                                                                        | 14.5                 |
| BZW 06-28   | 28.2                                  | 5                                                         | 33 $\pm$ 5%                                                                                                                | 31.4...34.7                       | 45.7                                                                                        | 13.1                 |
| BZW 06-31   | 30.8                                  | 5                                                         | 36 $\pm$ 5%                                                                                                                | 34.2...37.8                       | 49.9                                                                                        | 12.0                 |
| BZW 06-33   | 33.3                                  | 5                                                         | 39 $\pm$ 5%                                                                                                                | 37.1...41.0                       | 53.9                                                                                        | 11.1                 |
| BZW 06-37   | 36.8                                  | 5                                                         | 43 $\pm$ 5%                                                                                                                | 40.9...45.2                       | 59.3                                                                                        | 10.1                 |
| BZW 06-40   | 40.2                                  | 5                                                         | 47 $\pm$ 5%                                                                                                                | 44.7...49.4                       | 64.8                                                                                        | 9.3                  |
| BZW 06-44   | 43.6                                  | 5                                                         | 51 $\pm$ 5%                                                                                                                | 48.5...53.6                       | 70.1                                                                                        | 8.6                  |
| BZW 06-48   | 47.8                                  | 5                                                         | 56 $\pm$ 5%                                                                                                                | 53.2...58.8                       | 77.0                                                                                        | 7.8                  |
| BZW 06-53   | 53.0                                  | 5                                                         | 62 $\pm$ 5%                                                                                                                | 58.9...65.1                       | 85.0                                                                                        | 7.1                  |
| BZW 06-58   | 58.1                                  | 5                                                         | 68 $\pm$ 5%                                                                                                                | 64.6...71.4                       | 92.0                                                                                        | 6.5                  |
| BZW 06-64   | 64.1                                  | 5                                                         | 75 $\pm$ 5%                                                                                                                | 71.3...78.8                       | 103                                                                                         | 5.8                  |
| BZW 06-70   | 70.1                                  | 5                                                         | 82 $\pm$ 5%                                                                                                                | 77.9...86.1                       | 113                                                                                         | 5.3                  |
| BZW 06-78   | 77.8                                  | 5                                                         | 91 $\pm$ 5%                                                                                                                | 86.5...95.5                       | 125                                                                                         | 4.8                  |
| BZW 06-85   | 85.8                                  | 5                                                         | 100 $\pm$ 5%                                                                                                               | 95.0...105                        | 137                                                                                         | 4.4                  |
| BZW 06-94   | 94.0                                  | 5                                                         | 110 $\pm$ 5%                                                                                                               | 105...116                         | 152                                                                                         | 3.9                  |
| BZW 06-102  | 102                                   | 5                                                         | 120 $\pm$ 5%                                                                                                               | 114...126                         | 165                                                                                         | 3.6                  |
| BZW 06-111  | 111                                   | 5                                                         | 130 $\pm$ 5%                                                                                                               | 124...137                         | 179                                                                                         | 3.4                  |
| BZW 06-128  | 128                                   | 5                                                         | 150 $\pm$ 5%                                                                                                               | 143...158                         | 207                                                                                         | 2.9                  |
| BZW 06-136  | 136                                   | 5                                                         | 160 $\pm$ 5%                                                                                                               | 152...168                         | 219                                                                                         | 2.7                  |
| BZW 06-145  | 145                                   | 5                                                         | 170 $\pm$ 5%                                                                                                               | 162...179                         | 234                                                                                         | 2.6                  |
| BZW 06-154  | 154                                   | 5                                                         | 180 $\pm$ 5%                                                                                                               | 171...189                         | 246                                                                                         | 2.4                  |
| BZW 06-171  | 171                                   | 5                                                         | 200 $\pm$ 5%                                                                                                               | 190...210                         | 274                                                                                         | 2.2                  |
| BZW 06-188  | 188                                   | 5                                                         | 220 $\pm$ 5%                                                                                                               | 209...231                         | 301                                                                                         | 2.0                  |
| BZW 06-213  | 213                                   | 5                                                         | 250 $\pm$ 5%                                                                                                               | 237...263                         | 344                                                                                         | 1.8                  |
| BZW 06-239  | 239                                   | 5                                                         | 280 $\pm$ 5%                                                                                                               | 266...294                         | 384                                                                                         | 1.7                  |
| BZW 06-256  | 256                                   | 5                                                         | 300 $\pm$ 5%                                                                                                               | 285...315                         | 414                                                                                         | 1.6                  |
| BZW 06-273  | 273                                   | 5                                                         | 320 $\pm$ 5%                                                                                                               | 304...336                         | 438                                                                                         | 1.6                  |
| BZW 06-299  | 299                                   | 5                                                         | 350 $\pm$ 5%                                                                                                               | 332...368                         | 482                                                                                         | 1.6                  |
| BZW 06-342  | 342                                   | 5                                                         | 400 $\pm$ 5%                                                                                                               | 380...420                         | 548                                                                                         | 1.3                  |
| BZW 06-376  | 376                                   | 5                                                         | 440 $\pm$ 5%                                                                                                               | 418...462                         | 603                                                                                         | 1.3                  |



For bidirectional types (suffix "B"), electrical characteristics apply in both directions.  
Für bidirektionale Dioden (Suffix "B") gelten die elektrischen Werte in beiden Richtungen.

The standard tolerance of the breakdown voltage for each type is  $\pm 5\%$ .  
Die Toleranz der Arbeitsspannung jeder Diode beträgt in der Standardausführung  $\pm 5\%$ .

e.g.: BZW 06-171B = bidirectional diode  $V_{WM} \geq 171\text{ V}$  at  $I_D = 5\text{ }\mu\text{A}$ ,  $V_{BR} = 200\text{ V}$  ( $\pm 5\%$ )  
BZW 06-6.4 = unidirectional diode,  $V_{WM} \geq 6.4\text{ V}$  at  $I_D = 500\text{ }\mu\text{A}$ ,  $V_{BR} = 7.5\text{ V}$  ( $\pm 5\%$ )

<sup>1)</sup> Valid, if leads are kept at ambient temperature at a distance of 10 mm from case  
Gültig, wenn die Anschlußdrähte in 10 mm Abstand von Gehäuse auf Umgebungstemperatur gehalten werden