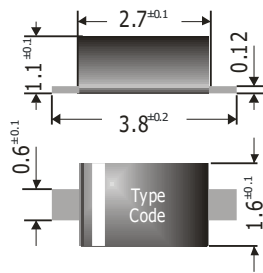


**BZT52B2V4 ... BZT52B39**
**SMD Planar Zener Diodes**  
**SMD Planar Zener-Dioden**
**P<sub>tot</sub> = 500 mW**  
**V<sub>Z</sub> = 2.4 V ... 39 V**  
**T<sub>jmax</sub> = 150°C**

Version 2019-08-02

**SOD-123F**

Dimensions - Maße [mm]

 Type Code:  
 See table – siehe Tabelle
**Typical Applications**
 Voltage stabilization and regulators  
 (For overvoltage protection  
 see TVS diodes SMF series)  
 Commercial grade  
 Suffix -Q: AEC-Q101 compliant <sup>1)</sup>  
 Suffix -AQ: in AEC-Q101 qualification <sup>1)</sup>
**Features**
 ~ ±2% tolerance of Zener voltage  
 Sharp Zener voltage breakdown  
 Low leakage current  
 Compliant to RoHS, REACH,  
 Conflict Minerals <sup>1)</sup>
**Mechanical Data <sup>1)</sup>**

|                              |           |
|------------------------------|-----------|
| Taped and reeled             | 3000 / 7" |
| Weight approx.               | 0.01 g    |
| Case material                | UL 94V-0  |
| Solder & assembly conditions | 260°C/10s |
|                              | MSL = 1   |

**Typische Anwendungen**
 Spannungsstabilisierung und -regler  
 (Für Überspannungsschutz  
 siehe TVS-Diodenreihe SMF)  
 Standardausführung  
 Suffix -Q: AEC-Q101 konform <sup>1)</sup>  
 Suffix -AQ: in AEC-Q101 Qualifikation <sup>1)</sup>
**Besonderheiten**
 ~ ±2% Toleranz der Zener-Spannung  
 Scharfer Zenerspannungsabbruch  
 Niedriger Sperrstrom  
 Konform zu RoHS, REACH,  
 Konfliktmineralien <sup>1)</sup>
**Mechanische Daten <sup>1)</sup>**

|                            |
|----------------------------|
| Gegurtet auf Rolle         |
| Gewicht ca.                |
| Gehäusematerial            |
| Löt- und Einbaubedingungen |

Zener voltages and Type Codes see table on next page

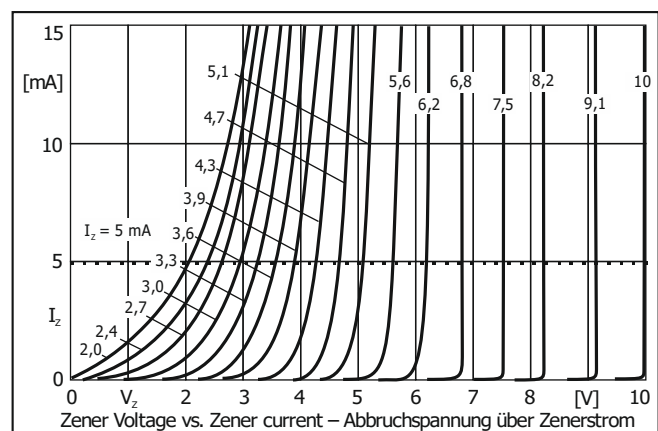
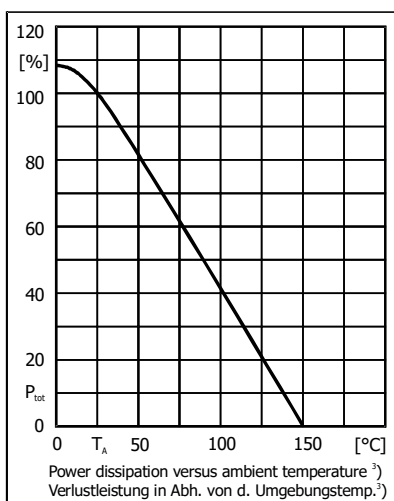
Zener-Spannungen und Typ-Kodierungen siehe Tabelle auf der nächsten Seite

**Maximum ratings <sup>2)</sup>****Grenzwerte <sup>2)</sup>**

|                                                                  |                  |                      |
|------------------------------------------------------------------|------------------|----------------------|
| Power dissipation – Verlustleistung                              | P <sub>tot</sub> | 500 mW <sup>3)</sup> |
| Junction/Storage temperature – Lagerungs-/Sperrschichttemperatur | T <sub>j/s</sub> | -50...+150°C         |

**Characteristics****Kennwerte**

|                                                                                            |                  |                       |
|--------------------------------------------------------------------------------------------|------------------|-----------------------|
| Typ. thermal resistance junction to ambient – Typ. Wärmewiderstand Sperrschicht-Umgebung   | R <sub>thA</sub> | 300 K/W <sup>3)</sup> |
| Typ. thermal resistance junction to terminal – Typ. Wärmewiderstand Sperrschicht-Anschluss | R <sub>thT</sub> | 240 K/W               |



- Please note the [detailed information on our website](#) or at the beginning of the data book  
 Bitte beachten Sie die [detaillierten Hinweise auf unserer Internetseite](#) bzw. am Anfang des Datenbuches
- T<sub>A</sub> = 25°C unless otherwise specified – T<sub>A</sub> = 25°C wenn nicht anders angegeben
- Mounted on P.C. board with 25 mm<sup>2</sup> copper pads per terminal – Montage auf Leiterplatte mit 25 mm<sup>2</sup> Löt pads je Anschluss

**Characteristics**

(T<sub>j</sub> = 25°C unless otherwise specified)

**Kennwerte**

(T<sub>j</sub> = 25°C wenn nicht anders angegeben)

| Type<br>Typ | Code | Z-voltage range <sup>1)</sup><br>Z-Spannungs-Bereich <sup>1)</sup><br>I <sub>Z</sub> = 5 mA |                        | Dynamic resistance<br>Diff. Widerstand<br>r <sub>zj</sub> [Ω] at f = 1 kHz | Temp. Coefficient<br>of Z-voltage<br>...der Z-Spannung | Reverse voltage<br>Sperrspannung<br>V <sub>R</sub> at/bei I <sub>R</sub> |                     | Z-current <sup>2)</sup><br>Z-Strom <sup>2)</sup><br>T <sub>A</sub> = 25°C |
|-------------|------|---------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------|
| BZT52B...   |      | V <sub>Z min</sub> [V]                                                                      | V <sub>Z max</sub> [V] | I <sub>Z</sub> = 5 mA                                                      | α <sub>VZ</sub> [10 <sup>-4</sup> /°C]                 | V <sub>R</sub> [V]                                                       | I <sub>R</sub> [μA] | I <sub>Zmax</sub> [mA]                                                    |
| 2V4         | 9C   | 2.20                                                                                        | 2.65                   | < 100                                                                      | -9...-6                                                | 1                                                                        | 120                 | 189                                                                       |
| 2V7         | 9D   | 2.65                                                                                        | 2.95                   | < 110                                                                      | -9...-6                                                | 1                                                                        | 120                 | 169                                                                       |
| 3V0         | 9E   | 2.95                                                                                        | 3.25                   | < 120                                                                      | -8...-5                                                | 1                                                                        | 120                 | 154                                                                       |
| 3V3         | 9F   | 3.25                                                                                        | 3.55                   | < 120                                                                      | -8...-5                                                | 1                                                                        | 50                  | 141                                                                       |
| 3V6         | 9H   | 3.60                                                                                        | 3.84                   | < 100                                                                      | -8...-5                                                | 1                                                                        | 20                  | 130                                                                       |
| 3V9         | 9J   | 3.89                                                                                        | 4.16                   | < 100                                                                      | -8...-5                                                | 1                                                                        | 10                  | 120                                                                       |
| 4V3         | 9K   | 4.17                                                                                        | 4.43                   | < 100                                                                      | -6...-3                                                | 1                                                                        | 5                   | 113                                                                       |
| 4V7         | 9M   | 4.55                                                                                        | 4.75                   | < 100                                                                      | -5...+2                                                | 1                                                                        | 5                   | 105                                                                       |
| 5V1         | 9N   | 4.98                                                                                        | 5.20                   | < 80                                                                       | -2...+2                                                | 1                                                                        | 2                   | 96                                                                        |
| 5V6         | 9P   | 5.49                                                                                        | 5.73                   | < 60                                                                       | -5...+5                                                | 1.5                                                                      | 2                   | 87                                                                        |
| 6V2         | 9R   | 6.06                                                                                        | 6.33                   | < 60                                                                       | -3...+6                                                | 2.5                                                                      | 1                   | 79                                                                        |
| 6V8/-Q      | 9X   | 6.65                                                                                        | 6.93                   | < 40                                                                       | +3...+7                                                | 3                                                                        | 1                   | 72                                                                        |
| 7V5         | 9Y   | 7.28                                                                                        | 7.60                   | < 30                                                                       | +3...+7                                                | 3.5                                                                      | 0.5                 | 66                                                                        |
| 8V2         | 9Z   | 8.02                                                                                        | 8.36                   | < 30                                                                       | +8...+7                                                | 4                                                                        | 0.5                 | 60                                                                        |
| 9V1         | 0A   | 8.85                                                                                        | 9.23                   | < 30                                                                       | +3...+9                                                | 5                                                                        | 0.5                 | 54                                                                        |
| 10          | 0B   | 9.77                                                                                        | 10.21                  | < 30                                                                       | +3...+10                                               | 6                                                                        | 0.5                 | 49                                                                        |
| 11          | 0C   | 10.76                                                                                       | 11.22                  | < 30                                                                       | +3...+11                                               | 7                                                                        | 0.1                 | 45                                                                        |
| 12          | 0D   | 11.74                                                                                       | 12.24                  | < 30                                                                       | +3...+11                                               | 8                                                                        | 0.1                 | 41                                                                        |
| 13          | 0E   | 12.91                                                                                       | 13.49                  | < 37                                                                       | +3...+11                                               | 9                                                                        | 0.1                 | 37                                                                        |
| 15          | 0F   | 14.34                                                                                       | 14.98                  | < 42                                                                       | +3...+11                                               | 10                                                                       | 0.1                 | 33                                                                        |
| 16/-Q       | 0H   | 15.85                                                                                       | 16.51                  | < 50                                                                       | +3...+11                                               | 11                                                                       | 0.1                 | 30                                                                        |
| 18          | 0J   | 17.56                                                                                       | 18.35                  | < 65                                                                       | +3...+11                                               | 12                                                                       | 0.1                 | 27                                                                        |
| 20/-Q       | 0K   | 19.52                                                                                       | 20.39                  | < 85                                                                       | +3...+11                                               | 13                                                                       | 0.1                 | 25                                                                        |
| 22          | 0M   | 21.54                                                                                       | 22.47                  | < 100                                                                      | +4...+12                                               | 15                                                                       | 0.1                 | 22                                                                        |
| 24          | 0N   | 23.72                                                                                       | 24.78                  | < 120                                                                      | +4...+12                                               | 17                                                                       | 0.1                 | 20                                                                        |
| 27          | 0P   | 26.19                                                                                       | 27.53                  | < 150                                                                      | +4...+12                                               | 19                                                                       | 0.1                 | 18                                                                        |
| 30          | 0R   | 29.19                                                                                       | 30.69                  | < 200                                                                      | +4...+12                                               | 21                                                                       | 0.1                 | 16                                                                        |
| 33          | 0X   | 32.15                                                                                       | 33.79                  | < 250                                                                      | +4...+12                                               | 23                                                                       | 0.1                 | 15                                                                        |
| 36          | 0Y   | 35.07                                                                                       | 36.87                  | < 300                                                                      | +4...+12                                               | 25                                                                       | 0.1                 | 14                                                                        |
| 39          | 0Z   | 37.00                                                                                       | 41.00                  | <100                                                                       | +4...+12                                               | 27                                                                       | 0.1                 | 12                                                                        |

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1 Tested with pulses (20 ms) – Gemessen mit Impulsen (20 ms)

2 Mounted on P.C. board with 25 mm<sup>2</sup> copper pads per terminal – Montage auf Leiterplatte mit 25 mm<sup>2</sup> Lötpad je Anschluss