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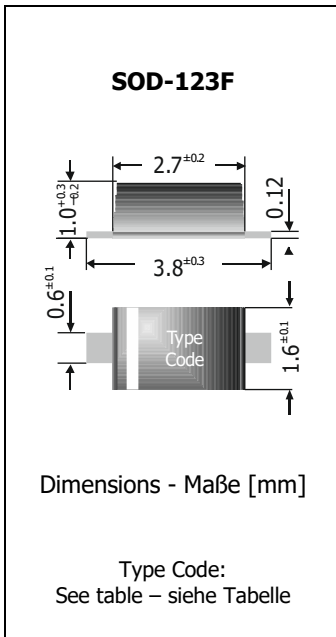
EN: This Datasheet is presented by the manufacturer.

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BZT52C2V0 ... BZT52C75
SMD Planar Zener Diodes
SMD Planar Zener-Dioden

P_{tot} = 500 mW
V_Z = 2.0 V ... 75 V
T_{jmax} = 150°C

Version 2019-12-05



Typical Applications

Voltage stabilization and regulators
 (For overvoltage protection
 see TVS diodes SMF series)
 Commercial grade
 Suffix -Q: AEC-Q101 compliant ¹⁾
 Suffix -AQ: AEC-Q101 qualified ¹⁾

Features

Sharp Zener voltage breakdown
 Low leakage current
 Compliant to RoHS, REACH,
 Conflict Minerals ¹⁾

Mechanical Data ¹⁾

| | |
|------------------------------|-----------|
| 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 ¹⁾
 Suffix -AQ: in AEC-Q101 qualifiziert ¹⁾

Besonderheiten

Scharfer Zenerspannungsabbruch
 Niedriger Sperrstrom
 Konform zu RoHS, REACH,
 Konfliktmineralien ¹⁾

Mechanische Daten ¹⁾

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

Standard Zener voltage tolerance is graded to the international E 24 (~ ±5%) standard. Zener voltages see table on next page. Other voltage tolerances and higher Zener voltages on request.

Die Toleranz der Zener-Spannung ist in der Standard-Ausführung gestuft nach der internationalen Reihe E 24 (~ ±5%). Zener-Spannungen siehe Tabelle auf der nächsten Seite. Andere Toleranzen oder höhere Z-Spannungen auf Anfrage.

Maximum ratings ²⁾

Grenzwerte ²⁾

| | | |
|---|------------------|----------------------|
| Power dissipation Verlustleistung | P _{tot} | 500 mW ³⁾ |
| Junction temperature – Sperrschichttemperatur | T _j | -50...+150°C |
| Storage temperature – Lagerungstemperatur | T _s | -50...+150°C |

Characteristics

Kennwerte

| | | |
|---|------------------|-----------------------|
| Typ. thermal resistance junction to ambient Typ. Wärmewiderstand Sperrschicht-Umgebung | R _{thA} | 250 K/W ³⁾ |
|---|------------------|-----------------------|

1 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
 2 T_A = 25°C unless otherwise specified – T_A = 25°C wenn nicht anders angegeben
 3 Mounted on P.C. board with 25 mm² copper pads per terminal – Montage auf Leiterplatte mit 25 mm² Löt pads je Anschluss

Characteristics

 (T_j = 25°C unless otherwise specified)

Kennwerte

 (T_j = 25°C wenn nicht anders angegeben)

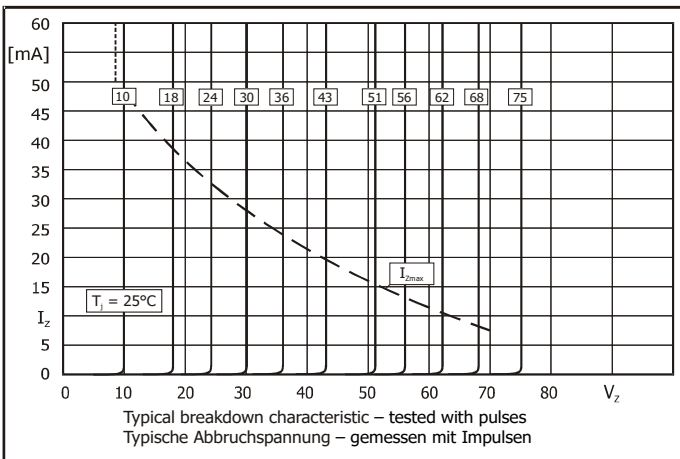
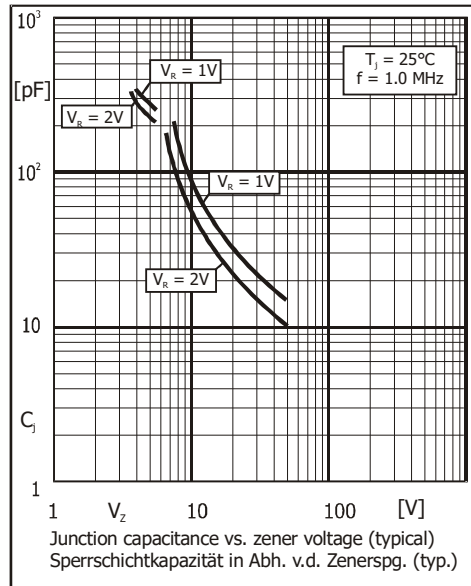
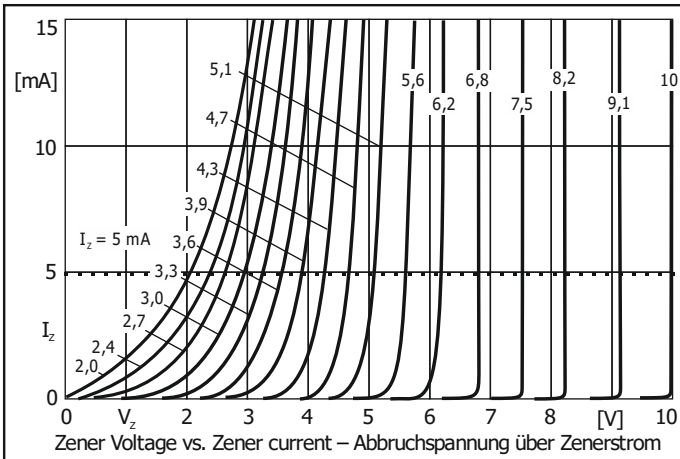
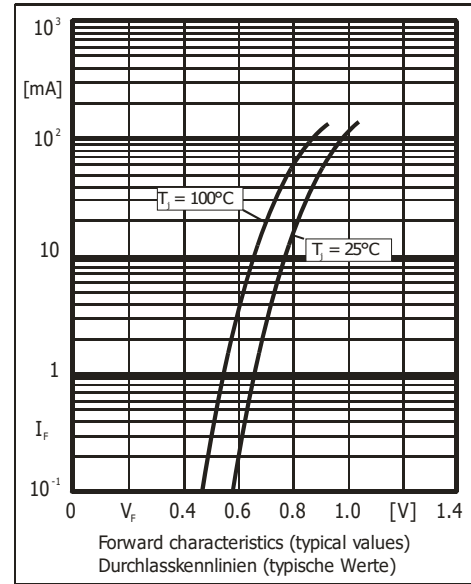
| Type Typ | Code | Z-voltage range ¹⁾ Z-Spannungs-Bereich ²⁾ I _Z = 5 mA | | Dynamic resistance Diff. Widerstand r _{Zj} [Ω] at f = 1 kHz | Temp. Coefficient of Z-voltage ...der Z-Spannung | Reverse voltage Sperrspannung V _R at/bei I _R | | Z-current ²⁾ Z-Strom ²⁾ I _{Zmax} [mA] T _A = 25°C |
|-------------|------------------|---|-----------------------|--|--|--|---------------------|---|
| | | V _{Zmin} [V] | V _{Zmax} [V] | | | V _R [V] | I _R [μA] | |
| BZT52C... | ³⁾ | | | I _Z = 5 mA | α _{VZ} [10 ⁻⁴ /°C] | V _R [V] | I _R [μA] | I _{Zmax} [mA] |
| 2V0/-Q/-AQ | 4A | 1.8 | 2.2 | < 100 | -9...-6 | 0.5 | 120 | 227 |
| 2V4/-Q/-AQ | 4C | 2.2 | 2.6 | < 100 | -9...-6 | 1 | 120 | 192 |
| 2V7/-Q | 4D | 2.5 | 2.9 | < 110 | -9...-6 | 1 | 120 | 172 |
| 3V0 | 4E | 2.8 | 3.2 | < 120 | -8...-5 | 1 | 50 | 156 |
| 3V3/-Q/-AQ | 4F | 3.1 | 3.5 | < 130 | -8...-5 | 1 | 20 | 143 |
| 3V6 | 4H | 3.4 | 3.8 | < 130 | -8...-5 | 1 | 10 | 132 |
| 3V9 | 4J | 3.6 | 4.2 | < 130 | -8...-5 | 1 | 5 | 119 |
| 4V3 | 4K | 4.0 | 4.6 | < 130 | -6...-3 | 1 | 5 | 109 |
| 4V7/-Q/-AQ | 4M | 4.4 | 5.0 | < 130 | -5...+2 | 1 | 2 | 100 |
| 5V1/-Q/-AQ | 4N | 4.8 | 5.4 | < 130 | -2...+2 | 1.5 | 2 | 93 |
| 5V6/-Q/-AQ | 4P | 5.2 | 6.0 | < 80 | -5...+5 | 2.5 | 1 | 83 |
| 6V2 | 4R | 5.8 | 6.6 | < 50 | -3...+6 | 3 | 1 | 76 |
| 6V8/-Q/-AQ | 4X | 6.4 | 7.2 | < 30 | +3...+7 | 3.5 | 0.5 | 69 |
| 7V5/-Q | 4Y | 7.0 | 7.9 | < 30 | +3...+7 | 4 | 0.5 | 63 |
| 8V2/-Q/-AQ | 4Z | 7.7 | 8.7 | < 30 | +8...+7 | 5 | 0.5 | 57 |
| 9V1 | 5A | 8.5 | 9.6 | < 30 | +3...+9 | 6 | 0.5 | 52 |
| 10 | 5B | 9.4 | 10.6 | < 30 | +3...+10 | 7 | 0.1 | 47 |
| 11 | 5C | 10.4 | 11.6 | < 30 | +3...+11 | 8 | 0.1 | 43 |
| 12/-Q | 5D | 11.4 | 12.7 | < 35 | +3...+11 | 9 | 0.1 | 39 |
| 13/-Q | 5E | 12.4 | 14.1 | < 35 | +3...+11 | 10 | 0.1 | 35 |
| 15/-Q/-AQ | 5F | 13.8 | 15.6 | < 40 | +3...+11 | 11 | 0.1 | 32 |
| 16/-Q/-AQ | 5H | 15.3 | 17.1 | < 40 | +3...+11 | 12 | 0.1 | 29 |
| 18/-Q/-AQ | 5J | 16.8 | 19.1 | < 45 | +3...+11 | 13 | 0.1 | 26 |
| 20 | 5K | 18.8 | 21.2 | < 50 | +3...+11 | 15 | 0.1 | 24 |
| 22 | 5M | 20.8 | 23.3 | < 55 | +4...+12 | 17 | 0.1 | 21 |
| 24 | 5N | 22.8 | 25.6 | < 60 | +4...+12 | 19 | 0.1 | 20 |
| 27/-Q | 5P | 25.1 | 28.9 | < 70 | +4...+12 | 21 | 0.1 | 17 |
| 30 | 5R | 28 | 32 | < 80 | +4...+12 | 23 | 0.1 | 16 |
| 33 | 5X | 31 | 35 | < 80 | +4...+12 | 25 | 0.1 | 14 |
| 36 | 5Y | 34 | 38 | < 90 | +4...+12 | 27 | 0.1 | 13 |
| | I _Z = | 2.5 mA | | 2 mA | | | | |
| 39 | 5Z | 37 | 41 | < 100 | +4...+12 | 30 | 2 | 12 |
| 43 | 6A | 40 | 46 | < 130 | +4...+12 | 33 | 2 | 11 |
| 47 | 6B | 44 | 50 | < 150 | +4...+12 | 36 | 2 | 10 |
| 51 | 6C | 48 | 54 | < 180 | +4...+12 | 39 | 1 | 9 |
| 56 | 6D | 52 | 60 | < 180 | +4...+12 | 43 | 1 | 8 |
| 62 | 6E | 58 | 66 | < 200 | +4...+12 | 47 | 0.2 | 8 |
| 68 | 6F | 64 | 72 | < 250 | +4...+12 | 52 | 0.2 | 7 |
| 75/-AQ | 6H | 70 | 79 | < 300 | +4...+12 | 57 | 0.2 | 6 |

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

 2 Mounted on P.C. board with 25 mm² copper pads per terminal – Montage auf Leiterplatte mit 25 mm² Löt-pad je Anschluss

3 Marking of -AQ parts: Nominal Zener voltage followed by "Z", e. g. "2V0Z" for BZT52C2V0-AQ and "18VZ" for BZT52C18-AQ

Markierung der -AQ Versionen: Nominelle Zenerspannung plus „Z“, z. B. „2V0Z“ für BZT52C2V0-AQ and „18VZ“ für BZT5218-AQ



Disclaimer: See data book page 2 or [website](#)
Haftungsausschluss: Siehe Datenbuch Seite 2 oder [Internet](#)