



# BZT52 series

## Voltage regulator diodes

Rev. 2 — 13 October 2025

Product data sheet

## 1. General description

General-purpose Zener diodes in an SOD123 small and flat lead Surface-Mounted Device (SMD) plastic package.

## 2. Features and benefits

- Total power dissipation:  $\leq 590$  mW
- Two tolerance series:  $\pm 2$  % and approximately  $\pm 5$  %
- Wide working voltage range: nominal 2.4 V to 75 V (E24 range)
- Small plastic package suitable for surface-mounted design
- Low differential resistance

## 3. Applications

- General regulation functions

## 4. Quick reference data

Table 1. Quick reference data

| Symbol    | Parameter               | Conditions           |     | Min | Typ | Max | Unit |
|-----------|-------------------------|----------------------|-----|-----|-----|-----|------|
| $V_F$     | forward voltage         | $I_F = 10$ mA        | [1] | -   | -   | 0.9 | V    |
| $P_{tot}$ | total power dissipation | $T_{amb} \leq 25$ °C | [2] | -   | -   | 350 | mW   |
|           |                         |                      | [3] | -   | -   | 590 | mW   |

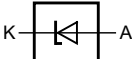
[1] Pulse test:  $t_p \leq 300$   $\mu$ s;  $\delta \leq 0.02$ .

[2] Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint.

[3] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for cathode 1 cm<sup>2</sup>.

5. Pinning information

Table 2. Pinning

| Pin | Symbol | Description |     | Simplified outline                                                                 | Graphic symbol                                                                                   |
|-----|--------|-------------|-----|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 1   | K      | cathode     | [1] |  | <br>006aaa152 |
| 2   | A      | anode       |     |                                                                                    |                                                                                                  |

[1] The marking bar indicates the cathode.

6. Ordering information

Table 3. Ordering information

| Type number                    | Package |                                          |         |
|--------------------------------|---------|------------------------------------------|---------|
|                                | Name    | Description                              | Version |
| BZT52-B2V4 to BZT52-C75<br>[1] | -       | plastic surface-mounted package; 2 leads | SOD123  |

[1] The series consists of 74 types with nominal working voltages from 2.4 V to 75 V.

7. Marking

Table 4. Marking codes

| Type number | Marking code | Type number | Marking code | Type number | Marking code | Type number | Marking code |
|-------------|--------------|-------------|--------------|-------------|--------------|-------------|--------------|
| BZT52-B2V4  | D7           | BZT52-B15   | DS           | BZT52-C2V4  | C1           | BZT52-C15   | CL           |
| BZT52-B2V7  | D8           | BZT52-B16   | DT           | BZT52-C2V7  | C2           | BZT52-C16   | CM           |
| BZT52-B3V0  | D9           | BZT52-B18   | DU           | BZT52-C3V0  | C3           | BZT52-C18   | CN           |
| BZT52-B3V3  | DA           | BZT52-B20   | DV           | BZT52-C3V3  | C4           | BZT52-C20   | CP           |
| BZT52-B3V6  | DB           | BZT52-B22   | DW           | BZT52-C3V6  | C5           | BZT52-C22   | CQ           |
| BZT52-B3V9  | DC           | BZT52-B24   | DY           | BZT52-C3V9  | C6           | BZT52-C24   | CR           |
| BZT52-B4V3  | DD           | BZT52-B27   | E1           | BZT52-C4V3  | C7           | BZT52-C27   | CS           |
| BZT52-B4V7  | DE           | BZT52-B30   | E2           | BZT52-C4V7  | C8           | BZT52-C30   | CT           |
| BZT52-B5V1  | DF           | BZT52-B33   | E3           | BZT52-C5V1  | C9           | BZT52-C33   | CU           |
| BZT52-B5V6  | DG           | BZT52-B36   | E4           | BZT52-C5V6  | CA           | BZT52-C36   | CV           |
| BZT52-B6V2  | DH           | BZT52-B39   | E5           | BZT52-C6V2  | CB           | BZT52-C39   | CW           |
| BZT52-B6V8  | DJ           | BZT52-B43   | E6           | BZT52-C6V8  | CC           | BZT52-C43   | CY           |
| BZT52-B7V5  | DK           | BZT52-B47   | E7           | BZT52-C7V5  | CD           | BZT52-C47   | D1           |
| BZT52-B8V2  | DL           | BZT52-B51   | E8           | BZT52-C8V2  | CE           | BZT52-C51   | D2           |
| BZT52-B9V1  | DM           | BZT52-B56   | E9           | BZT52-C9V1  | CF           | BZT52-C56   | D3           |
| BZT52-B10   | DN           | BZT52-B62   | EA           | BZT52-C10   | CG           | BZT52-C62   | D4           |
| BZT52-B11   | DP           | BZT52-B68   | EB           | BZT52-C11   | CH           | BZT52-C68   | D5           |
| BZT52-B12   | DQ           | BZT52-B75   | EC           | BZT52-C12   | CJ           | BZT52-C75   | D6           |
| BZT52-B13   | DR           | -           | -            | BZT52-C13   | CK           | -           | -            |

8. Limiting values

Table 5. Limiting values  
In accordance with the Absolute Maximum Rating System (IEC 60134).

| Symbol           | Parameter                                     | Conditions               |     | Min | Max                    | Unit |
|------------------|-----------------------------------------------|--------------------------|-----|-----|------------------------|------|
| I <sub>F</sub>   | forward current                               |                          |     | -   | 250                    | mA   |
| I <sub>ZSM</sub> | non-repetitive peak reverse current           |                          |     | -   | see Tables 8, 9 and 10 |      |
| P <sub>ZSM</sub> | non-repetitive peak reverse power dissipation |                          | [1] | -   | 40                     | W    |
| P <sub>tot</sub> | total power dissipation                       | T <sub>amb</sub> ≤ 25 °C | [2] | -   | 350                    | mW   |
|                  |                                               |                          | [3] | -   | 590                    | mW   |
| T <sub>j</sub>   | junction temperature                          |                          |     | -   | 150                    | °C   |
| T <sub>amb</sub> | ambient temperature                           |                          |     | -55 | +150                   | °C   |
| T <sub>stg</sub> | storage temperature                           |                          |     | -65 | +150                   | °C   |

- [1] t<sub>p</sub> = 100 μs; square wave; T<sub>j</sub> = 25 °C prior to surge.  
[2] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.  
[3] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for cathode 1 cm<sup>2</sup>.

9. Thermal characteristics

Table 6. Thermal characteristics

| Symbol                | Parameter                                        | Conditions  |     | Min | Typ | Max | Unit |
|-----------------------|--------------------------------------------------|-------------|-----|-----|-----|-----|------|
| R <sub>th(j-a)</sub>  | thermal resistance from junction to ambient      | in free air | [1] | -   | -   | 350 | K/W  |
|                       |                                                  |             | [2] | -   | -   | 210 | K/W  |
| R <sub>th(j-sp)</sub> | thermal resistance from junction to solder point |             | [3] | -   | -   | 55  | K/W  |

- [1] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.  
[2] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for cathode 1 cm<sup>2</sup>.  
[3] Soldering point of cathode tab.

10. Characteristics

Table 7. Characteristics

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

| Symbol         | Parameter       | Conditions             |     | Min | Typ | Max | Unit |
|----------------|-----------------|------------------------|-----|-----|-----|-----|------|
| V <sub>F</sub> | forward voltage | I <sub>F</sub> = 10 mA | [1] | -   | -   | 0.9 | V    |

[1] Pulse test: t<sub>p</sub> ≤ 300 μs; δ ≤ 0.02.

Table 8. Characteristics per type; BZT52-B2V4 to BZT52-C24

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

| BZT52<br>-xxx | Sel | Working<br>voltage<br>V <sub>Z</sub> (V);<br>I <sub>Z</sub> = 5 mA |      | Maximum differential<br>resistance r <sub>dif</sub> (Ω) |                       | Reverse<br>current I <sub>R</sub> (μA) |                    | Temperature<br>coefficient<br>S <sub>Z</sub> (mV/K);<br>I <sub>Z</sub> = 5 mA |     | Diode<br>capacitance<br>C <sub>d</sub> (pF) [1] | Non-repetitive<br>peak reverse<br>current<br>I <sub>ZSM</sub> (A) [2] |
|---------------|-----|--------------------------------------------------------------------|------|---------------------------------------------------------|-----------------------|----------------------------------------|--------------------|-------------------------------------------------------------------------------|-----|-------------------------------------------------|-----------------------------------------------------------------------|
|               |     | Min                                                                | Max  | I <sub>Z</sub> = 1 mA                                   | I <sub>Z</sub> = 5 mA | Max                                    | V <sub>R</sub> (V) | Min                                                                           | Max | Max                                             | Max                                                                   |
| 2V4           | B   | 2.35                                                               | 2.45 | 400                                                     | 85                    | 50                                     | 1                  | -3.5                                                                          | 0.0 | 450                                             | 6.0                                                                   |
|               | C   | 2.2                                                                | 2.6  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 2V7           | B   | 2.65                                                               | 2.75 | 500                                                     | 83                    | 20                                     | 1                  | -3.5                                                                          | 0.0 | 450                                             | 6.0                                                                   |
|               | C   | 2.5                                                                | 2.9  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 3V0           | B   | 2.94                                                               | 3.06 | 500                                                     | 95                    | 10                                     | 1                  | -3.5                                                                          | 0.0 | 450                                             | 6.0                                                                   |
|               | C   | 2.8                                                                | 3.2  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 3V3           | B   | 3.23                                                               | 3.37 | 500                                                     | 95                    | 5                                      | 1                  | -3.5                                                                          | 0.0 | 450                                             | 6.0                                                                   |
|               | C   | 3.1                                                                | 3.5  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 3V6           | B   | 3.53                                                               | 3.67 | 500                                                     | 95                    | 5                                      | 1                  | -3.5                                                                          | 0.0 | 450                                             | 6.0                                                                   |
|               | C   | 3.4                                                                | 3.8  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 3V9           | B   | 3.82                                                               | 3.98 | 500                                                     | 95                    | 3                                      | 1                  | -3.5                                                                          | 0.0 | 450                                             | 6.0                                                                   |
|               | C   | 3.7                                                                | 4.1  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 4V3           | B   | 4.21                                                               | 4.39 | 500                                                     | 95                    | 3                                      | 1                  | -3.5                                                                          | 0.0 | 450                                             | 6.0                                                                   |
|               | C   | 4.0                                                                | 4.6  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 4V7           | B   | 4.61                                                               | 4.79 | 500                                                     | 78                    | 3                                      | 2                  | -3.5                                                                          | 0.2 | 300                                             | 6.0                                                                   |
|               | C   | 4.4                                                                | 5.0  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 5V1           | B   | 5.0                                                                | 5.2  | 480                                                     | 60                    | 2                                      | 2                  | -2.7                                                                          | 1.2 | 300                                             | 6.0                                                                   |
|               | C   | 4.8                                                                | 5.4  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 5V6           | B   | 5.49                                                               | 5.71 | 400                                                     | 40                    | 1                                      | 2                  | -2.0                                                                          | 2.5 | 300                                             | 6.0                                                                   |
|               | C   | 5.2                                                                | 6.0  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 6V2           | B   | 6.08                                                               | 6.32 | 150                                                     | 10                    | 3                                      | 4                  | 0.4                                                                           | 3.7 | 200                                             | 6.0                                                                   |
|               | C   | 5.8                                                                | 6.6  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 6V8           | B   | 6.66                                                               | 6.94 | 80                                                      | 8                     | 2                                      | 4                  | 1.2                                                                           | 4.5 | 200                                             | 6.0                                                                   |
|               | C   | 6.4                                                                | 7.2  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 7V5           | B   | 7.35                                                               | 7.65 | 80                                                      | 10                    | 1                                      | 5                  | 2.5                                                                           | 5.3 | 150                                             | 4.0                                                                   |
|               | C   | 7.0                                                                | 7.9  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 8V2           | B   | 8.04                                                               | 8.36 | 80                                                      | 10                    | 0.7                                    | 5                  | 3.2                                                                           | 6.2 | 150                                             | 4.0                                                                   |
|               | C   | 7.7                                                                | 8.7  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |
| 9V1           | B   | 8.92                                                               | 9.28 | 100                                                     | 10                    | 0.5                                    | 6                  | 3.8                                                                           | 7.0 | 150                                             | 3.0                                                                   |
|               | C   | 8.5                                                                | 9.6  |                                                         |                       |                                        |                    |                                                                               |     |                                                 |                                                                       |

| BZT52<br>-xxx | Sel | Working<br>voltage<br>V <sub>Z</sub> (V);<br>I <sub>Z</sub> = 5 mA |      | Maximum differential<br>resistance r <sub>dif</sub> (Ω) |                       | Reverse<br>current I <sub>R</sub> (μA) |                    | Temperature<br>coefficient<br>S <sub>Z</sub> (mV/K);<br>I <sub>Z</sub> = 5 mA |      | Diode<br>capacitance<br>C <sub>d</sub> (pF) [1] | Non-repetitive<br>peak reverse<br>current<br>I <sub>ZSM</sub> (A) [2] |
|---------------|-----|--------------------------------------------------------------------|------|---------------------------------------------------------|-----------------------|----------------------------------------|--------------------|-------------------------------------------------------------------------------|------|-------------------------------------------------|-----------------------------------------------------------------------|
|               |     | Min                                                                | Max  | I <sub>Z</sub> = 1 mA                                   | I <sub>Z</sub> = 5 mA | Max                                    | V <sub>R</sub> (V) | Min                                                                           | Max  | Max                                             | Max                                                                   |
| 10            | B   | 9.8                                                                | 10.2 | 70                                                      | 10                    | 0.2                                    | 7                  | 4.5                                                                           | 8.0  | 90                                              | 3.0                                                                   |
|               | C   | 9.4                                                                | 10.6 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 11            | B   | 10.8                                                               | 11.2 | 70                                                      | 10                    | 0.1                                    | 8                  | 5.4                                                                           | 9.0  | 85                                              | 2.5                                                                   |
|               | C   | 10.4                                                               | 11.6 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 12            | B   | 11.8                                                               | 12.2 | 90                                                      | 10                    | 0.1                                    | 8                  | 6.0                                                                           | 10.0 | 85                                              | 2.5                                                                   |
|               | C   | 11.4                                                               | 12.7 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 13            | B   | 12.7                                                               | 13.3 | 110                                                     | 10                    | 0.1                                    | 8                  | 7.0                                                                           | 11.0 | 80                                              | 2.5                                                                   |
|               | C   | 12.4                                                               | 14.1 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 15            | B   | 14.7                                                               | 15.3 | 110                                                     | 15                    | 0.05                                   | 10.5               | 9.2                                                                           | 13.0 | 75                                              | 2.0                                                                   |
|               | C   | 13.8                                                               | 15.6 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 16            | B   | 15.7                                                               | 16.3 | 170                                                     | 20                    | 0.05                                   | 11.2               | 10.4                                                                          | 14.0 | 75                                              | 1.5                                                                   |
|               | C   | 15.3                                                               | 17.1 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 18            | B   | 17.6                                                               | 18.4 | 170                                                     | 20                    | 0.05                                   | 12.6               | 12.4                                                                          | 16.0 | 70                                              | 1.5                                                                   |
|               | C   | 16.8                                                               | 19.1 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 20            | B   | 19.6                                                               | 20.4 | 220                                                     | 20                    | 0.05                                   | 14                 | 14.4                                                                          | 18.0 | 60                                              | 1.5                                                                   |
|               | C   | 18.8                                                               | 21.2 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 22            | B   | 21.6                                                               | 22.4 | 220                                                     | 25                    | 0.05                                   | 15.4               | 16.4                                                                          | 20.0 | 60                                              | 1.25                                                                  |
|               | C   | 20.8                                                               | 23.3 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 24            | B   | 23.5                                                               | 24.5 | 220                                                     | 30                    | 0.05                                   | 16.8               | 18.4                                                                          | 22.0 | 55                                              | 1.25                                                                  |
|               | C   | 22.8                                                               | 25.6 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |

[1] f = 1 MHz; V<sub>R</sub> = 0 V.  
[2] t<sub>p</sub> = 100 μs; T<sub>amb</sub> = 25 °C.

Table 9. Characteristics per type; BZT52-B27 to BZT52-C51

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

| BZT52<br>-xxx | Sel | Working<br>voltage<br>V <sub>Z</sub> (V);<br>I <sub>Z</sub> = 2 mA |      | Maximum differential<br>resistance r <sub>dif</sub> (Ω) |                       | Reverse<br>current I <sub>R</sub> (μA) |                    | Temperature<br>coefficient<br>S <sub>Z</sub> (mV/K);<br>I <sub>Z</sub> = 5 mA |      | Diode<br>capacitance<br>C <sub>d</sub> (pF) [1] | Non-repetitive<br>peak reverse<br>current<br>I <sub>ZSM</sub> (A) [2] |
|---------------|-----|--------------------------------------------------------------------|------|---------------------------------------------------------|-----------------------|----------------------------------------|--------------------|-------------------------------------------------------------------------------|------|-------------------------------------------------|-----------------------------------------------------------------------|
|               |     | Min                                                                | Max  | I <sub>Z</sub> = 1 mA                                   | I <sub>Z</sub> = 5 mA | Max                                    | V <sub>R</sub> (V) | Min                                                                           | Max  | Max                                             | Max                                                                   |
| 27            | B   | 26.5                                                               | 27.5 | 250                                                     | 40                    | 0.05                                   | 18.9               | 21.4                                                                          | 25.3 | 50                                              | 1.0                                                                   |
|               | C   | 25.1                                                               | 28.9 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 30            | B   | 29.4                                                               | 30.6 | 250                                                     | 40                    | 0.05                                   | 21                 | 24.4                                                                          | 29.4 | 50                                              | 1.0                                                                   |
|               | C   | 28.0                                                               | 32.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 33            | B   | 32.3                                                               | 33.7 | 250                                                     | 40                    | 0.05                                   | 23.1               | 27.4                                                                          | 33.4 | 45                                              | 0.9                                                                   |
|               | C   | 31.0                                                               | 35.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 36            | B   | 35.3                                                               | 36.7 | 250                                                     | 60                    | 0.05                                   | 25.2               | 30.4                                                                          | 37.4 | 45                                              | 0.8                                                                   |
|               | C   | 34.0                                                               | 38.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 39            | B   | 38.2                                                               | 39.8 | 300                                                     | 75                    | 0.05                                   | 27.3               | 33.4                                                                          | 41.2 | 45                                              | 0.7                                                                   |
|               | C   | 37.0                                                               | 41.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 43            | B   | 42.1                                                               | 43.9 | 325                                                     | 80                    | 0.05                                   | 30.1               | 37.6                                                                          | 46.6 | 40                                              | 0.6                                                                   |
|               | C   | 40.0                                                               | 46.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |

| BZT52<br>-xxx | Sel | Working<br>voltage<br>V <sub>Z</sub> (V);<br>I <sub>Z</sub> = 2 mA |      | Maximum differential<br>resistance r <sub>dif</sub> (Ω) |                       | Reverse<br>current I <sub>R</sub> (μA) |                    | Temperature<br>coefficient<br>S <sub>Z</sub> (mV/K);<br>I <sub>Z</sub> = 5 mA |      | Diode<br>capacitance<br>C <sub>d</sub> (pF) [1] | Non-repetitive<br>peak reverse<br>current<br>I <sub>ZSM</sub> (A) [2] |
|---------------|-----|--------------------------------------------------------------------|------|---------------------------------------------------------|-----------------------|----------------------------------------|--------------------|-------------------------------------------------------------------------------|------|-------------------------------------------------|-----------------------------------------------------------------------|
|               |     | Min                                                                | Max  | I <sub>Z</sub> = 1 mA                                   | I <sub>Z</sub> = 5 mA | Max                                    | V <sub>R</sub> (V) | Min                                                                           | Max  | Max                                             | Max                                                                   |
| 47            | B   | 46.1                                                               | 47.9 | 325                                                     | 90                    | 0.05                                   | 32.9               | 42.0                                                                          | 51.8 | 40                                              | 0.5                                                                   |
|               | C   | 44.0                                                               | 50.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 51            | B   | 50.0                                                               | 52.0 | 350                                                     | 100                   | 0.05                                   | 35.7               | 46.6                                                                          | 57.2 | 40                                              | 0.4                                                                   |
|               | C   | 48.0                                                               | 54.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |

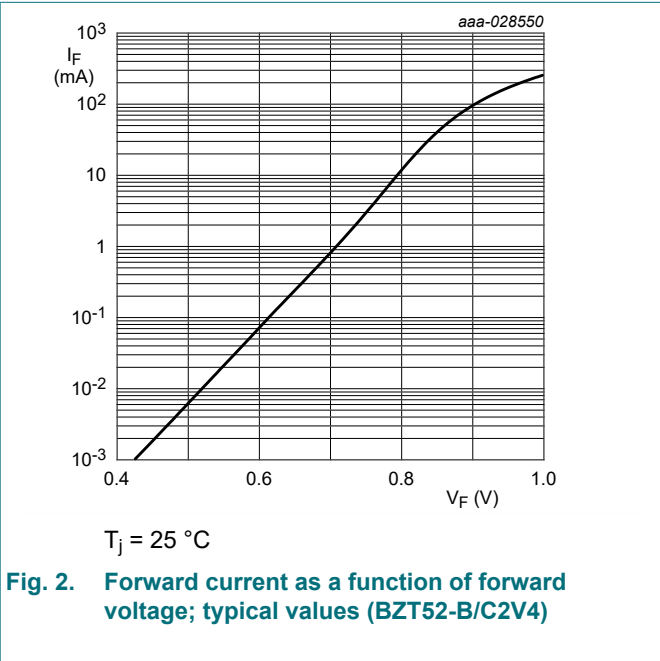
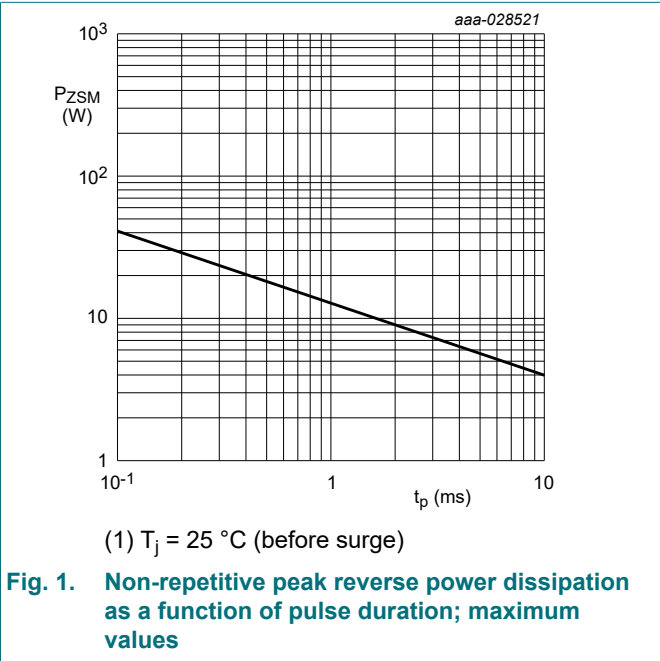
[1] f = 1 MHz; V<sub>R</sub> = 0 V.  
[2] t<sub>p</sub> = 100 μs; T<sub>amb</sub> = 25 °C.

Table 10. Characteristics per type; BZT52-B56 to BZT52-C75

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

| BZT52<br>-xxx | Sel | Working<br>voltage<br>V <sub>Z</sub> (V);<br>I <sub>Z</sub> = 2 mA |      | Maximum differential<br>resistance r <sub>dif</sub> (Ω) |                       | Reverse<br>current I <sub>R</sub> (μA) |                    | Temperature<br>coefficient<br>S <sub>Z</sub> (mV/K);<br>I <sub>Z</sub> = 5 mA |      | Diode<br>capacitance<br>C <sub>d</sub> (pF) [1] | Non-repetitive<br>peak reverse<br>current<br>I <sub>ZSM</sub> (A) [2] |
|---------------|-----|--------------------------------------------------------------------|------|---------------------------------------------------------|-----------------------|----------------------------------------|--------------------|-------------------------------------------------------------------------------|------|-------------------------------------------------|-----------------------------------------------------------------------|
|               |     | Min                                                                | Max  | I <sub>Z</sub> = 0.5 mA                                 | I <sub>Z</sub> = 2 mA | Max                                    | V <sub>R</sub> (V) | Min                                                                           | Max  | Max                                             | Max                                                                   |
| 56            | B   | 54.9                                                               | 57.1 | 375                                                     | 120                   | 0.05                                   | 39.2               | 52.2                                                                          | 63.8 | 40                                              | 0.3                                                                   |
|               | C   | 52.0                                                               | 60.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 62            | B   | 60.8                                                               | 63.2 | 400                                                     | 140                   | 0.05                                   | 43.4               | 58.8                                                                          | 71.6 | 35                                              | 0.3                                                                   |
|               | C   | 58.0                                                               | 66.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 68            | B   | 66.6                                                               | 69.4 | 400                                                     | 160                   | 0.05                                   | 47.6               | 65.6                                                                          | 79.8 | 35                                              | 0.25                                                                  |
|               | C   | 64.0                                                               | 72.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |
| 75            | B   | 73.5                                                               | 76.5 | 400                                                     | 175                   | 0.05                                   | 52.5               | 73.4                                                                          | 88.6 | 35                                              | 0.20                                                                  |
|               | C   | 70.0                                                               | 79.0 |                                                         |                       |                                        |                    |                                                                               |      |                                                 |                                                                       |

[1] f = 1 MHz; V<sub>R</sub> = 0 V.  
[2] t<sub>p</sub> = 100 μs; T<sub>amb</sub> = 25 °C.



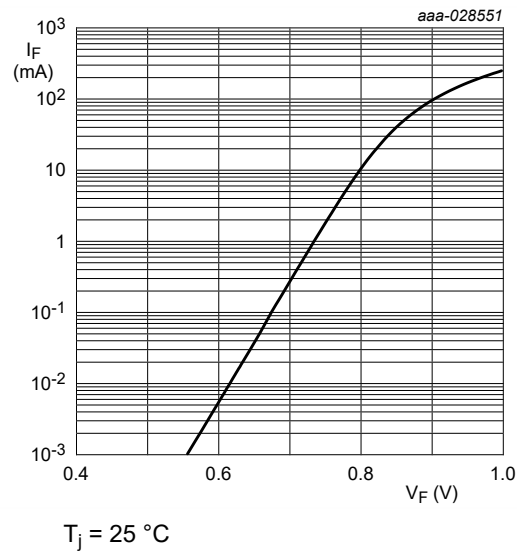


Fig. 3. Forward current as a function of forward voltage; typical values (BZT52-B/C6V8)

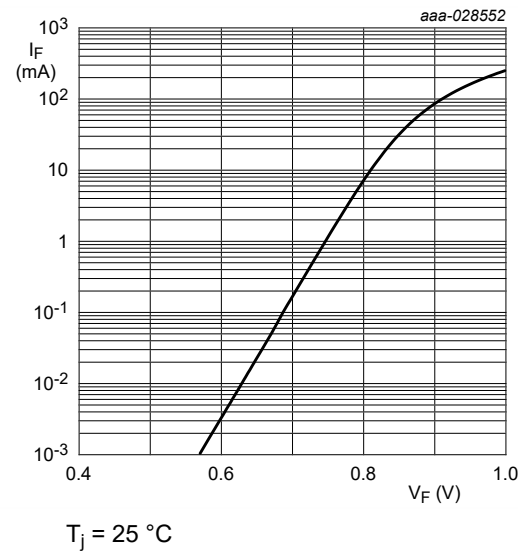


Fig. 4. Forward current as a function of forward voltage; typical values (BZT52-B/C7V5)

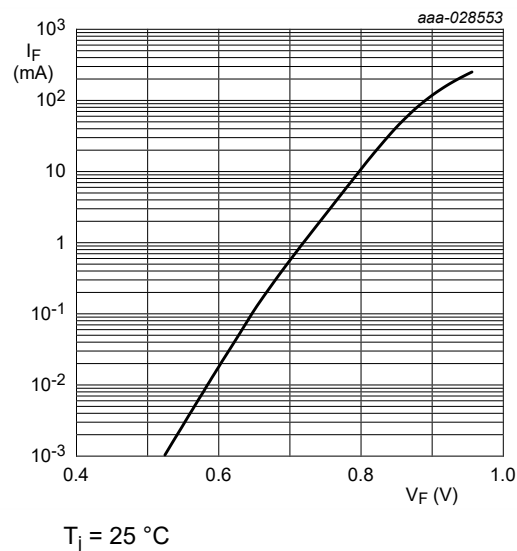


Fig. 5. Forward current as a function of forward voltage; typical values (BZT52-B/C75)

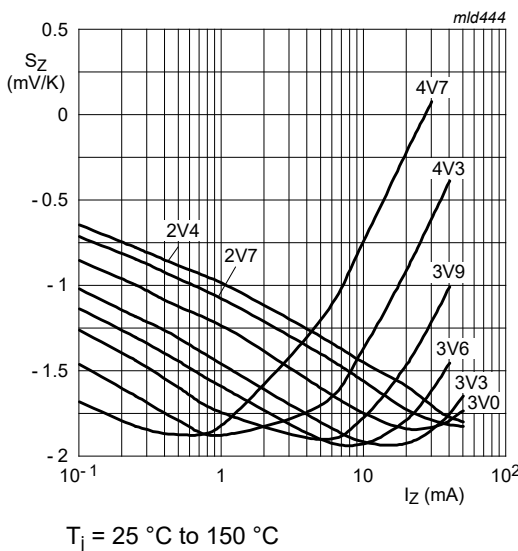


Fig. 6. Temperature coefficient as a function of working current; typical values (BZT52-B/C2V4 to B/C4V7)

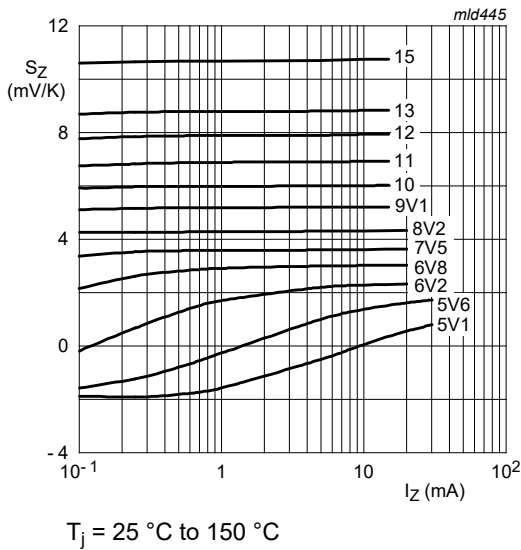


Fig. 7. Temperature coefficient as a function of working current; typical values (BZT52-B/C5V1 to B/C15)

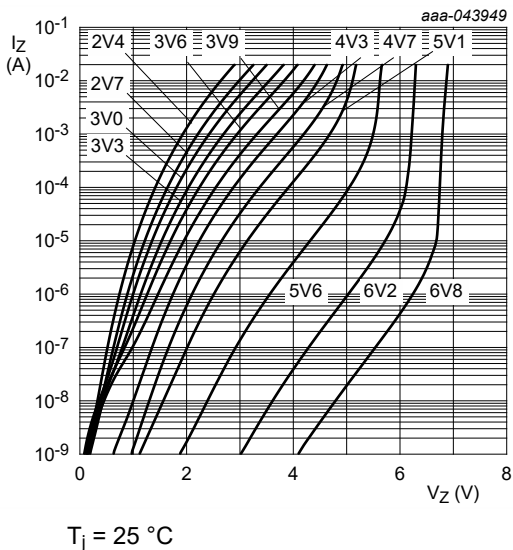


Fig. 8. Reverse current as a function of reverse voltage; typical values (BZT52-B/C2V4 to -B/C6V8)

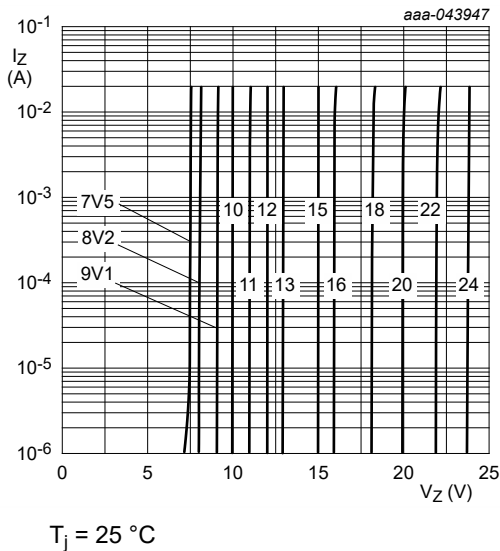


Fig. 9. Reverse current as a function of reverse voltage; typical values (BZT52-B/C7V5 to B/C24)

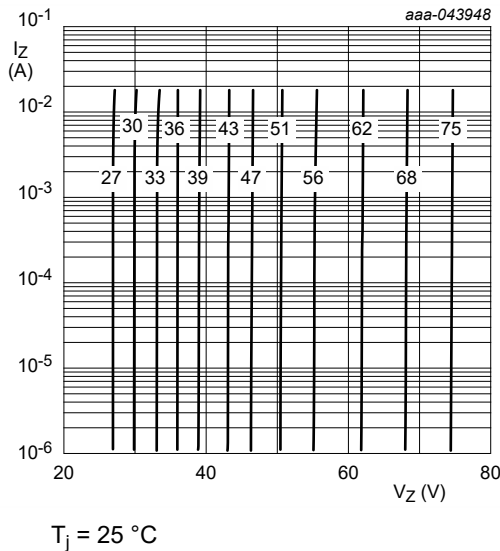


Fig. 10. Reverse current as a function of reverse voltage; typical values (BZT52-B/C27 to -B/C75)

11. Package outline

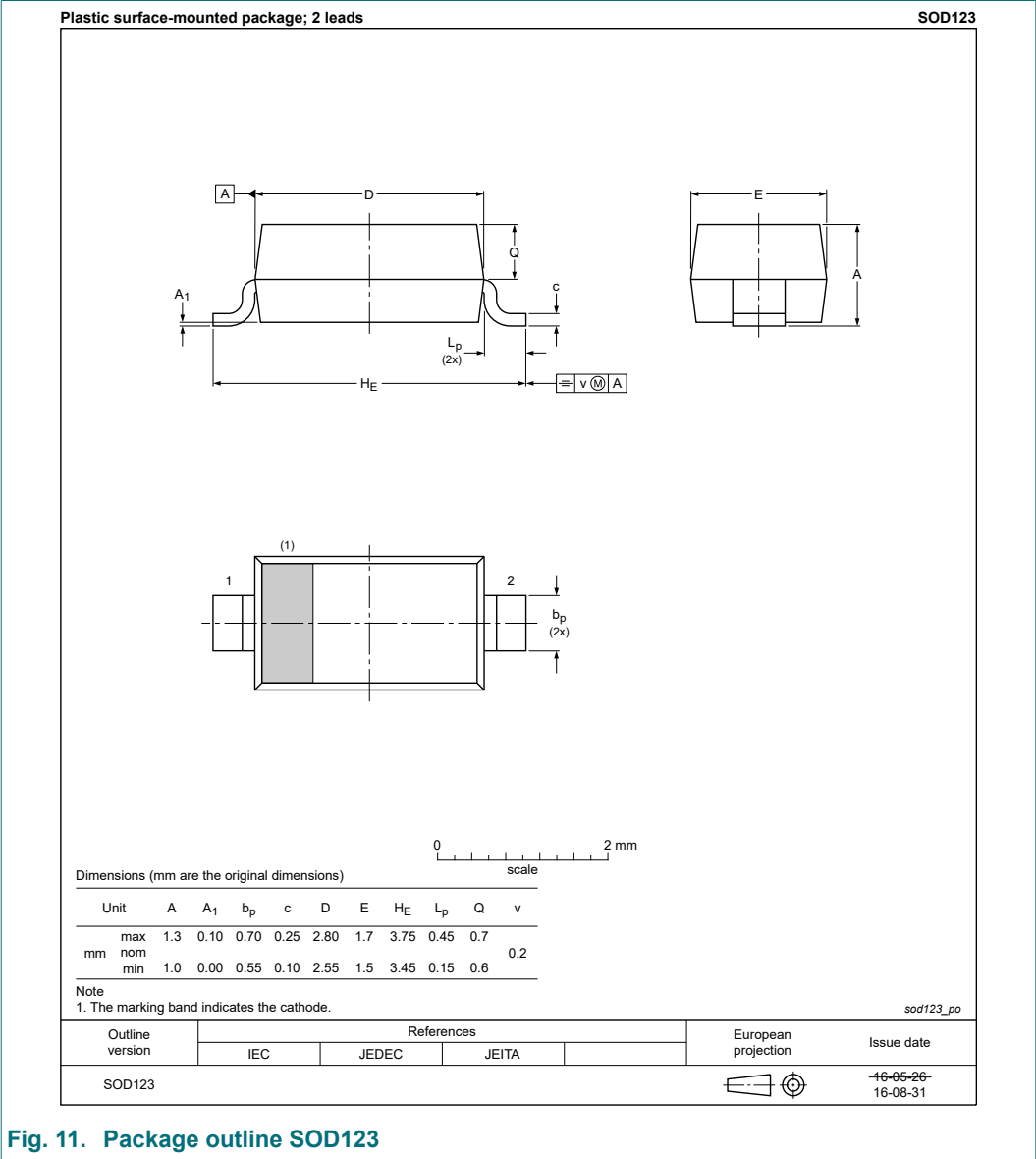
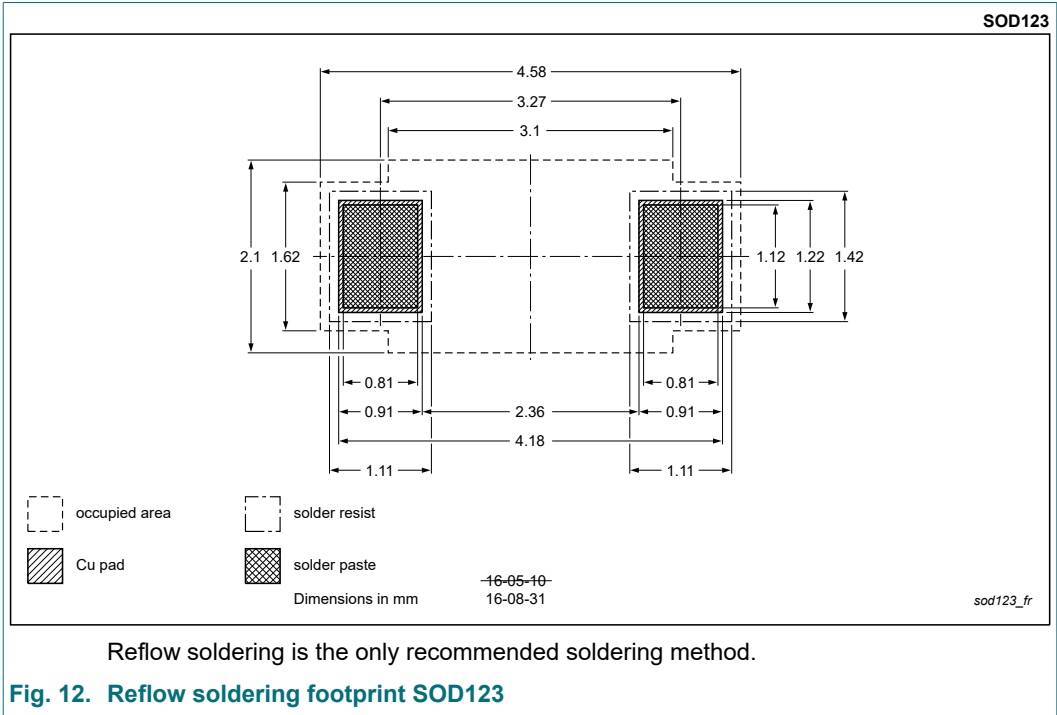


Fig. 11. Package outline SOD123

12. Soldering



13. Revision history

Table 11. Revision history

| Document ID    | Release date                                                                                                                                                                                                                                                                                                                                                                  | Data sheet status  | Change notice | Supersedes    |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|---------------|
| BZT52_SER v.2  | 20251013                                                                                                                                                                                                                                                                                                                                                                      | Product data sheet | -             | BZT52_SER v.1 |
| Modifications: | <ul style="list-style-type: none"><li>Products with C-selction changed to non-automotive qualification. Please refer to nexperia.com for automotive (-Q) product alternative(s).</li><li>The products of B-selction (former data sheet name: BZT52-B_SER) are added to this data sheet</li><li>Characteristics: Graphs of Fig 8, 9 and 10 exchanged with newer ones</li></ul> |                    |               |               |
| BZT52_SER v.1  | 20170316                                                                                                                                                                                                                                                                                                                                                                      | Product data sheet | -             | -             |

## 14. Legal information

### Data sheet status

| Document status [1][2]         | Product status [3] | Definition                                                                            |
|--------------------------------|--------------------|---------------------------------------------------------------------------------------|
| Objective [short] data sheet   | Development        | This document contains data from the objective specification for product development. |
| Preliminary [short] data sheet | Qualification      | This document contains data from the preliminary specification.                       |
| Product [short] data sheet     | Production         | This document contains the product specification.                                     |

- [1] Please consult the most recently issued document before initiating or completing a design.
- [2] The term 'short data sheet' is explained in section "Definitions".
- [3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the internet at <https://www.nexperia.com>.

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