

# PZUxB series

Single Zener diodes in a SOD323F package

Rev. 01 — 7 March 2006

Product data sheet

## 1. Product profile

### 1.1 General description

General-purpose Zener diodes in a SOD323F (SC-90) very small and flat lead Surface Mounted Device (SMD) plastic package.

### 1.2 Features

- Total power dissipation:  $\leq 310$  mW
- Tolerance series: B: approximately  $\pm 5$  %; B1, B2, B3: sequential, approximately  $\pm 2$  %
- Small plastic package suitable for surface mounted design
- Wide working voltage range: nominal 2.4 V to 36 V

### 1.3 Applications

- General regulation functions

### 1.4 Quick reference data

Table 1. Quick reference data

| Symbol    | Parameter               | Conditions           | Min   | Typ | Max | Unit |
|-----------|-------------------------|----------------------|-------|-----|-----|------|
| $V_F$     | forward voltage         | $I_F = 100$ mA       | [1] - | -   | 1.1 | V    |
| $P_{tot}$ | total power dissipation | $T_{amb} \leq 25$ °C | [2] - | -   | 310 | mW   |
|           |                         |                      | [3] - | -   | 550 | mW   |

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

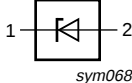
[2] Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint.

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

# PHILIPS

## 2. Pinning information

Table 2. Pinning

| Pin | Description | Simplified outline                                                                  | Symbol                                                                              |
|-----|-------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1   | cathode     |  |  |
| 2   | anode       |                                                                                     |                                                                                     |

[1] The marking bar indicates the cathode.

## 3. Ordering information

Table 3. Ordering information

| Type number                      | Package |                                          |         |
|----------------------------------|---------|------------------------------------------|---------|
|                                  | Name    | Description                              | Version |
| PZU2.4B to PZU36B <sup>[1]</sup> | SC-90   | plastic surface mounted package; 2 leads | SOD323F |

[1] The series consists of 97 types with nominal working voltages from 2.4 V to 36 V.

## 4. Marking

Table 4. Marking codes

| Type number | Marking code |    |    |    | Type number | Marking code |    |    |    |
|-------------|--------------|----|----|----|-------------|--------------|----|----|----|
|             | B            | B1 | B2 | B3 |             | B            | B1 | B2 | B3 |
| PZU2.4      | G3           | -  | -  | -  | PZU10       | GJ           | FH | HF | KB |
| PZU2.7      | G4           | F3 | H1 | -  | PZU11       | GK           | FJ | HG | KC |
| PZU3.0      | G5           | F4 | H2 | -  | PZU12       | GL           | FK | HH | KD |
| PZU3.3      | G6           | F5 | H3 | -  | PZU13       | GM           | FL | HJ | KE |
| PZU3.6      | G7           | F6 | H4 | -  | PZU14       | -            | -  | HK | -  |
| PZU3.9      | G8           | F7 | H5 | -  | PZU15       | GN           | FM | HL | KF |
| PZU4.3      | G9           | F8 | H6 | HS | PZU16       | GP           | FN | HM | KG |
| PZU4.7      | GA           | F9 | H7 | HT | PZU18       | GQ           | FP | HN | KH |
| PZU5.1      | GB           | FA | H8 | HU | PZU20       | GR           | FQ | HP | KJ |
| PZU5.6      | GC           | FB | H9 | HV | PZU22       | GS           | FR | HQ | KK |
| PZU6.2      | GD           | FC | HA | HW | PZU24       | GT           | FS | HR | KL |
| PZU6.8      | GE           | FD | HB | HX | PZU27       | GU           | -  | -  | -  |
| PZU7.5      | GF           | FE | HC | HY | PZU30       | GV           | -  | -  | -  |
| PZU8.2      | GG           | FF | HD | HZ | PZU33       | GW           | -  | -  | -  |
| PZU9.1      | GH           | FG | HE | KA | PZU36       | GX           | -  | -  | -  |

## 5. Limiting values

**Table 5. Limiting values**

In accordance with the Absolute Maximum Rating System (IEC 60134).

| Symbol    | Parameter                                     | Conditions                      | Min | Max                                               | Unit |
|-----------|-----------------------------------------------|---------------------------------|-----|---------------------------------------------------|------|
| $I_F$     | forward current                               |                                 | -   | 200                                               | mA   |
| $I_{ZSM}$ | non-repetitive peak reverse current           |                                 | -   | see <a href="#">Table 8</a> and <a href="#">9</a> |      |
| $P_{ZSM}$ | non-repetitive peak reverse power dissipation | [1]                             | -   | 40                                                | W    |
| $P_{tot}$ | total power dissipation                       | $T_{amb} \leq 25\text{ °C}$ [2] | -   | 310                                               | mW   |
|           |                                               | [3]                             | -   | 550                                               | mW   |
| $T_j$     | junction temperature                          |                                 | -   | 150                                               | °C   |
| $T_{amb}$ | ambient temperature                           |                                 | -65 | +150                                              | °C   |
| $T_{stg}$ | storage temperature                           |                                 | -65 | +150                                              | °C   |

[1]  $t_p = 100\text{ }\mu\text{s}$ ; square wave;  $T_j = 25\text{ °C}$  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  $1\text{ cm}^2$ .

## 6. Thermal characteristics

**Table 6. Thermal characteristics**

| Symbol         | Parameter                                        | Conditions  | Min | Typ | Max | Unit |
|----------------|--------------------------------------------------|-------------|-----|-----|-----|------|
| $R_{th(j-a)}$  | thermal resistance from junction to ambient      | in free air | [1] | -   | 400 | K/W  |
|                |                                                  |             | [2] | -   | 230 | K/W  |
| $R_{th(j-sp)}$ | 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  $1\text{ cm}^2$ .

[3] Soldering point of cathode tab.

## 7. Characteristics

**Table 7. Characteristics**

$T_j = 25\text{ °C}$  unless otherwise specified.

| Symbol | Parameter       | Conditions            | Min | Typ | Max | Unit |
|--------|-----------------|-----------------------|-----|-----|-----|------|
| $V_F$  | forward voltage | $I_F = 10\text{ mA}$  | [1] | -   | 0.9 | V    |
|        |                 | $I_F = 100\text{ mA}$ | [1] | -   | 1.1 | V    |

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

**Table 8. Characteristics per type; PZU2.4B to PZU5.6B3** $T_j = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

| PZU<br>xxx | Sel | Working<br>voltage<br>$V_Z$ (V);<br>$I_Z = 5\text{ mA}$ |      | Maximum differential<br>resistance<br>$r_{\text{dif}}$ ( $\Omega$ ) |                     | Reverse<br>current<br>$I_R$ ( $\mu\text{A}$ ) |           | Temperature<br>coefficient<br>$S_Z$ (mV/K);<br>$I_Z = 5\text{ mA}$ | Diode<br>capacitance<br>$C_d$ (pF) <sup>[1]</sup> | Non-repetitive peak<br>reverse current<br>$I_{ZSM}$ (A) <sup>[2]</sup> |
|------------|-----|---------------------------------------------------------|------|---------------------------------------------------------------------|---------------------|-----------------------------------------------|-----------|--------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------|
|            |     | Min                                                     | Max  | $I_Z = 0.5\text{ mA}$                                               | $I_Z = 5\text{ mA}$ | Max                                           | $V_R$ (V) | Typ                                                                | Max                                               | Max                                                                    |
| 2.4        | B   | 2.3                                                     | 2.6  | 1000                                                                | 100                 | 50                                            | 1         | -1.6                                                               | 450                                               | 8                                                                      |
| 2.7        | B   | 2.5                                                     | 2.9  | 1000                                                                | 100                 | 20                                            | 1         | -2.0                                                               | 440                                               | 8                                                                      |
|            | B1  | 2.5                                                     | 2.75 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B2  | 2.65                                                    | 2.9  |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
| 3.0        | B   | 2.80                                                    | 3.20 | 1000                                                                | 95                  | 10                                            | 1         | -2.1                                                               | 425                                               | 8                                                                      |
|            | B1  | 2.80                                                    | 3.05 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B2  | 2.95                                                    | 3.20 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
| 3.3        | B   | 3.10                                                    | 3.50 | 1000                                                                | 95                  | 5                                             | 1         | -2.4                                                               | 410                                               | 8                                                                      |
|            | B1  | 3.10                                                    | 3.35 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B2  | 3.25                                                    | 3.50 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
| 3.6        | B   | 3.40                                                    | 3.80 | 1000                                                                | 90                  | 5                                             | 1         | -2.4                                                               | 390                                               | 8                                                                      |
|            | B1  | 3.40                                                    | 3.65 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B2  | 3.55                                                    | 3.80 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
| 3.9        | B   | 3.70                                                    | 4.10 | 1000                                                                | 90                  | 3                                             | 1         | -2.5                                                               | 370                                               | 8                                                                      |
|            | B1  | 3.70                                                    | 3.97 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B2  | 3.87                                                    | 4.10 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
| 4.3        | B   | 4.01                                                    | 4.48 | 1000                                                                | 90                  | 3                                             | 1         | -2.5                                                               | 350                                               | 8                                                                      |
|            | B1  | 4.01                                                    | 4.21 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B2  | 4.15                                                    | 4.34 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B3  | 4.28                                                    | 4.48 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
| 4.7        | B   | 4.42                                                    | 4.90 | 800                                                                 | 80                  | 2                                             | 1         | -1.4                                                               | 325                                               | 8                                                                      |
|            | B1  | 4.42                                                    | 4.61 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B2  | 4.55                                                    | 4.75 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B3  | 4.69                                                    | 4.90 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
| 5.1        | B   | 4.84                                                    | 5.37 | 250                                                                 | 60                  | 2                                             | 1.5       | 0.3                                                                | 300                                               | 5.5                                                                    |
|            | B1  | 4.84                                                    | 5.04 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B2  | 4.98                                                    | 5.20 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B3  | 5.14                                                    | 5.37 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
| 5.6        | B   | 5.31                                                    | 5.92 | 100                                                                 | 40                  | 1                                             | 2.5       | 1.9                                                                | 275                                               | 5.5                                                                    |
|            | B1  | 5.31                                                    | 5.55 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B2  | 5.49                                                    | 5.73 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |
|            | B3  | 5.67                                                    | 5.92 |                                                                     |                     |                                               |           |                                                                    |                                                   |                                                                        |

[1]  $f = 1\text{ MHz}$ ;  $V_R = 0\text{ V}$ [2]  $t_p = 100\text{ }\mu\text{s}$ ; square wave;  $T_j = 25\text{ }^{\circ}\text{C}$  prior to surge

**Table 9. Characteristics per type; PZU6.2B to PZU36B** $T_j = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

| PZU<br>xxx | Sel | Working<br>voltage<br>$V_Z$ (V);<br>$I_Z = 5\text{ mA}$ |       | Maximum differential<br>resistance<br>$r_{\text{dif}}$ ( $\Omega$ ) |                     | Reverse<br>current<br>$I_R$ (nA) |           | Temperature<br>coefficient<br>$S_Z$ (mV/K);<br>$I_Z = 5\text{ mA}$ | Diode<br>capacitance<br>$C_d$ (pF) <sup>[1]</sup> | Non-repetitive peak<br>reverse current<br>$I_{ZSM}$ (A) <sup>[2]</sup> |
|------------|-----|---------------------------------------------------------|-------|---------------------------------------------------------------------|---------------------|----------------------------------|-----------|--------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------|
|            |     | Min                                                     | Max   | $I_Z = 0.5\text{ mA}$                                               | $I_Z = 5\text{ mA}$ | Max                              | $V_R$ (V) | Typ                                                                | Max                                               | Max                                                                    |
| 6.2        | B   | 5.86                                                    | 6.53  | 80                                                                  | 30                  | 500                              | 3         | 2.7                                                                | 250                                               | 5.5                                                                    |
|            | B1  | 5.86                                                    | 6.12  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 6.06                                                    | 6.33  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 6.26                                                    | 6.53  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 6.8        | B   | 6.47                                                    | 7.14  | 60                                                                  | 20                  | 500                              | 3.5       | 3.4                                                                | 215                                               | 5.5                                                                    |
|            | B1  | 6.47                                                    | 6.73  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 6.65                                                    | 6.93  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 6.86                                                    | 7.14  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 7.5        | B   | 7.06                                                    | 7.84  | 60                                                                  | 10                  | 500                              | 4         | 4.0                                                                | 170                                               | 3.5                                                                    |
|            | B1  | 7.06                                                    | 7.36  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 7.28                                                    | 7.60  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 7.52                                                    | 7.84  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 8.2        | B   | 7.76                                                    | 8.64  | 60                                                                  | 10                  | 500                              | 5         | 4.6                                                                | 150                                               | 3.5                                                                    |
|            | B1  | 7.76                                                    | 8.10  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 8.02                                                    | 8.36  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 8.28                                                    | 8.64  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 9.1        | B   | 8.56                                                    | 9.55  | 60                                                                  | 10                  | 500                              | 6         | 5.5                                                                | 120                                               | 3.5                                                                    |
|            | B1  | 8.56                                                    | 8.93  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 8.85                                                    | 9.23  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 9.15                                                    | 9.55  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 10         | B   | 9.45                                                    | 10.55 | 60                                                                  | 10                  | 100                              | 7         | 6.4                                                                | 110                                               | 3.5                                                                    |
|            | B1  | 9.45                                                    | 9.87  |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 9.77                                                    | 10.21 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 10.11                                                   | 10.55 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 11         | B   | 10.44                                                   | 11.56 | 60                                                                  | 10                  | 100                              | 8         | 7.4                                                                | 108                                               | 3                                                                      |
|            | B1  | 10.44                                                   | 10.88 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 10.76                                                   | 11.22 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 11.10                                                   | 11.56 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 12         | B   | 11.42                                                   | 12.60 | 80                                                                  | 10                  | 100                              | 9         | 8.4                                                                | 105                                               | 3                                                                      |
|            | B1  | 11.42                                                   | 11.90 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 11.74                                                   | 12.24 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 12.08                                                   | 12.60 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 13         | B   | 12.47                                                   | 13.96 | 80                                                                  | 10                  | 100                              | 10        | 9.4                                                                | 103                                               | 2.5                                                                    |
|            | B1  | 12.47                                                   | 13.03 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 12.91                                                   | 13.49 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 13.37                                                   | 13.96 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 14         | B2  | 13.70                                                   | 14.30 | 80                                                                  | 10                  | 100                              | 11        | 10.4                                                               | 101                                               | 2                                                                      |

Table 9. Characteristics per type; PZU6.2B to PZU36B ...continued

 $T_j = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

| PZU<br>xxx | Sel | Working<br>voltage<br>$V_Z$ (V);<br>$I_Z = 5\text{ mA}$ |       | Maximum differential<br>resistance<br>$r_{\text{dif}}$ ( $\Omega$ ) |                     | Reverse<br>current<br>$I_R$ (nA) |           | Temperature<br>coefficient<br>$S_Z$ (mV/K);<br>$I_Z = 5\text{ mA}$ | Diode<br>capacitance<br>$C_d$ (pF) <sup>[1]</sup> | Non-repetitive peak<br>reverse current<br>$I_{ZSM}$ (A) <sup>[2]</sup> |
|------------|-----|---------------------------------------------------------|-------|---------------------------------------------------------------------|---------------------|----------------------------------|-----------|--------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------|
|            |     | Min                                                     | Max   | $I_Z = 0.5\text{ mA}$                                               | $I_Z = 5\text{ mA}$ | Max                              | $V_R$ (V) | Typ                                                                | Max                                               | Max                                                                    |
| 15         | B   | 13.84                                                   | 15.52 | 80                                                                  | 15                  | 50                               | 11        | 11.4                                                               | 99                                                | 2                                                                      |
|            | B1  | 13.84                                                   | 14.46 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 14.34                                                   | 14.98 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 14.85                                                   | 15.52 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 16         | B   | 15.37                                                   | 17.09 | 80                                                                  | 20                  | 50                               | 12        | 12.4                                                               | 97                                                | 1.5                                                                    |
|            | B1  | 15.37                                                   | 16.01 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 15.85                                                   | 16.51 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 16.35                                                   | 17.09 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 18         | B   | 16.94                                                   | 19.03 | 80                                                                  | 20                  | 50                               | 13        | 14.4                                                               | 93                                                | 1.5                                                                    |
|            | B1  | 16.94                                                   | 17.70 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 17.56                                                   | 18.35 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 18.21                                                   | 19.03 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 20         | B   | 18.86                                                   | 21.08 | 100                                                                 | 20                  | 50                               | 15        | 16.4                                                               | 88                                                | 1.5                                                                    |
|            | B1  | 18.86                                                   | 19.70 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 19.52                                                   | 20.39 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 20.21                                                   | 21.08 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 22         | B   | 20.88                                                   | 23.17 | 100                                                                 | 25                  | 50                               | 17        | 18.4                                                               | 84                                                | 1.3                                                                    |
|            | B1  | 20.88                                                   | 21.77 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 21.54                                                   | 22.47 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 22.23                                                   | 23.17 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 24         | B   | 22.93                                                   | 25.57 | 120                                                                 | 30                  | 50                               | 19        | 20.4                                                               | 80                                                | 1.3                                                                    |
|            | B1  | 22.93                                                   | 23.96 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B2  | 23.72                                                   | 24.78 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
|            | B3  | 24.54                                                   | 25.57 |                                                                     |                     |                                  |           |                                                                    |                                                   |                                                                        |
| 27         | B   | 25.1                                                    | 28.9  | 150                                                                 | 40                  | 50                               | 21        | 23.4                                                               | 73                                                | 1                                                                      |
| 30         | B   | 28                                                      | 32    | 200                                                                 | 40                  | 50                               | 23        | 26.6                                                               | 66                                                | 1                                                                      |
| 33         | B   | 31                                                      | 35    | 250                                                                 | 40                  | 50                               | 25        | 29.7                                                               | 60                                                | 0.9                                                                    |
| 36         | B   | 34                                                      | 38    | 300                                                                 | 60                  | 50                               | 27        | 33.0                                                               | 59                                                | 0.8                                                                    |

[1]  $f = 1\text{ MHz}$ ;  $V_R = 0\text{ V}$ [2]  $t_p = 100\text{ }\mu\text{s}$ ; square wave;  $T_j = 25\text{ }^{\circ}\text{C}$  prior to surge

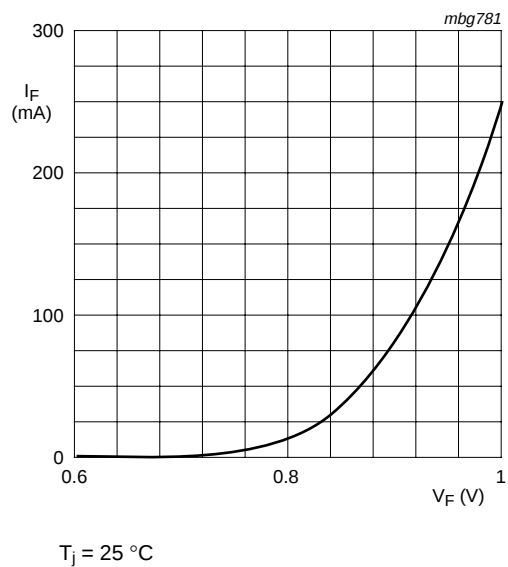


Fig 1. Forward current as a function of forward voltage; typical values

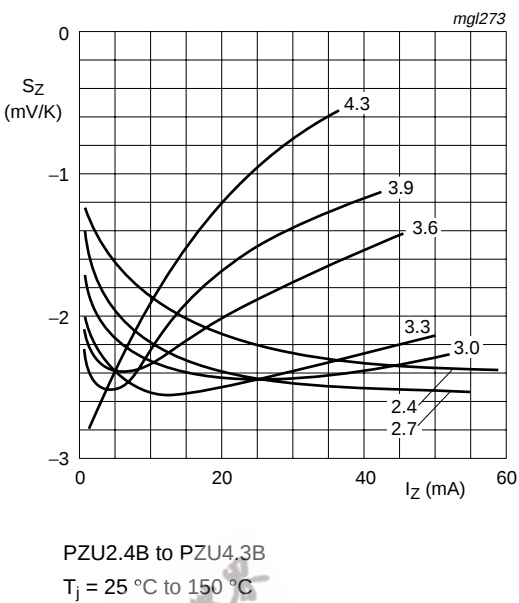


Fig 2. Temperature coefficient as a function of working current; typical values

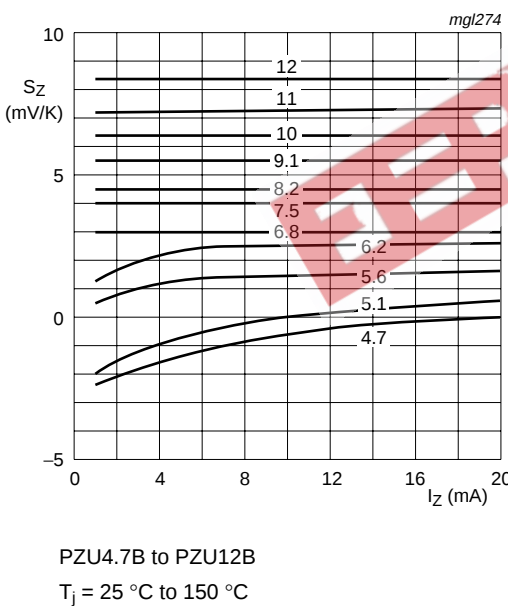


Fig 3. Temperature coefficient as a function of working current; typical values

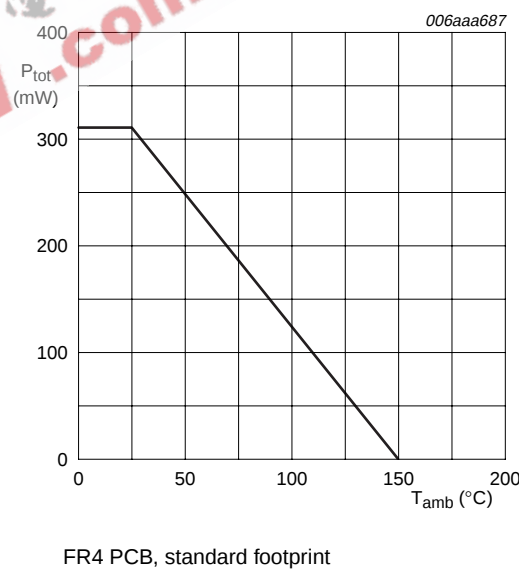
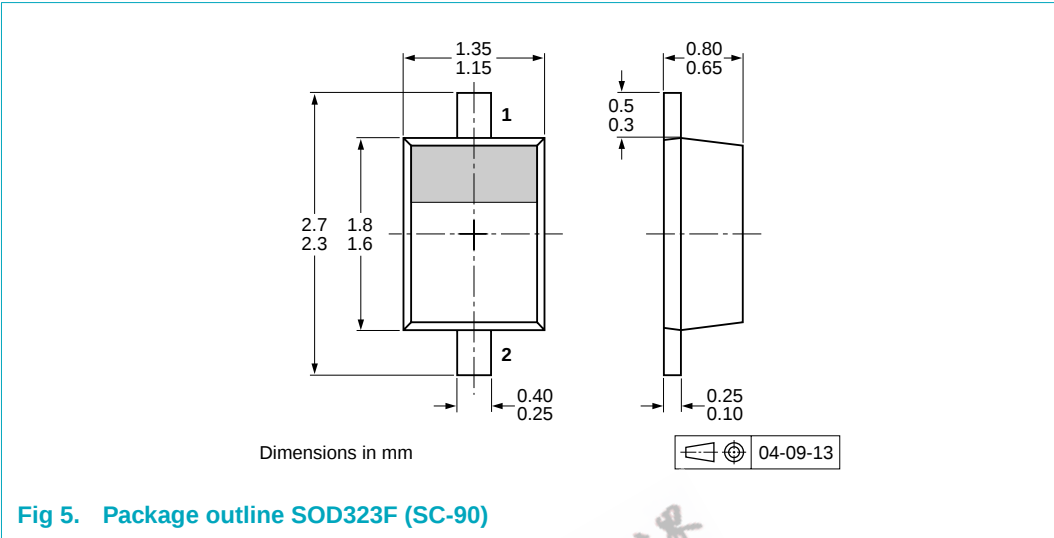


Fig 4. Power derating curve

8. Package outline



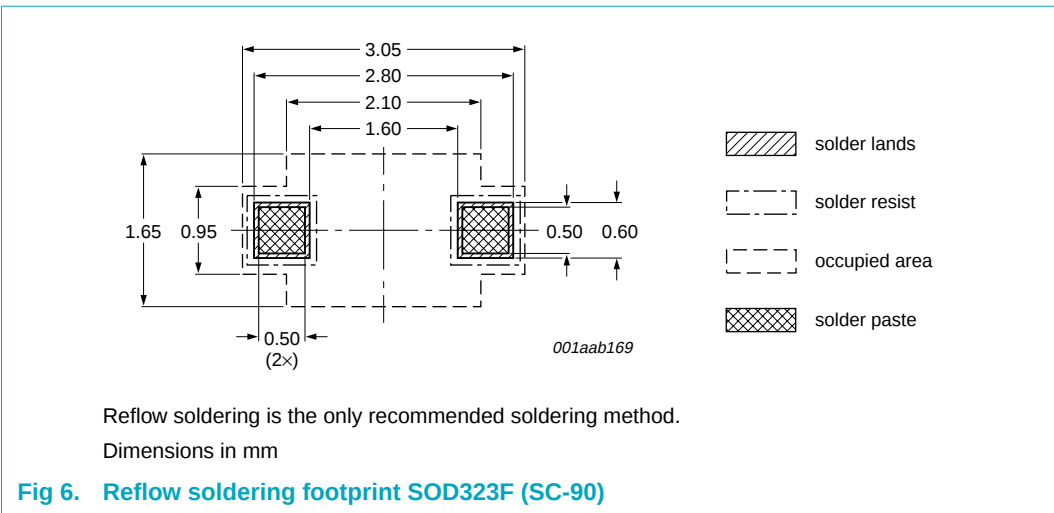
9. Packing information

**Table 10. Packing methods**  
The indicated -xxx are the last three digits of the 12NC ordering code.<sup>[1]</sup>

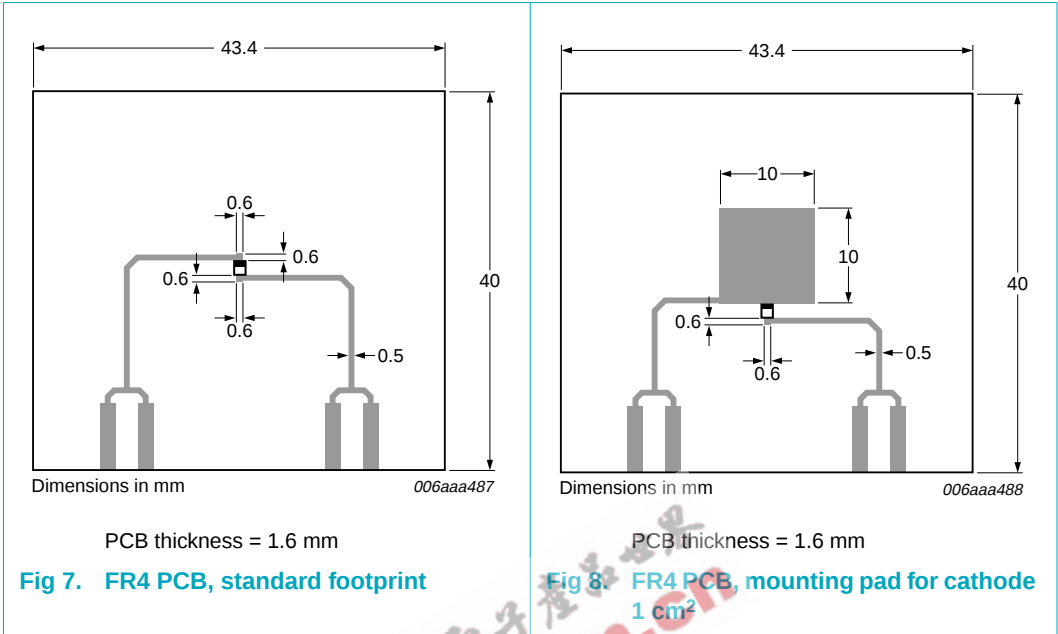
| Type number       | Package | Description                    | Packing quantity |       |
|-------------------|---------|--------------------------------|------------------|-------|
|                   |         |                                | 3000             | 10000 |
| PZU2.4B to PZU36B | SOD323F | 4 mm pitch, 8 mm tape and reel | -115             | -135  |

[1] For further information and the availability of packing methods, see [Section 14](#).

10. Soldering



11. Mounting



12. Revision history

Table 11. Revision history

| Document ID | Release date | Data sheet status  | Change notice | Supersedes |
|-------------|--------------|--------------------|---------------|------------|
| PZUXB_SER_1 | 20060307     | Product data sheet | -             | -          |



## 13. Legal information

### 13.1 Data sheet status

| Document status <sup>[1][2]</sup> | Product status <sup>[3]</sup> | 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 URL <http://www.semiconductors.philips.com>.

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Date of release: 7 March 2006

Document identifier: PZUXB\_SER\_1