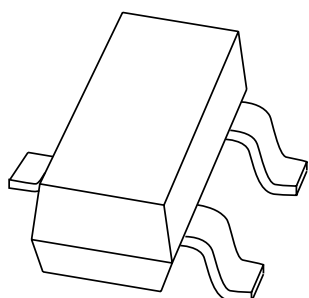


# DATA SHEET



## **BZX84 series** Voltage regulator diodes

Product specification  
Supersedes data of 1996 Apr 26

1999 May 18

Voltage regulator diodes

BZX84 series

FEATURES

- Total power dissipation:  
max. 250 mW
- Three tolerance series:  $\pm 1\%$ ,  $\pm 2\%$   
and approx.  $\pm 5\%$
- Working voltage range:  
nom. 2.4 to 75 V (E24 range)
- Non-repetitive peak reverse power  
dissipation: max. 40 W.

APPLICATIONS

- General regulation functions.

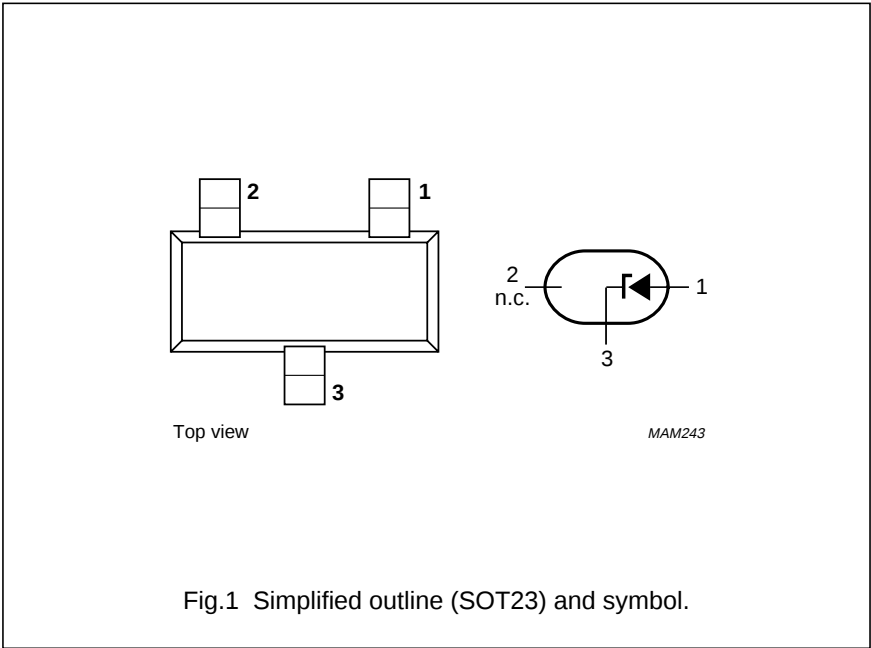
DESCRIPTION

Low-power voltage regulator diodes  
in small SOT23 plastic SMD  
packages.

The diodes are available in the  
normalized E24  $\pm 1\%$  (BZX84-A),  $\pm 2\%$   
(BZX84-B) and approx.  $\pm 5\%$   
(BZX84-C) tolerance range.  
The series consists of 37 types with  
nominal working voltages from  
2.4 to 75 V.

PINNING

| PIN | DESCRIPTION   |
|-----|---------------|
| 1   | anode         |
| 2   | not connected |
| 3   | cathode       |



## Voltage regulator diodes

## BZX84 series

## MARKING

| TYPE<br>NUMBER                                   | MARKING<br>CODE <sup>(1)</sup> | TYPE<br>NUMBER | MARKING<br>CODE <sup>(1)</sup> | TYPE<br>NUMBER | MARKING<br>CODE <sup>(1)</sup> | TYPE<br>NUMBER | MARKING<br>CODE |
|--------------------------------------------------|--------------------------------|----------------|--------------------------------|----------------|--------------------------------|----------------|-----------------|
| <b>Marking codes for BZX84-C2V4 to BZX84-C75</b> |                                |                |                                |                |                                |                |                 |
| BZX84-C2V4                                       | Z11                            | BZX84-C6V2     | Z4*                            | BZX84-C16      | Y5*                            | BZX84-C43      | Y15             |
| BZX84-C2V7                                       | Z12                            | BZX84-C6V8     | Z5*                            | BZX84-C18      | Y6*                            | BZX84-C47      | Y16             |
| BZX84-C3V0                                       | Z13                            | BZX84-C7V5     | Z6*                            | BZX84-C20      | Y7*                            | BZX84-C51      | Y17             |
| BZX84-C3V3                                       | Z14                            | BZX84-C8V2     | Z7*                            | BZX84-C22      | Y8*                            | BZX84-C56      | Y18             |
| BZX84-C3V6                                       | Z15                            | BZX84-C9V1     | Z8*                            | BZX84-C24      | Y9*                            | BZX84-C62      | Y19             |
| BZX84-C3V9                                       | Z16                            | BZX84-C10      | Z9*                            | BZX84-C27      | Y10                            | BZX84-C68      | Y20             |
| BZX84-C4V3                                       | Z17                            | BZX84-C11      | Y1*                            | BZX84-C30      | Y11                            | BZX84-C75      | Y21             |
| BZX84-C4V7                                       | Z1*                            | BZX84-C12      | Y2*                            | BZX84-C33      | Y12                            | —              | —               |
| BZX84-C5V1                                       | Z2*                            | BZX84-C13      | Y3*                            | BZX84-C36      | Y13                            | —              | —               |
| BZX84-C5V6                                       | Z3*                            | BZX84-C15      | Y4*                            | BZX84-C39      | Y14                            | —              | —               |
| <b>Marking codes for BZX84-B2V4 to BZX84-B75</b> |                                |                |                                |                |                                |                |                 |
| BZX84-B2V4                                       | Z50                            | BZX84-B6V2     | Z60                            | BZX84-B16      | Z70                            | BZX84-B43      | Z80             |
| BZX84-B2V7                                       | Z51                            | BZX84-B6V8     | Z61                            | BZX84-B18      | Z71                            | BZX84-B47      | Z81             |
| BZX84-B3V0                                       | Z52                            | BZX84-B7V5     | Z62                            | BZX84-B20      | Z72                            | BZX84-B51      | Z82             |
| BZX84-B3V3                                       | Z53                            | BZX84-B8V2     | Z63                            | BZX84-B22      | Z73                            | BZX84-B56      | Z83             |
| BZX84-B3V6                                       | Z54                            | BZX84-B9V1     | Z64                            | BZX84-B24      | Z74                            | BZX84-B62      | Z84             |
| BZX84-B3V9                                       | Z55                            | BZX84-B10      | Z65                            | BZX84-B27      | Z75                            | BZX84-B68      | Z85             |
| BZX84-B4V3                                       | Z56                            | BZX84-B11      | Z66                            | BZX84-B30      | Z76                            | BZX84-B75      | Z86             |
| BZX84-B4V7                                       | Z57                            | BZX84-B12      | Z67                            | BZX84-B33      | Z77                            | —              | —               |
| BZX84-B5V1                                       | Z58                            | BZX84-B13      | Z68                            | BZX84-B36      | Z78                            | —              | —               |
| BZX84-B5V6                                       | Z59                            | BZX84-B15      | Z69                            | BZX84-B39      | Z79                            | —              | —               |
| <b>Marking codes for BZX84-A2V4 to BZX84-A75</b> |                                |                |                                |                |                                |                |                 |
| BZX84-A2V4                                       | Y50                            | BZX84-A6V2     | Y60                            | BZX84-A16      | Y70                            | BZX84-A43      | Y80             |
| BZX84-A2V7                                       | Y51                            | BZX84-A6V8     | Y61                            | BZX84-A18      | Y71                            | BZX84-A47      | Y81             |
| BZX84-A3V0                                       | Y52                            | BZX84-A7V5     | Y62                            | BZX84-A20      | Y72                            | BZX84-A51      | Y82             |
| BZX84-A3V3                                       | Y53                            | BZX84-A8V2     | Y63                            | BZX84-A22      | Y73                            | BZX84-A56      | Y83             |
| BZX84-A3V6                                       | Y54                            | BZX84-A9V1     | Y64                            | BZX84-A24      | Y74                            | BZX84-A62      | Y84             |
| BZX84-A3V9                                       | Y55                            | BZX84-A10      | Y65                            | BZX84-A27      | Y75                            | BZX84-A68      | Y85             |
| BZX84-A4V3                                       | Y56                            | BZX84-A11      | Y66                            | BZX84-A30      | Y76                            | BZX84-A75      | Y86             |
| BZX84-A4V7                                       | Y57                            | BZX84-A12      | Y67                            | BZX84-A33      | Y77                            | —              | —               |
| BZX84-A5V1                                       | Y58                            | BZX84-A13      | Y68                            | BZX84-A36      | Y78                            | —              | —               |
| BZX84-A5V6                                       | Y59                            | BZX84-A15      | Y69                            | BZX84-A39      | Y79                            | —              | —               |

## Note

- \* = p : Made in Hong Kong.  
\* = t : Made in Malaysia.

## Voltage regulator diodes

## BZX84 series

## LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

| SYMBOL    | PARAMETER                                     | CONDITIONS                                                                       | MIN.               | MAX. | UNIT       |
|-----------|-----------------------------------------------|----------------------------------------------------------------------------------|--------------------|------|------------|
| $I_F$     | continuous forward current                    |                                                                                  | —                  | 200  | mA         |
| $I_{ZSM}$ | non-repetitive peak reverse current           | $t_p = 100 \mu s$ ; square wave;<br>$T_j = 25^\circ C$ prior to surge            | see Tables 1 and 2 |      |            |
| $P_{tot}$ | total power dissipation                       | $T_{amb} = 25^\circ C$ ; note 1                                                  | —                  | 250  | mW         |
| $P_{ZSM}$ | non-repetitive peak reverse power dissipation | $t_p = 100 \mu s$ ; square wave;<br>$T_j = 25^\circ C$ prior to surge; see Fig.2 | —                  | 40   | W          |
| $T_{stg}$ | storage temperature                           |                                                                                  | −65                | +150 | $^\circ C$ |
| $T_j$     | junction temperature                          |                                                                                  | −65                | +150 | $^\circ C$ |

## Note

1. Device mounted on an FR4 printed circuit-board.

## ELECTRICAL CHARACTERISTICS

## Total BZX84-A and B and C series

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

| SYMBOL | PARAMETER           | CONDITIONS                        | MAX. | UNIT    |
|--------|---------------------|-----------------------------------|------|---------|
| $V_F$  | forward voltage     | $I_F = 10 \text{ mA}$ ; see Fig.3 | 0.9  | V       |
| $I_R$  | reverse current     |                                   |      |         |
|        | BZX84-A/B/C2V4      | $V_R = 1 \text{ V}$               | 50   | $\mu A$ |
|        | BZX84-A/B/C2V7      | $V_R = 1 \text{ V}$               | 20   | $\mu A$ |
|        | BZX84-A/B/C3V0      | $V_R = 1 \text{ V}$               | 10   | $\mu A$ |
|        | BZX84-A/B/C3V3      | $V_R = 1 \text{ V}$               | 5    | $\mu A$ |
|        | BZX84-A/B/C3V6      | $V_R = 1 \text{ V}$               | 5    | $\mu A$ |
|        | BZX84-A/B/C3V9      | $V_R = 1 \text{ V}$               | 3    | $\mu A$ |
|        | BZX84-A/B/C4V3      | $V_R = 1 \text{ V}$               | 3    | $\mu A$ |
|        | BZX84-A/B/C4V7      | $V_R = 2 \text{ V}$               | 3    | $\mu A$ |
|        | BZX84-A/B/C5V1      | $V_R = 2 \text{ V}$               | 2    | $\mu A$ |
|        | BZX84-A/B/C5V6      | $V_R = 2 \text{ V}$               | 1    | $\mu A$ |
|        | BZX84-A/B/C6V2      | $V_R = 4 \text{ V}$               | 3    | $\mu A$ |
|        | BZX84-A/B/C6V8      | $V_R = 4 \text{ V}$               | 2    | $\mu A$ |
|        | BZX84-A/B/C7V5      | $V_R = 5 \text{ V}$               | 1    | $\mu A$ |
|        | BZX84-A/B/C8V2      | $V_R = 5 \text{ V}$               | 700  | nA      |
|        | BZX84-A/B/C9V1      | $V_R = 6 \text{ V}$               | 500  | nA      |
|        | BZX84-A/B/C10       | $V_R = 7 \text{ V}$               | 200  | nA      |
|        | BZX84-A/B/C11       | $V_R = 8 \text{ V}$               | 100  | nA      |
|        | BZX84-A/B/C12       | $V_R = 8 \text{ V}$               | 100  | nA      |
|        | BZX84-A/B/C13       | $V_R = 8 \text{ V}$               | 100  | nA      |
|        | BZX84-A/B/C15 to 75 | $V_R = 0.7V_{Znom}$               | 50   | nA      |

## Voltage regulator diodes

## BZX84 series

**Table 1** Per type BZX84-A/B/C2V4 to A/B/C24 $T_j = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

| BZX84-A<br>or B or C<br>XXX | WORKING VOLTAGE<br>V <sub>Z</sub> (V)<br>at I <sub>Ztest</sub> = 5 mA |       |              |       |                         |      | DIFFERENTIAL<br>RESISTANCE<br>r <sub>dif</sub> (Ω) |      |                                 |      | TEMP. COEFF.<br>S <sub>Z</sub> (mV/K)<br>at I <sub>Ztest</sub> = 5 mA<br>(see Figs 4 and 5) |      |      | DIODE CAP.<br>C <sub>d</sub> (pF)<br>at f = 1 MHz;<br>V <sub>R</sub> = 0 V | NON-REPETITIVE<br>PEAK REVERSE<br>CURRENT<br>I <sub>ZSM</sub> (A)<br>at t <sub>p</sub> = 100 μs;<br>T <sub>amb</sub> = 25 °C |
|-----------------------------|-----------------------------------------------------------------------|-------|--------------|-------|-------------------------|------|----------------------------------------------------|------|---------------------------------|------|---------------------------------------------------------------------------------------------|------|------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|                             | Tol. ±1% (A)                                                          |       | Tol. ±2% (B) |       | Tol. approx.<br>±5% (C) |      | at<br>I <sub>Ztest</sub> = 1 mA                    |      | at<br>I <sub>Ztest</sub> = 5 mA |      |                                                                                             |      |      |                                                                            |                                                                                                                              |
|                             | MIN.                                                                  | MAX.  | MIN.         | MAX.  | MIN.                    | MAX. | TYP.                                               | MAX. | TYP.                            | MAX. | MIN.                                                                                        | TYP. | MAX. | MAX.                                                                       | MAX.                                                                                                                         |
| 2V4                         | 2.37                                                                  | 2.43  | 2.35         | 2.45  | 2.2                     | 2.6  | 275                                                | 600  | 70                              | 100  | -3.5                                                                                        | -1.6 | 0    | 450                                                                        | 6.0                                                                                                                          |
| 2V7                         | 2.67                                                                  | 2.73  | 2.65         | 2.75  | 2.5                     | 2.9  | 300                                                | 600  | 75                              | 100  | -3.5                                                                                        | -2.0 | 0    | 450                                                                        | 6.0                                                                                                                          |
| 3V0                         | 2.97                                                                  | 3.03  | 2.94         | 3.06  | 2.8                     | 3.2  | 325                                                | 600  | 80                              | 95   | -3.5                                                                                        | -2.1 | 0    | 450                                                                        | 6.0                                                                                                                          |
| 3V3                         | 3.26                                                                  | 3.34  | 3.23         | 3.37  | 3.1                     | 3.5  | 350                                                | 600  | 85                              | 95   | -3.5                                                                                        | -2.4 | 0    | 450                                                                        | 6.0                                                                                                                          |
| 3V6                         | 3.56                                                                  | 3.64  | 3.53         | 3.67  | 3.4                     | 3.8  | 375                                                | 600  | 85                              | 90   | -3.5                                                                                        | -2.4 | 0    | 450                                                                        | 6.0                                                                                                                          |
| 3V9                         | 3.86                                                                  | 3.94  | 3.82         | 3.98  | 3.7                     | 4.1  | 400                                                | 600  | 85                              | 90   | -3.5                                                                                        | -2.5 | 0    | 450                                                                        | 6.0                                                                                                                          |
| 4V3                         | 4.25                                                                  | 4.35  | 4.21         | 4.39  | 4.0                     | 4.6  | 410                                                | 600  | 80                              | 90   | -3.5                                                                                        | -2.5 | 0    | 450                                                                        | 6.0                                                                                                                          |
| 4V7                         | 4.65                                                                  | 4.75  | 4.61         | 4.79  | 4.4                     | 5.0  | 425                                                | 500  | 50                              | 80   | -3.5                                                                                        | -1.4 | 0.2  | 300                                                                        | 6.0                                                                                                                          |
| 5V1                         | 5.04                                                                  | 5.16  | 5.00         | 5.20  | 4.8                     | 5.4  | 400                                                | 480  | 40                              | 60   | -2.7                                                                                        | -0.8 | 1.2  | 300                                                                        | 6.0                                                                                                                          |
| 5V6                         | 5.54                                                                  | 5.66  | 5.49         | 5.71  | 5.2                     | 6.0  | 80                                                 | 400  | 15                              | 40   | -2.0                                                                                        | 1.2  | 2.5  | 300                                                                        | 6.0                                                                                                                          |
| 6V2                         | 6.13                                                                  | 6.27  | 6.08         | 6.32  | 5.8                     | 6.6  | 40                                                 | 150  | 6                               | 10   | 0.4                                                                                         | 2.3  | 3.7  | 200                                                                        | 6.0                                                                                                                          |
| 6V8                         | 6.73                                                                  | 6.87  | 6.66         | 6.94  | 6.4                     | 7.2  | 30                                                 | 80   | 6                               | 15   | 1.2                                                                                         | 3.0  | 4.5  | 200                                                                        | 6.0                                                                                                                          |
| 7V5                         | 7.42                                                                  | 7.58  | 7.35         | 7.65  | 7.0                     | 7.9  | 30                                                 | 80   | 6                               | 15   | 2.5                                                                                         | 4.0  | 5.3  | 150                                                                        | 4.0                                                                                                                          |
| 8V2                         | 8.11                                                                  | 8.29  | 8.04         | 8.36  | 7.7                     | 8.7  | 40                                                 | 80   | 6                               | 15   | 3.2                                                                                         | 4.6  | 6.2  | 150                                                                        | 4.0                                                                                                                          |
| 9V1                         | 9.00                                                                  | 9.20  | 8.92         | 9.28  | 8.5                     | 9.6  | 40                                                 | 100  | 6                               | 15   | 3.8                                                                                         | 5.5  | 7.0  | 150                                                                        | 3.0                                                                                                                          |
| 10                          | 9.90                                                                  | 10.10 | 9.80         | 10.20 | 9.4                     | 10.6 | 50                                                 | 150  | 8                               | 20   | 4.5                                                                                         | 6.4  | 8.0  | 90                                                                         | 3.0                                                                                                                          |
| 11                          | 10.80                                                                 | 11.11 | 10.80        | 11.20 | 10.4                    | 11.6 | 50                                                 | 150  | 10                              | 20   | 5.4                                                                                         | 7.4  | 9.0  | 85                                                                         | 2.5                                                                                                                          |
| 12                          | 11.88                                                                 | 12.12 | 11.80        | 12.20 | 11.4                    | 12.7 | 50                                                 | 150  | 10                              | 25   | 6.0                                                                                         | 8.4  | 10.0 | 85                                                                         | 2.5                                                                                                                          |
| 13                          | 12.87                                                                 | 13.13 | 12.70        | 13.30 | 12.4                    | 14.1 | 50                                                 | 170  | 10                              | 30   | 7.0                                                                                         | 9.4  | 11.0 | 80                                                                         | 2.5                                                                                                                          |
| 15                          | 14.85                                                                 | 15.15 | 14.70        | 15.30 | 13.8                    | 15.6 | 50                                                 | 200  | 10                              | 30   | 9.2                                                                                         | 11.4 | 13.0 | 75                                                                         | 2.0                                                                                                                          |
| 16                          | 15.84                                                                 | 16.16 | 15.70        | 16.30 | 15.3                    | 17.1 | 50                                                 | 200  | 10                              | 40   | 10.4                                                                                        | 12.4 | 14.0 | 75                                                                         | 1.5                                                                                                                          |
| 18                          | 17.82                                                                 | 18.18 | 17.60        | 18.40 | 16.8                    | 19.1 | 50                                                 | 225  | 10                              | 45   | 12.4                                                                                        | 14.4 | 16.0 | 70                                                                         | 1.5                                                                                                                          |
| 20                          | 19.80                                                                 | 20.20 | 19.60        | 20.40 | 18.8                    | 21.2 | 60                                                 | 225  | 15                              | 55   | 14.4                                                                                        | 16.4 | 18.0 | 60                                                                         | 1.5                                                                                                                          |
| 22                          | 21.78                                                                 | 22.22 | 21.60        | 22.40 | 20.8                    | 23.3 | 60                                                 | 250  | 20                              | 55   | 16.4                                                                                        | 18.4 | 20.0 | 60                                                                         | 1.25                                                                                                                         |
| 24                          | 23.76                                                                 | 24.24 | 23.50        | 24.50 | 22.8                    | 25.6 | 60                                                 | 250  | 25                              | 70   | 18.4                                                                                        | 20.4 | 22.0 | 55                                                                         | 1.25                                                                                                                         |

## Voltage regulator diodes

## BZX84 series

**Table 2** Per type BZX84-A/B/C27 to A/B/C75 $T_j = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

| BZX84-A<br>or B or C<br>XXX | WORKING VOLTAGE<br>$V_Z$ (V)<br>at $I_{Z\text{test}} = 2\text{ mA}$ |       |                    |       |                               |      | DIFFERENTIAL<br>RESISTANCE<br>$r_{\text{dif}}$ ( $\Omega$ ) |      |                                        |      | TEMP. COEFF.<br>$S_Z$ (mV/K)<br>at $I_{Z\text{test}} = 2\text{ mA}$<br>(see Figs 4 and 5) |      |      | DIODE CAP.<br>$C_d$ (pF)<br>at $f = 1\text{ MHz}$ ;<br>$V_R = 0\text{ V}$ |  | NON-REPETITIVE<br>PEAK REVERSE<br>CURRENT<br>$I_{ZSM}$ (A)<br>at $t_p = 100\text{ }\mu\text{s}$ ;<br>$T_{\text{amb}} = 25\text{ }^{\circ}\text{C}$ |  |
|-----------------------------|---------------------------------------------------------------------|-------|--------------------|-------|-------------------------------|------|-------------------------------------------------------------|------|----------------------------------------|------|-------------------------------------------------------------------------------------------|------|------|---------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                             | Tol. $\pm 1\%$ (A)                                                  |       | Tol. $\pm 2\%$ (B) |       | Tol. approx.<br>$\pm 5\%$ (C) |      | at<br>$I_{Z\text{test}} = 0.5\text{ mA}$                    |      | at<br>$I_{Z\text{test}} = 2\text{ mA}$ |      |                                                                                           |      |      |                                                                           |  |                                                                                                                                                    |  |
|                             | MIN.                                                                | MAX.  | MIN.               | MAX.  | MIN.                          | MAX. | TYP.                                                        | MAX. | TYP.                                   | MAX. | MIN.                                                                                      | TYP. | MAX. | MAX.                                                                      |  | MAX.                                                                                                                                               |  |
| 27                          | 26.73                                                               | 27.27 | 26.50              | 27.50 | 25.1                          | 28.9 | 65                                                          | 300  | 25                                     | 80   | 21.4                                                                                      | 23.4 | 25.3 | 50                                                                        |  | 1.0                                                                                                                                                |  |
| 30                          | 29.70                                                               | 30.30 | 29.40              | 30.60 | 28.0                          | 32.0 | 70                                                          | 300  | 30                                     | 80   | 24.4                                                                                      | 26.6 | 29.4 | 50                                                                        |  | 1.0                                                                                                                                                |  |
| 33                          | 32.67                                                               | 33.33 | 32.30              | 33.70 | 31.0                          | 35.0 | 75                                                          | 325  | 35                                     | 80   | 27.4                                                                                      | 29.7 | 33.4 | 45                                                                        |  | 0.9                                                                                                                                                |  |
| 36                          | 35.64                                                               | 36.36 | 35.30              | 36.70 | 34.0                          | 38.0 | 80                                                          | 350  | 35                                     | 90   | 30.4                                                                                      | 33.0 | 37.4 | 45                                                                        |  | 0.8                                                                                                                                                |  |
| 39                          | 38.61                                                               | 39.39 | 38.20              | 39.80 | 37.0                          | 41.0 | 80                                                          | 350  | 40                                     | 130  | 33.4                                                                                      | 36.4 | 41.2 | 45                                                                        |  | 0.7                                                                                                                                                |  |
| 43                          | 42.57                                                               | 43.43 | 42.10              | 43.90 | 40.0                          | 46.0 | 85                                                          | 375  | 45                                     | 150  | 37.6                                                                                      | 41.2 | 46.6 | 40                                                                        |  | 0.6                                                                                                                                                |  |
| 47                          | 46.53                                                               | 47.47 | 46.10              | 47.90 | 44.0                          | 50.0 | 85                                                          | 375  | 50                                     | 170  | 42.0                                                                                      | 46.1 | 51.8 | 40                                                                        |  | 0.5                                                                                                                                                |  |
| 51                          | 50.49                                                               | 51.51 | 50.00              | 52.00 | 48.0                          | 54.0 | 90                                                          | 400  | 60                                     | 180  | 46.6                                                                                      | 51.0 | 57.2 | 40                                                                        |  | 0.4                                                                                                                                                |  |
| 56                          | 55.44                                                               | 56.56 | 54.90              | 57.10 | 52.0                          | 60.0 | 100                                                         | 425  | 70                                     | 200  | 52.2                                                                                      | 57.0 | 63.8 | 40                                                                        |  | 0.3                                                                                                                                                |  |
| 62                          | 61.38                                                               | 62.62 | 60.80              | 63.20 | 58.0                          | 66.0 | 120                                                         | 450  | 80                                     | 215  | 58.8                                                                                      | 64.4 | 71.6 | 35                                                                        |  | 0.3                                                                                                                                                |  |
| 68                          | 67.32                                                               | 68.68 | 66.60              | 69.40 | 64.0                          | 72.0 | 150                                                         | 475  | 90                                     | 240  | 65.6                                                                                      | 71.7 | 79.8 | 35                                                                        |  | 0.25                                                                                                                                               |  |
| 75                          | 74.25                                                               | 75.75 | 73.50              | 76.50 | 70.0                          | 79.0 | 170                                                         | 500  | 95                                     | 255  | 73.4                                                                                      | 80.2 | 88.6 | 35                                                                        |  | 0.2                                                                                                                                                |  |

## Voltage regulator diodes

## BZX84 series

**THERMAL CHARACTERISTICS**

| SYMBOL         | PARAMETER                                     | CONDITIONS | VALUE | UNIT |
|----------------|-----------------------------------------------|------------|-------|------|
| $R_{th\ j-tp}$ | thermal resistance from junction to tie-point |            | 330   | K/W  |
| $R_{th\ j-a}$  | thermal resistance from junction to ambient   | note 1     | 500   | K/W  |

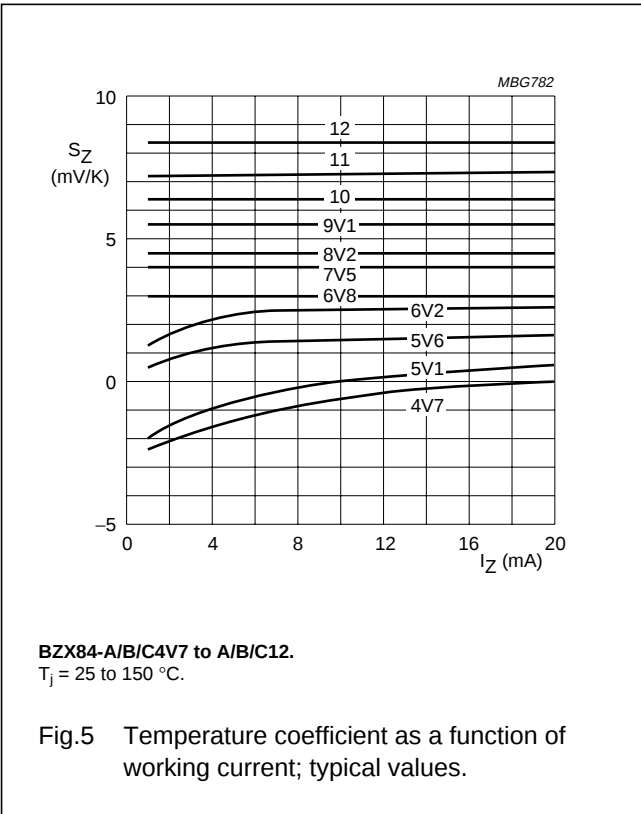
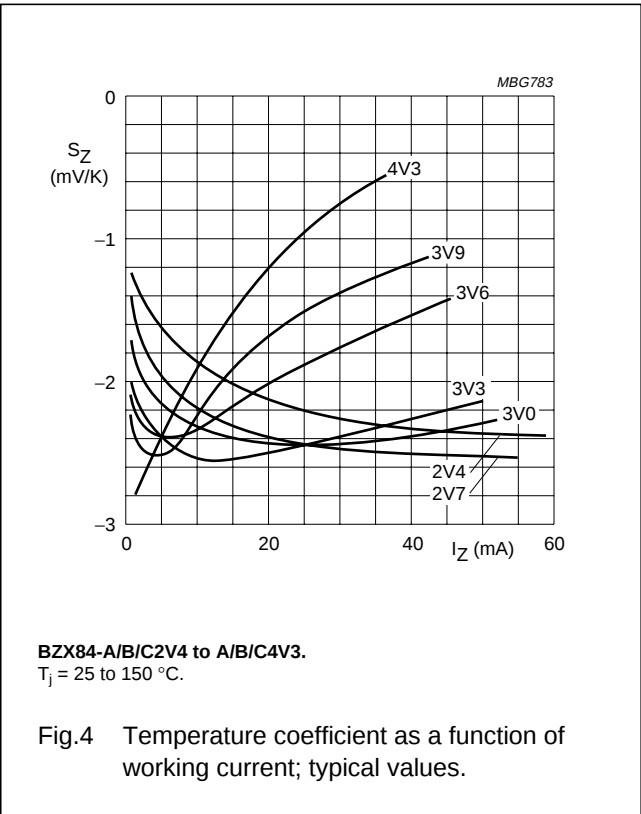
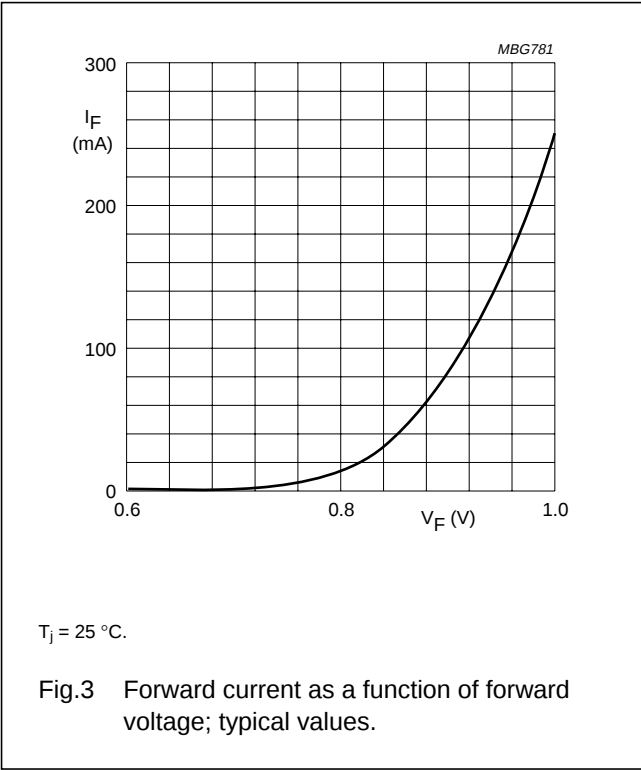
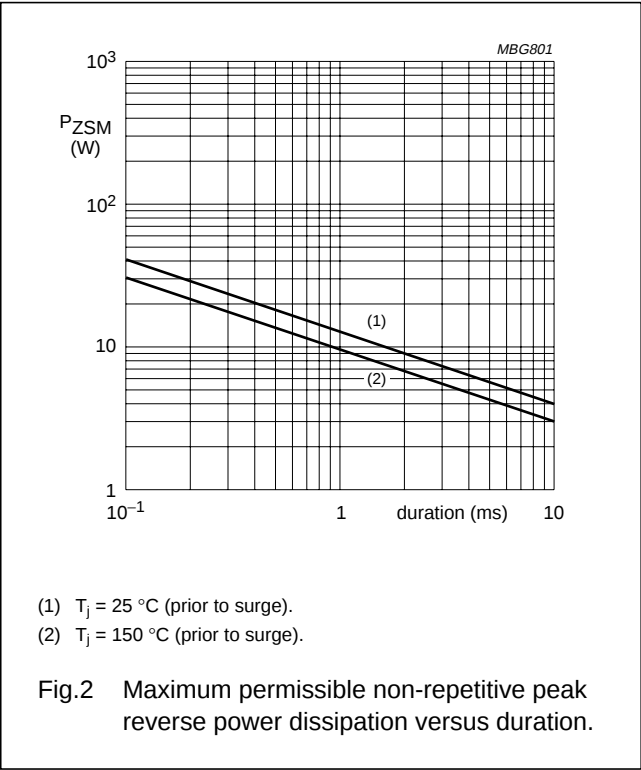
**Note**

1. Device mounted on an FR4 printed circuit-board.

Voltage regulator diodes

BZX84 series

GRAPHICAL DATA



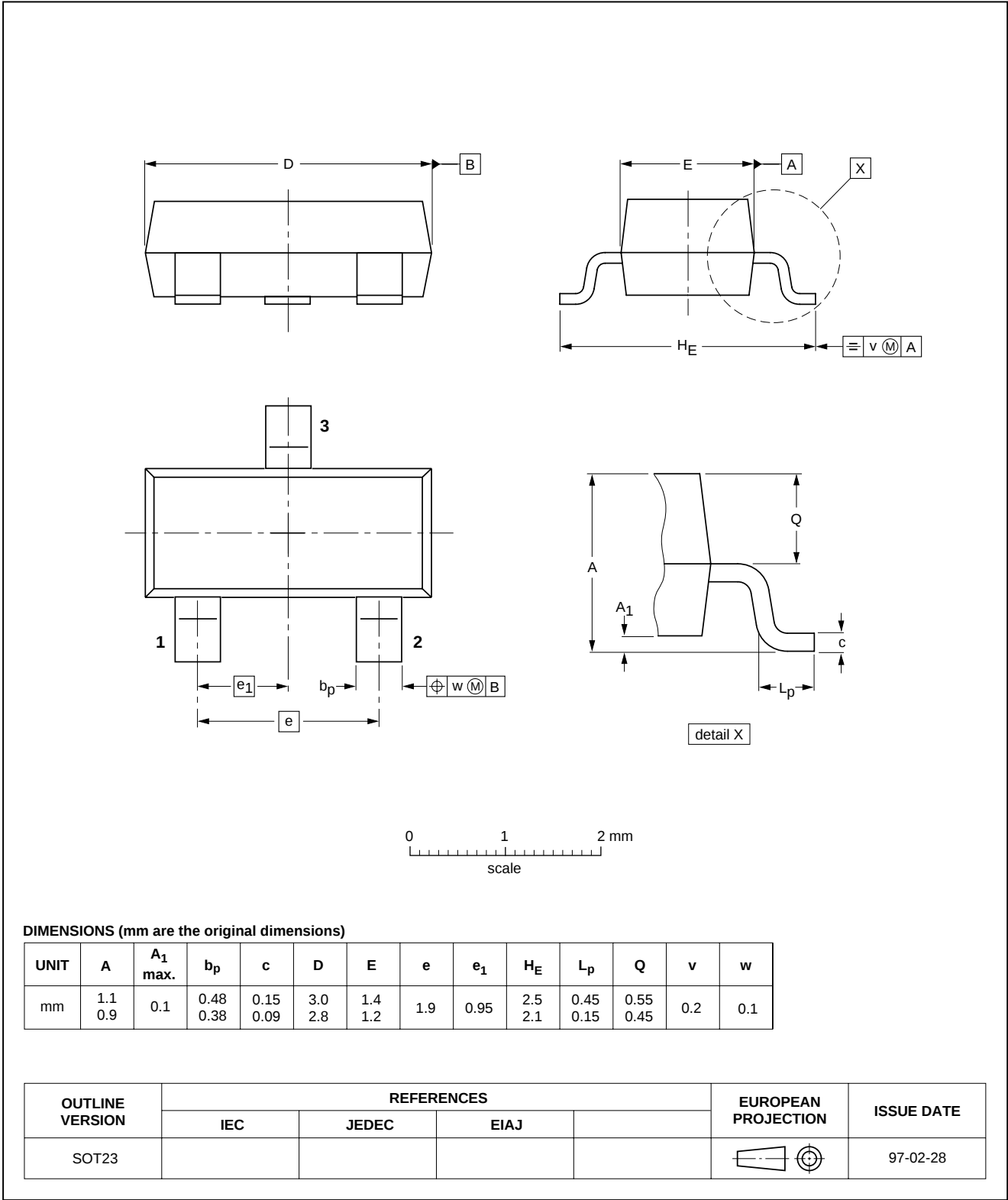
Voltage regulator diodes

BZX84 series

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



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Voltage regulator diodes

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BZX84 series

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**DEFINITIONS**

| <b>Data sheet status</b>                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Objective specification                                                                                                                                                                                                                                                                                                                                                                                                                                   | This data sheet contains target or goal specifications for product development.       |
| Preliminary specification                                                                                                                                                                                                                                                                                                                                                                                                                                 | This data sheet contains preliminary data; supplementary data may be published later. |
| Product specification                                                                                                                                                                                                                                                                                                                                                                                                                                     | This data sheet contains final product specifications.                                |
| <b>Limiting values</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                       |
| Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability. |                                                                                       |
| <b>Application information</b>                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                       |
| Where application information is given, it is advisory and does not form part of the specification.                                                                                                                                                                                                                                                                                                                                                       |                                                                                       |

**LIFE SUPPORT APPLICATIONS**

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

Voltage regulator diodes

BZX84 series

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**NOTES**

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