

**BZX84C2V4  
THRU  
BZX84C47**

**SURFACE MOUNT  
SILICON ZENER DIODE  
350mW, 2.4 THRU 47 VOLTS**



**SOT-23 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BZX84C2V4 Series are surface mount silicon Zener diodes. These high quality voltage regulating diodes are designed for use in industrial, commercial, entertainment and computer applications.

**MARKING CODE: SEE ELECTRICAL CHARACTERISTICS TABLE**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

Power Dissipation

Operating and Storage Junction Temperature

Thermal Resistance

**SYMBOL**

$P_D$

$T_J, T_{stg}$

$\theta_{JA}$

350

-65 to +150

357

**UNITS**

mW

$^\circ\text{C}$

$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$ ),  $V_F=0.9\text{V MAX @ } I_F=10\text{mA}$  (for all types)

| TYPE      | ZENER VOLTAGE<br>V <sub>Z</sub> @ I <sub>ZT</sub> |     |      | TEST CURRENT    | MAXIMUM ZENER IMPEDENCE           |                                   |     | MAXIMUM REVERSE CURRENT         |     | MAXIMUM ZENER CURRENT | MAXIMUM ZENER VOLTAGE TEMP. COEFF. | MARKING CODE |
|-----------|---------------------------------------------------|-----|------|-----------------|-----------------------------------|-----------------------------------|-----|---------------------------------|-----|-----------------------|------------------------------------|--------------|
|           | MIN                                               | NOM | MAX  | I <sub>ZT</sub> | Z <sub>ZT</sub> @ I <sub>ZT</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub> |     | I <sub>R</sub> @ V <sub>R</sub> |     | I <sub>ZM</sub>       | θV <sub>Z</sub>                    |              |
|           | V                                                 | V   | V    | mA              | Ω                                 | Ω                                 | mA  | μA                              | V   | mA                    | % / °C                             |              |
| BZX84C2V4 | 2.2                                               | 2.4 | 2.6  | 5.0             | 100                               | 600                               | 1.0 | 50                              | 1.0 | 104                   | -0.06                              | W3           |
| BZX84C2V7 | 2.5                                               | 2.7 | 2.9  | 5.0             | 100                               | 600                               | 1.0 | 20                              | 1.0 | 92                    | -0.06                              | W4           |
| BZX84C3V0 | 2.8                                               | 3.0 | 3.2  | 5.0             | 95                                | 600                               | 1.0 | 10                              | 1.0 | 83                    | -0.06                              | W5           |
| BZX84C3V3 | 3.1                                               | 3.3 | 3.5  | 5.0             | 95                                | 600                               | 1.0 | 5.0                             | 1.0 | 76                    | -0.06                              | W6           |
| BZX84C3V6 | 3.4                                               | 3.6 | 3.8  | 5.0             | 90                                | 600                               | 1.0 | 5.0                             | 1.0 | 69                    | -0.06                              | W7           |
| BZX84C3V9 | 3.7                                               | 3.9 | 4.1  | 5.0             | 90                                | 600                               | 1.0 | 3.0                             | 1.0 | 64                    | -0.06                              | W8           |
| BZX84C4V3 | 4.0                                               | 4.3 | 4.6  | 5.0             | 90                                | 600                               | 1.0 | 3.0                             | 1.0 | 58                    | -0.05                              | W9           |
| BZX84C4V7 | 4.4                                               | 4.7 | 5.0  | 5.0             | 80                                | 500                               | 1.0 | 3.0                             | 2.0 | 53                    | -0.03                              | Z1           |
| BZX84C5V1 | 4.8                                               | 5.1 | 5.4  | 5.0             | 60                                | 480                               | 1.0 | 2.0                             | 2.0 | 49                    | 0.02                               | Z2           |
| BZX84C5V6 | 5.2                                               | 5.6 | 6.0  | 5.0             | 40                                | 400                               | 1.0 | 1.0                             | 2.0 | 45                    | 0.03                               | Z3           |
| BZX84C6V2 | 5.8                                               | 6.2 | 6.6  | 5.0             | 10                                | 150                               | 1.0 | 3.0                             | 4.0 | 40                    | 0.04                               | Z4           |
| BZX84C6V8 | 6.4                                               | 6.8 | 7.2  | 5.0             | 15                                | 80                                | 1.0 | 2.0                             | 4.0 | 37                    | 0.05                               | Z5           |
| BZX84C7V5 | 7.0                                               | 7.5 | 7.9  | 5.0             | 15                                | 80                                | 1.0 | 1.0                             | 5.0 | 33                    | 0.05                               | Z6           |
| BZX84C8V2 | 7.7                                               | 8.2 | 8.7  | 5.0             | 15                                | 80                                | 1.0 | 0.7                             | 5.0 | 30                    | 0.06                               | Z7           |
| BZX84C9V1 | 8.5                                               | 9.1 | 9.6  | 5.0             | 15                                | 100                               | 1.0 | 0.5                             | 6.0 | 27                    | 0.06                               | Z8           |
| BZX84C10  | 9.4                                               | 10  | 10.6 | 5.0             | 20                                | 150                               | 1.0 | 0.2                             | 7.0 | 25                    | 0.07                               | Z9           |

**Tolerance Code**

A

B

**Tolerance**

$\pm 1\%$

$\pm 2\%$

**Part Number Identification**

BZX84 C 4V7



Device Series

Tolerance Code

Nominal Value Code(i.e. 4.7 Volts)

R7 (20-November 2009)

**BZX84C2V4  
THRU  
BZX84C47**

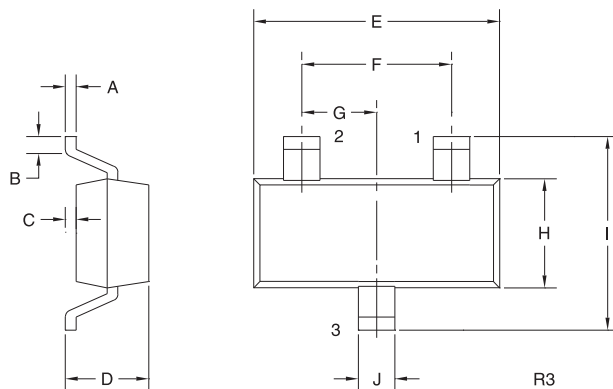
**SURFACE MOUNT  
SILICON ZENER DIODE  
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**ELECTRICAL CHARACTERISTICS - Continued:** ( $T_A=25^{\circ}\text{C}$ ),  $V_F=0.9\text{V MAX @ } I_F=10\text{mA}$  (for all types)

| TYPE     | ZENER VOLTAGE<br>V <sub>Z</sub> @ I <sub>ZT</sub> |     |      | TEST CURRENT    | MAXIMUM ZENER IMPEDENCE           |                                   |     | MAXIMUM REVERSE CURRENT         |                 | MAXIMUM ZENER CURRENT | MAXIMUM ZENER VOLTAGE TEMP. COEFF. | MARKING CODE |
|----------|---------------------------------------------------|-----|------|-----------------|-----------------------------------|-----------------------------------|-----|---------------------------------|-----------------|-----------------------|------------------------------------|--------------|
|          | MIN                                               | NOM | MAX  | I <sub>ZT</sub> | Z <sub>ZT</sub> @ I <sub>ZT</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub> |     | I <sub>R</sub> @ V <sub>R</sub> | I <sub>ZM</sub> | θV <sub>Z</sub>       |                                    |              |
|          | V                                                 | V   | V    | mA              | Ω                                 | Ω                                 | mA  | μA                              | V               | mA                    | % / °C                             |              |
| BZX84C11 | 10.4                                              | 11  | 11.6 | 5.0             | 20                                | 150                               | 1.0 | 0.1                             | 8.0             | 23                    | 0.07                               | Y1           |
| BZX84C12 | 11.4                                              | 12  | 12.7 | 5.0             | 25                                | 150                               | 1.0 | 0.1                             | 8.0             | 21                    | 0.07                               | Y2           |
| BZX84C13 | 12.4                                              | 13  | 14.1 | 5.0             | 30                                | 170                               | 1.0 | 0.1                             | 8.0             | 19                    | 0.08                               | Y3           |
| BZX84C15 | 13.8                                              | 15  | 15.6 | 5.0             | 30                                | 200                               | 1.0 | 0.05                            | 10.5            | 17                    | 0.08                               | Y4           |
| BZX84C16 | 15.3                                              | 16  | 17.1 | 5.0             | 40                                | 200                               | 1.0 | 0.05                            | 11.2            | 16                    | 0.08                               | Y5           |
| BZX84C18 | 16.8                                              | 18  | 19.1 | 5.0             | 45                                | 225                               | 1.0 | 0.05                            | 12.6            | 14                    | 0.08                               | Y6           |
| BZX84C20 | 18.8                                              | 20  | 21.2 | 5.0             | 55                                | 225                               | 1.0 | 0.05                            | 14.0            | 12                    | 0.08                               | Y7           |
| BZX84C22 | 20.8                                              | 22  | 23.3 | 5.0             | 55                                | 250                               | 1.0 | 0.05                            | 15.4            | 11                    | 0.09                               | Y8           |
| BZX84C24 | 22.8                                              | 24  | 25.6 | 5.0             | 70                                | 250                               | 1.0 | 0.05                            | 16.8            | 10                    | 0.09                               | Y9           |
| BZX84C27 | 25.1                                              | 27  | 28.9 | 2.0             | 80                                | 300                               | 0.5 | 0.05                            | 18.9            | 9                     | 0.09                               | Y10          |
| BZX84C30 | 28.0                                              | 30  | 32.0 | 2.0             | 80                                | 300                               | 0.5 | 0.05                            | 21.0            | 8                     | 0.09                               | Y11          |
| BZX84C33 | 31.0                                              | 33  | 35.0 | 2.0             | 80                                | 325                               | 0.5 | 0.05                            | 23.1            | 7                     | 0.09                               | Y12          |
| BZX84C36 | 34.0                                              | 36  | 38.0 | 2.0             | 90                                | 350                               | 0.5 | 0.05                            | 25.2            | 6.9                   | 0.09                               | Y13          |
| BZX84C39 | 37.0                                              | 39  | 41.0 | 2.0             | 130                               | 350                               | 0.5 | 0.05                            | 27.3            | 6.4                   | 0.09                               | Y14          |
| BZX84C43 | 40.0                                              | 43  | 46.0 | 2.0             | 150                               | 375                               | 0.5 | 0.05                            | 30.1            | 5.8                   | 0.10                               | Y15          |
| BZX84C47 | 44.0                                              | 47  | 50.0 | 2.0             | 170                               | 375                               | 0.5 | 0.05                            | 32.9            | 5.3                   | 0.10                               | Y16          |

**SOT-23 CASE - MECHANICAL OUTLINE**



| SYMBOL | DIMENSIONS |       |      |      |
|--------|------------|-------|------|------|
|        | MIN        | MAX   | MIN  | MAX  |
| A      | 0.003      | 0.007 | 0.08 | 0.18 |
| B      | 0.006      | -     | 0.15 | -    |
| C      | -          | 0.005 | -    | 0.13 |
| D      | 0.035      | 0.043 | 0.89 | 1.09 |
| E      | 0.110      | 0.120 | 2.80 | 3.05 |
| F      | 0.075      |       | 1.90 |      |
| G      | 0.037      |       | 0.95 |      |
| H      | 0.047      | 0.055 | 1.19 | 1.40 |
| I      | 0.083      | 0.098 | 2.10 | 2.49 |
| J      | 0.014      | 0.020 | 0.35 | 0.50 |

SOT-23 (REV: R3)

**LEAD CODE:**

- 1) ANODE
- 2) NO CONNECTION
- 3) CATHODE

R7 (20-November 2009)