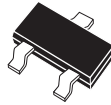


**BZX84C2V4  
THRU  
BZX84C47**

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



**SOT-23 CASE**

**Central<sup>TM</sup>  
Semiconductor Corp.**

**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 MARKING CODE ON ELECTRICAL CHARACTERISTICS TABLE**

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

Power Dissipation  
Operating and Storage Temperature  
Thermal Resistance

**SYMBOL**

$P_D$  350  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  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 NO.  | ZENER VOLTAGE<br>$V_Z @ I_{ZT}$ |       |       | TEST CURRENT | MAXIMUM ZENER IMPEDENCE |                   |     | MAXIMUM REVERSE CURRENT |       | MAXIMUM ZENER CURRENT | MAXIMUM ZENER VOLTAGE TEMP. COEFF. | MARKING CODE |
|-----------|---------------------------------|-------|-------|--------------|-------------------------|-------------------|-----|-------------------------|-------|-----------------------|------------------------------------|--------------|
|           | MIN                             | NOM   | MAX   |              | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ |     | $I_R @ V_R$             |       | $I_{ZM}$              | $\theta V_Z$                       |              |
|           | VOLTS                           | VOLTS | VOLTS | mA           | $\Omega$                | $\Omega$          | mA  | $\mu\text{A}$           | VOLTS | mA                    | % / $^{\circ}\text{C}$             |              |
| 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   | 8.9   | 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  $\pm 1\%$   
B  $\pm 2\%$

**Tolerance**

**Part Number Identification**

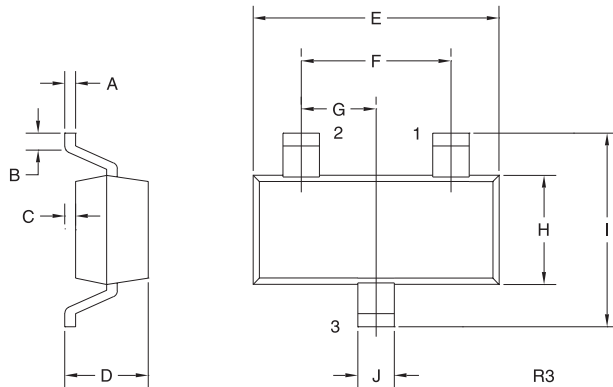
BZX84 C 4V7

↑ Device Series  
↑ Tolerance Code  
↑ Nominal Value Code (i.e. 4.7 Volts)

R5 ( 30-March 2004)

| TYPE NO. | 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   |              | 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>       |                                    |              |
|          | VOLTS                                             | VOLTS | VOLTS | mA           | Ω                                 | Ω                                 | mA                              | μA                      | VOLTS           | 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 | INCHES |       | MILLIMETERS |      |
|--------|--------|-------|-------------|------|
|        | 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

R5 ( 30-March 2004)