

**BZX84A2V4 THRU BZX84A47**

**SURFACE MOUNT  
SILICON ZENER DIODE  
350mW, 2.4 THRU 47 VOLTS  
1% TOLERANCE**

**SOT-23 CASE**[www.centra-semi.com](http://www.centra-semi.com)**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR BZX84A2V4 Series are surface mount silicon, tight tolerance Zener diodes. These high quality voltage regulating diodes are designed for use in industrial, commercial, entertainment and computer applications.

**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>$V_Z @ I_{ZT}$ |     |       | Test Current<br>$I_{ZT}$ | Maximum Zener Impedance |                   |     | Maximum Reverse Current |      | Maximum Zener Current<br>$I_{ZM}$ | Maximum Temperature Coefficient<br>$\Theta V_Z$ | Marking Code |
|-----------|---------------------------------|-----|-------|--------------------------|-------------------------|-------------------|-----|-------------------------|------|-----------------------------------|-------------------------------------------------|--------------|
|           | MIN                             | NOM | MAX   |                          | $Z_{ZT} @ I_{ZT}$       | $Z_{ZK} @ I_{ZK}$ |     | $I_R @ V_R$             |      |                                   |                                                 |              |
|           | V                               | V   | V     |                          | $\Omega$                | $\Omega$          | mA  | $\mu\text{A}$           | V    |                                   | % / $^{\circ}\text{C}$                          |              |
| BZX84A2V4 | 2.376                           | 2.4 | 2.424 | 5.0                      | 100                     | 600               | 1.0 | 50                      | 1.0  | 104                               | -0.06                                           | *            |
| BZX84A2V7 | 2.673                           | 2.7 | 2.727 | 5.0                      | 100                     | 600               | 1.0 | 20                      | 1.0  | 92                                | -0.06                                           | *            |
| BZX84A3V0 | 2.970                           | 3.0 | 3.030 | 5.0                      | 95                      | 600               | 1.0 | 10                      | 1.0  | 83                                | -0.06                                           | *            |
| BZX84A3V3 | 3.267                           | 3.3 | 3.333 | 5.0                      | 95                      | 600               | 1.0 | 5.0                     | 1.0  | 76                                | -0.06                                           | *            |
| BZX84A3V6 | 3.564                           | 3.6 | 3.636 | 5.0                      | 90                      | 600               | 1.0 | 5.0                     | 1.0  | 69                                | -0.06                                           | *            |
| BZX84A3V9 | 3.861                           | 3.9 | 3.939 | 5.0                      | 90                      | 600               | 1.0 | 3.0                     | 1.0  | 64                                | -0.06                                           | *            |
| BZX84A4V3 | 4.257                           | 4.3 | 4.343 | 5.0                      | 90                      | 600               | 1.0 | 3.0                     | 1.0  | 58                                | -0.05                                           | *            |
| BZX84A4V7 | 4.653                           | 4.7 | 4.747 | 5.0                      | 80                      | 500               | 1.0 | 3.0                     | 2.0  | 53                                | -0.03                                           | *            |
| BZX84A5V1 | 5.049                           | 5.1 | 5.151 | 5.0                      | 60                      | 480               | 1.0 | 2.0                     | 2.0  | 49                                | 0.02                                            | *            |
| BZX84A5V6 | 5.544                           | 5.6 | 5.656 | 5.0                      | 40                      | 400               | 1.0 | 1.0                     | 2.0  | 45                                | 0.03                                            | *            |
| BZX84A6V2 | 6.138                           | 6.2 | 6.262 | 5.0                      | 10                      | 150               | 1.0 | 3.0                     | 4.0  | 40                                | 0.04                                            | *            |
| BZX84A6V8 | 6.732                           | 6.8 | 6.868 | 5.0                      | 15                      | 80                | 1.0 | 2.0                     | 4.0  | 37                                | 0.05                                            | *            |
| BZX84A7V5 | 7.425                           | 7.5 | 7.575 | 5.0                      | 15                      | 80                | 1.0 | 1.0                     | 5.0  | 33                                | 0.05                                            | *            |
| BZX84A8V2 | 8.118                           | 8.2 | 8.282 | 5.0                      | 15                      | 80                | 1.0 | 0.7                     | 5.0  | 30                                | 0.06                                            | *            |
| BZX84A9V1 | 9.009                           | 9.1 | 9.191 | 5.0                      | 15                      | 100               | 1.0 | 0.5                     | 6.0  | 27                                | 0.06                                            | *            |
| BZX84A10  | 9.90                            | 10  | 10.10 | 5.0                      | 20                      | 150               | 1.0 | 0.2                     | 7.0  | 25                                | 0.07                                            | *            |
| BZX84A11  | 10.89                           | 11  | 11.11 | 5.0                      | 20                      | 150               | 1.0 | 0.1                     | 8.0  | 23                                | 0.07                                            | *            |
| BZX84A12  | 11.88                           | 12  | 12.12 | 5.0                      | 25                      | 150               | 1.0 | 0.1                     | 8.0  | 21                                | 0.07                                            | *            |
| BZX84A13  | 12.87                           | 13  | 13.13 | 5.0                      | 30                      | 170               | 1.0 | 0.1                     | 8.0  | 19                                | 0.08                                            | *            |
| BZX84A15  | 14.85                           | 15  | 15.15 | 5.0                      | 30                      | 200               | 1.0 | 0.05                    | 10.5 | 17                                | 0.08                                            | *            |

\* Consult Factory

R1 (16-November 2020)

**BZX84A2V4 THRU BZX84A47**

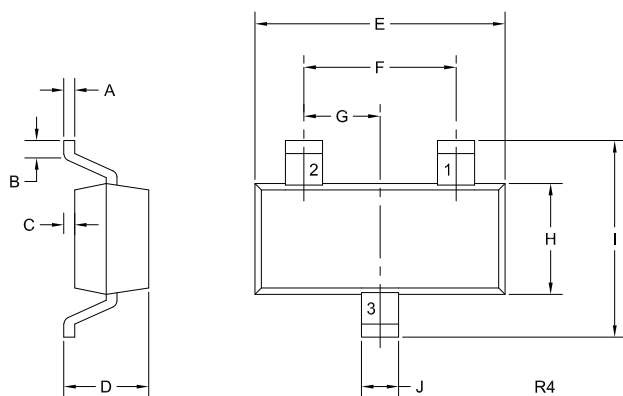
**SURFACE MOUNT  
SILICON ZENER DIODE  
350mW, 2.4 THRU 47 VOLTS  
1% TOLERANCE**



**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<br>Current | Maximum<br>Zener<br>Impedance |                                   |                                   | Maximum<br>Reverse<br>Current   |      | Maximum<br>Zener<br>Current | Maximum<br>Temperature<br>Coefficient | Marking<br>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> |      |                             |                                       |                 |
|          | V                                                 | V   | V     |                 | mA                            | Ω                                 | Ω                                 | mA                              | μA   |                             | V                                     |                 |
| BZX84A16 | 15.84                                             | 16  | 16.16 | 5.0             | 40                            | 200                               | 1.0                               | 0.05                            | 11.2 | 16                          | 0.08                                  | *               |
| BZX84A18 | 17.82                                             | 18  | 18.18 | 5.0             | 45                            | 225                               | 1.0                               | 0.05                            | 12.6 | 14                          | 0.08                                  | *               |
| BZX84A20 | 19.80                                             | 20  | 20.20 | 5.0             | 55                            | 225                               | 1.0                               | 0.05                            | 14.0 | 12                          | 0.08                                  | *               |
| BZX84A22 | 21.78                                             | 22  | 22.22 | 5.0             | 55                            | 250                               | 1.0                               | 0.05                            | 15.4 | 11                          | 0.09                                  | *               |
| BZX84A24 | 23.76                                             | 24  | 24.24 | 5.0             | 70                            | 250                               | 1.0                               | 0.05                            | 16.8 | 10                          | 0.09                                  | *               |
| BZX84A27 | 26.73                                             | 27  | 27.27 | 2.0             | 80                            | 300                               | 0.5                               | 0.05                            | 18.9 | 9                           | 0.09                                  | *               |
| BZX84A30 | 29.70                                             | 30  | 30.30 | 2.0             | 80                            | 300                               | 0.5                               | 0.05                            | 21.0 | 8                           | 0.09                                  | *               |
| BZX84A33 | 32.67                                             | 33  | 33.33 | 2.0             | 80                            | 325                               | 0.5                               | 0.05                            | 23.1 | 7                           | 0.09                                  | *               |
| BZX84A36 | 35.64                                             | 36  | 36.36 | 2.0             | 90                            | 350                               | 0.5                               | 0.05                            | 25.2 | 6.9                         | 0.09                                  | *               |
| BZX84A39 | 38.61                                             | 39  | 39.39 | 2.0             | 130                           | 350                               | 0.5                               | 0.05                            | 27.3 | 6.4                         | 0.09                                  | *               |
| BZX84A43 | 42.57                                             | 43  | 43.43 | 2.0             | 150                           | 375                               | 0.5                               | 0.05                            | 30.1 | 5.8                         | 0.10                                  | *               |
| BZX84A47 | 46.53                                             | 47  | 47.47 | 2.0             | 170                           | 375                               | 0.5                               | 0.05                            | 32.9 | 5.3                         | 0.10                                  | *               |

\* Consult Factory

**SOT-23 CASE - MECHANICAL OUTLINE**

| SYMBOL | DIMENSIONS |       |             |      |
|--------|------------|-------|-------------|------|
|        | 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      | 0.044 | 0.89        | 1.12 |
| 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      | 0.104 | 2.10        | 2.64 |
| J      | 0.014      | 0.020 | 0.35        | 0.50 |

SOT-23 (REV: R4)

**LEAD CODE:**

- 1) Anode
- 2) No Connection
- 3) Cathode

R1 (16-November 2020)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



---

### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

---

### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

---

### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

---

### CONTACT US

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

**Worldwide Distributors:**  
[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

---

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: [www.centrasemi.com/terms](http://www.centrasemi.com/terms)