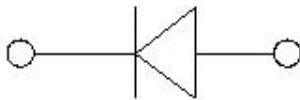
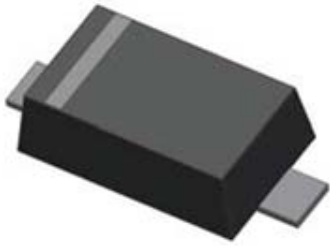




## Small Signal Zener Diodes



### Features

- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 1
- Zener Voltage 2.4V~47V
- $V_z$ -tolerance  $\pm 5\%$  approximately
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- General regulation functions

### Mechanical Data

- **Case:** SOD523
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER                                          | SYMBOL          | UNIT                        | VALUE       |
|----------------------------------------------------|-----------------|-----------------------------|-------------|
| Power Dissipation                                  | $P_D$           | mW                          | 250         |
| Storage Temperature Range                          | $T_{stg}$       | $^\circ\text{C}$            | -55~+150    |
| Junction Temperature                               | $T_J$           | $^\circ\text{C}$            | -55~+150    |
| Maximum Regulator Current                          | $I_{ZM}$        | mA                          | $P_D / V_z$ |
| Maximum Forward Voltage ( $I_F=10\text{mA}_{dc}$ ) | $V_F$           | V                           | 0.9         |
| Thermal Resistance Junction to Ambient Air*        | $R_{\theta JA}$ | $^\circ\text{C} / \text{W}$ | 500         |

### ■ Ordering Information (Example)

| PREFERED P/N                      | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|-----------------------------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| BZX584C2V4HQ THRU<br>BZX584C47VHQ | F2           | Approximate 0.002 | 8000                 | 80000                   | 320000                     | 7" reel       |



# BZX584C2V4HQ THRU BZX584C47VHQ

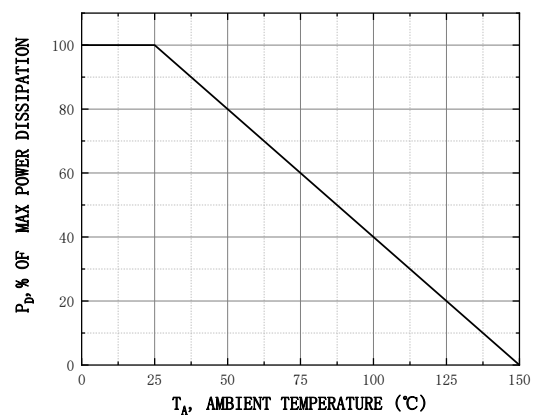
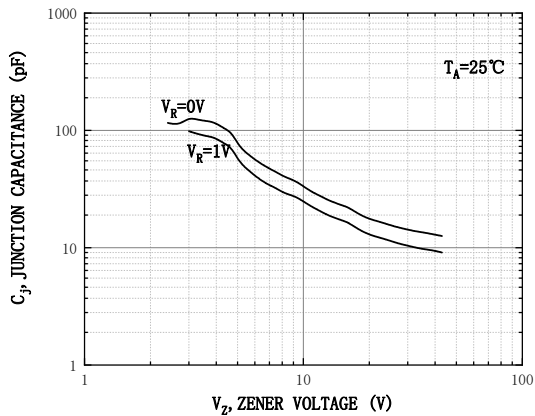
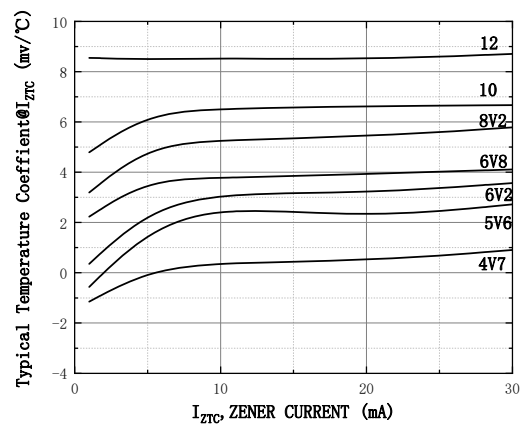
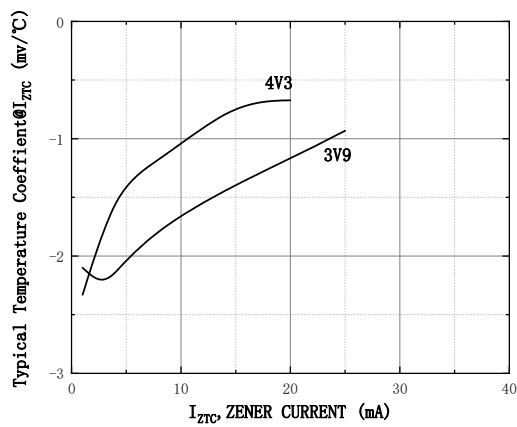
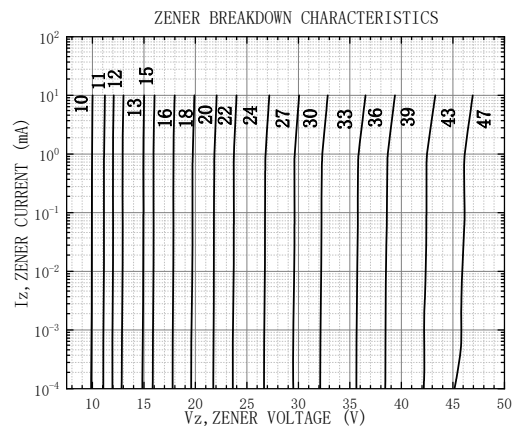
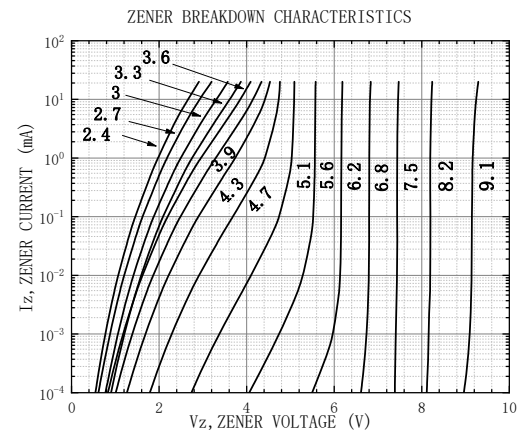
## ■ Electrical Characteristics (T<sub>a</sub>=25℃ Unless otherwise specified)

| Type Number  | Device Marking | V <sub>z</sub> at I <sub>zt</sub> (V) |      |      | I <sub>zt</sub> | Z <sub>zt</sub> (Ω)  |      | Z <sub>zk</sub> (Ω)  |      | I <sub>R</sub> (μA)@V <sub>R</sub> |                    | Typical Temperature Coefficient@ I <sub>ZTC</sub> mV/°C |      | Test Current I <sub>ZTC</sub> |
|--------------|----------------|---------------------------------------|------|------|-----------------|----------------------|------|----------------------|------|------------------------------------|--------------------|---------------------------------------------------------|------|-------------------------------|
|              |                | min.                                  | typ. | max. |                 | I <sub>zt</sub> (mA) | max. | I <sub>zk</sub> (mA) | max. | uA                                 | V <sub>R</sub> (V) | Min                                                     | Max  |                               |
| BZX584C2V4HQ | 50             | 2.28                                  | 2.4  | 2.56 | 5               | 5                    | 100  | 1.0                  | 600  | 50                                 | 1.0                | -3.5                                                    | 0    | 5                             |
| BZX584C2V7HQ | 51             | 2.5                                   | 2.7  | 2.9  | 5               | 5                    | 100  | 1.0                  | 600  | 20                                 | 1.0                | -3.5                                                    | 0    | 5                             |
| BZX584C3V0HQ | 52             | 2.8                                   | 3.0  | 3.2  | 5               | 5                    | 95   | 1.0                  | 600  | 10                                 | 1.0                | -3.5                                                    | 0    | 5                             |
| BZX584C3V3HQ | 53             | 3.1                                   | 3.3  | 3.5  | 5               | 5                    | 95   | 1.0                  | 600  | 5                                  | 1.0                | -3.5                                                    | 0    | 5                             |
| BZX584C3V6HQ | 54             | 3.4                                   | 3.6  | 3.8  | 5               | 5                    | 90   | 1.0                  | 600  | 5                                  | 1.0                | -3.5                                                    | 0    | 5                             |
| BZX584C3V9HQ | 55             | 3.7                                   | 3.9  | 4.1  | 5               | 5                    | 90   | 1.0                  | 600  | 3                                  | 1.0                | -3.5                                                    | 0    | 5                             |
| BZX584C4V3HQ | 56             | 4.0                                   | 4.3  | 4.6  | 5               | 5                    | 90   | 1.0                  | 600  | 3                                  | 1.0                | -3.5                                                    | 0    | 5                             |
| BZX584C4V7HQ | 57             | 4.4                                   | 4.7  | 5.0  | 5               | 5                    | 80   | 1.0                  | 500  | 3                                  | 2.0                | -3.5                                                    | 0.2  | 5                             |
| BZX584C5V1HQ | 58             | 4.8                                   | 5.1  | 5.4  | 5               | 5                    | 60   | 1.0                  | 480  | 2                                  | 2.0                | -2.7                                                    | 1.2  | 5                             |
| BZX584C5V6HQ | 59             | 5.2                                   | 5.6  | 6.0  | 5               | 5                    | 40   | 1.0                  | 400  | 1                                  | 2.0                | -2                                                      | 2.5  | 5                             |
| BZX584C6V2HQ | 5A             | 5.8                                   | 6.2  | 6.6  | 5               | 5                    | 10   | 1.0                  | 150  | 3                                  | 4.0                | 0.4                                                     | 3.7  | 5                             |
| BZX584C6V8HQ | 5B             | 6.4                                   | 6.8  | 7.2  | 5               | 5                    | 15   | 1.0                  | 80   | 2                                  | 4.0                | 1.2                                                     | 4.5  | 5                             |
| BZX584C7V5HQ | 5C             | 7.0                                   | 7.5  | 7.9  | 5               | 5                    | 15   | 1.0                  | 80   | 1                                  | 5.0                | 2.5                                                     | 5.3  | 5                             |
| BZX584C8V2HQ | 5D             | 7.7                                   | 8.2  | 8.7  | 5               | 5                    | 15   | 1.0                  | 80   | 0.7                                | 5.0                | 3.2                                                     | 6.2  | 5                             |
| BZX584C9V1HQ | 5E             | 8.5                                   | 9.1  | 9.6  | 5               | 5                    | 15   | 1.0                  | 100  | 0.5                                | 6.0                | 3.8                                                     | 7.0  | 5                             |
| BZX584C10VHQ | 5F             | 9.4                                   | 10   | 10.6 | 5               | 5                    | 20   | 1.0                  | 150  | 0.2                                | 7.0                | 4.5                                                     | 8.0  | 5                             |
| BZX584C11VHQ | 5G             | 10.4                                  | 11   | 11.6 | 5               | 5                    | 20   | 1.0                  | 150  | 0.1                                | 8.0                | 5.4                                                     | 9.0  | 5                             |
| BZX584C12VHQ | 5H             | 11.4                                  | 12   | 12.7 | 5               | 5                    | 25   | 1.0                  | 150  | 0.1                                | 8.0                | 6.0                                                     | 10.0 | 5                             |
| BZX584C13VHQ | 5J             | 12.4                                  | 13   | 14.1 | 5               | 5                    | 30   | 1.0                  | 170  | 0.1                                | 8.0                | 7.0                                                     | 11.0 | 5                             |
| BZX584C15VHQ | 5K             | 13.8                                  | 15   | 15.6 | 5               | 5                    | 30   | 1.0                  | 200  | 0.1                                | 10.5               | 9.2                                                     | 13.0 | 5                             |
| BZX584C16VHQ | 5L             | 15.3                                  | 16   | 17.1 | 5               | 5                    | 40   | 1.0                  | 200  | 0.1                                | 11.2               | 10.4                                                    | 14.0 | 5                             |
| BZX584C18VHQ | 5M             | 16.8                                  | 18   | 19.1 | 5               | 5                    | 45   | 1.0                  | 225  | 0.1                                | 12.6               | 12.4                                                    | 16.0 | 5                             |
| BZX584C20VHQ | 5N             | 18.8                                  | 20   | 21.2 | 5               | 5                    | 55   | 1.0                  | 225  | 0.1                                | 14.0               | 14.4                                                    | 18.0 | 5                             |
| BZX584C22VHQ | 5P             | 20.8                                  | 22   | 23.3 | 5               | 5                    | 55   | 1.0                  | 250  | 0.1                                | 15.4               | 16.4                                                    | 20.0 | 5                             |
| BZX584C24VHQ | 5R             | 22.8                                  | 24   | 25.6 | 5               | 5                    | 70   | 1.0                  | 250  | 0.1                                | 16.8               | 18.4                                                    | 22.0 | 5                             |
| BZX584C27VHQ | 5S             | 25.1                                  | 27   | 28.9 | 2               | 2                    | 80   | 0.5                  | 300  | 0.1                                | 18.9               | 21.4                                                    | 25.3 | 2                             |
| BZX584C30VHQ | 5T             | 28                                    | 30   | 32   | 2               | 2                    | 80   | 0.5                  | 300  | 0.1                                | 21.0               | 24.4                                                    | 29.4 | 2                             |
| BZX584C33VHQ | 5U             | 31                                    | 33   | 35   | 2               | 2                    | 80   | 0.5                  | 325  | 0.1                                | 23.1               | 27.4                                                    | 33.4 | 2                             |
| BZX584C36VHQ | 5V             | 34                                    | 36   | 38   | 2               | 2                    | 90   | 0.5                  | 350  | 0.1                                | 25.2               | 30.4                                                    | 37.4 | 2                             |
| BZX584C39VHQ | 5X             | 37                                    | 39   | 41   | 2               | 2                    | 130  | 0.5                  | 350  | 0.1                                | 27.3               | 33.4                                                    | 41.2 | 2                             |
| BZX584C43VHQ | 5Y             | 40                                    | 43   | 46   | 2               | 2                    | 100  | 0.5                  | 700  | 0.1                                | 32                 | 37.6                                                    | 50.6 | 2                             |
| BZX584C47VHQ | 5Z             | 44                                    | 47   | 50   | 2               | 2                    | 100  | 0.5                  | 750  | 0.1                                | 35                 | 42.0                                                    | 55.8 | 2                             |



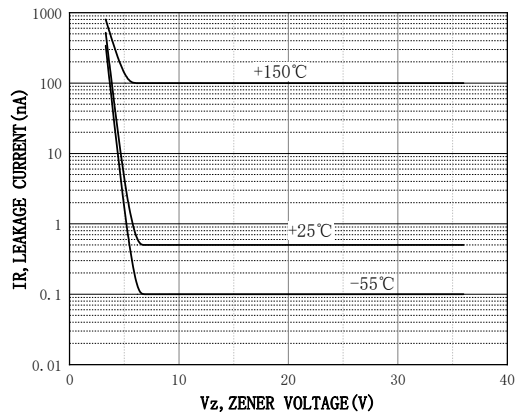
# BZX584C2V4HQ THRU BZX584C47VHQ

## ■ Characteristics (Typical)





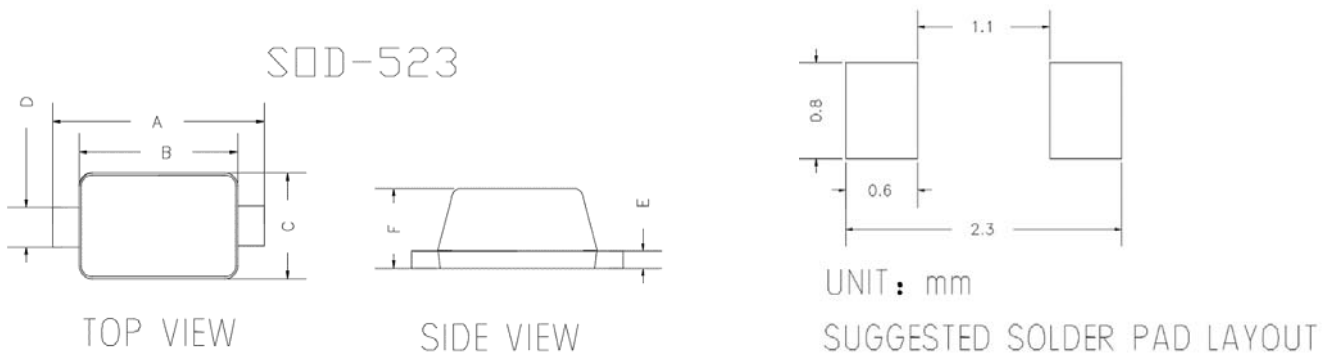
## BZX584C2V4HQ THRU BZX584C47VHQ





## BZX584C2V4HQ THRU BZX584C47VHQ

### ■ Outline Dimensions

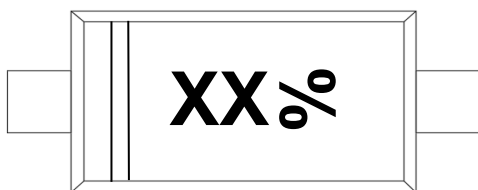


| DIMENSIONS |        |       |       |       |
|------------|--------|-------|-------|-------|
| DIM        | INCHES |       | MM    |       |
|            | MIN    | MAX   | MIN   | MAX   |
| A          | 0.059  | 0.067 | 1.500 | 1.700 |
| B          | 0.043  | 0.051 | 1.100 | 1.300 |
| C          | 0.028  | 0.035 | 0.700 | 0.900 |
| D          | 0.010  | 0.014 | 0.250 | 0.350 |
| E          | 0.002  | 0.008 | 0.050 | 0.200 |
| F          | 0.020  | 0.028 | 0.500 | 0.700 |

#### NOTE:

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

### ■ Marking Information



#### Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. Body color: Black
4. XX is Marking code ; % is a date code, rotated 90° counterclockwise

\*Date Code vary depending upon production date



## BZX584C2V4HQ THRU BZX584C47VHQ

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