

## Features

- AEC-Q101 Qualified
- Dual Zeners in Common Anode Configuration
- Ideally Suited for Automated Assembly Processes
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- ESD(HBM): 30KV

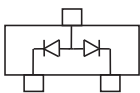
## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance : 417°C/W Junction to Ambient

| Parameter         | Symbol | Rating | Unit |
|-------------------|--------|--------|------|
| Power Dissipation | $P_D$  | 300    | mW   |

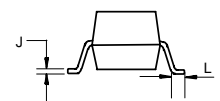
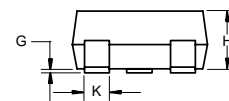
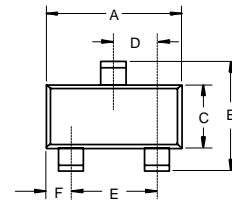
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Internal Structure



**300 mW  
Zener Diode  
3.6 to 39 Volts**

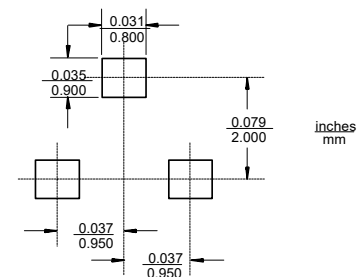
## SOT-23



### DIMENSIONS

| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.110  | 0.120 | 2.80 | 3.04 |      |
| B   | 0.083  | 0.104 | 2.10 | 2.64 |      |
| C   | 0.047  | 0.055 | 1.20 | 1.40 |      |
| D   | 0.034  | 0.041 | 0.85 | 1.05 |      |
| E   | 0.067  | 0.083 | 1.70 | 2.10 |      |
| F   | 0.018  | 0.024 | 0.45 | 0.60 |      |
| G   | 0.0004 | 0.006 | 0.01 | 0.15 |      |
| H   | 0.035  | 0.043 | 0.90 | 1.10 |      |
| J   | 0.003  | 0.007 | 0.08 | 0.18 |      |
| K   | 0.012  | 0.020 | 0.30 | 0.51 |      |
| L   | 0.007  | 0.020 | 0.20 | 0.50 |      |

### Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC Part Number | Zener Voltage                    |      |       | Test Current | Maximum Zener Impedance | Maximum Zener Impedance           |                                   | Maximum Reverse Current         |                                   | Typical Temperature Coefficient |      | Test Current | Device Marking |
|-----------------|----------------------------------|------|-------|--------------|-------------------------|-----------------------------------|-----------------------------------|---------------------------------|-----------------------------------|---------------------------------|------|--------------|----------------|
|                 | V <sub>Z</sub> @ 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> | T <sub>C</sub> @ I <sub>ZTC</sub> |                                 |      |              |                |
|                 | min.                             | typ. | max.  | Ω            | μA                      |                                   | VR                                |                                 | min.                              | max.                            |      |              |                |
|                 | V                                | V    | V     | mA           | Ω                       | mA                                | mV/°C                             | mV/°C                           | mA                                |                                 |      |              |                |
| AZ23B3V6HE3     | 3.53                             | 3.6  | 3.67  | 5            | 90                      | 600                               | 1                                 | 5                               | 1                                 | -3.5                            | 0    | 5            | 2D4            |
| AZ23B3V9HE3     | 3.82                             | 3.9  | 3.98  | 5            | 90                      | 600                               | 1                                 | 3                               | 1                                 | -3.5                            | 0    | 5            | 2D5            |
| AZ23B4V3HE3     | 4.21                             | 4.3  | 4.39  | 5            | 90                      | 600                               | 1                                 | 3                               | 1                                 | -3.5                            | 0    | 5            | 2D6            |
| AZ23B4V7HE3     | 4.61                             | 4.7  | 4.79  | 5            | 80                      | 500                               | 1                                 | 3                               | 2                                 | -3.5                            | 0.2  | 5            | 2D7            |
| AZ23B5V1HE3     | 5.0                              | 5.1  | 5.2   | 5            | 60                      | 480                               | 1                                 | 2                               | 2                                 | -2.7                            | 1.2  | 5            | 2D8            |
| AZ23B5V6HE3     | 5.49                             | 5.6  | 5.71  | 5            | 40                      | 400                               | 1                                 | 1                               | 2                                 | -2                              | 2.5  | 5            | 2D9            |
| AZ23B6V2HE3     | 6.08                             | 6.2  | 6.32  | 5            | 10                      | 150                               | 1                                 | 3                               | 4                                 | 0.4                             | 3.7  | 5            | 2DA            |
| AZ23B6V8HE3     | 6.66                             | 6.8  | 6.94  | 5            | 15                      | 80                                | 1                                 | 2                               | 4                                 | 1.2                             | 4.5  | 5            | 2DB            |
| AZ23B7V5HE3     | 7.35                             | 7.5  | 7.65  | 5            | 15                      | 80                                | 1                                 | 1                               | 5                                 | 2.5                             | 5.3  | 5            | 2DC            |
| AZ23B8V2HE3     | 8.04                             | 8.2  | 8.36  | 5            | 15                      | 80                                | 1                                 | 0.7                             | 5                                 | 3.2                             | 6.2  | 5            | 2DD            |
| AZ23B9V1HE3     | 8.92                             | 9.1  | 9.28  | 5            | 15                      | 100                               | 1                                 | 0.5                             | 6                                 | 3.8                             | 7    | 5            | 2DE            |
| AZ23B10HE3      | 9.8                              | 10   | 10.2  | 5            | 20                      | 150                               | 1                                 | 0.2                             | 7                                 | 4.5                             | 8    | 5            | 2DF            |
| AZ23B11HE3      | 10.78                            | 11   | 11.22 | 5            | 20                      | 150                               | 1                                 | 0.1                             | 8                                 | 5.4                             | 9    | 5            | 2DG            |
| AZ23B12HE3      | 11.76                            | 12   | 12.24 | 5            | 25                      | 150                               | 1                                 | 0.1                             | 8                                 | 6                               | 10   | 5            | 2DH            |
| AZ23B13HE3      | 12.74                            | 13   | 13.3  | 5            | 30                      | 170                               | 1                                 | 0.1                             | 8                                 | 7                               | 11   | 5            | 2DI            |
| AZ23B15HE3      | 14.7                             | 15   | 15.3  | 5            | 30                      | 200                               | 1                                 | 0.1                             | 10.5                              | 9.2                             | 13   | 5            | 2DJ            |
| AZ23B16HE3      | 15.68                            | 16   | 16.3  | 5            | 40                      | 200                               | 1                                 | 0.1                             | 11.2                              | 10.4                            | 14   | 5            | 2DK            |
| AZ23B18HE3      | 17.6                             | 18   | 18.4  | 5            | 45                      | 225                               | 1                                 | 0.1                             | 12.6                              | 12.4                            | 16   | 5            | 2DL            |
| AZ23B20HE3      | 19.6                             | 20   | 20.4  | 5            | 55                      | 225                               | 1                                 | 0.1                             | 14                                | 14.4                            | 18   | 5            | 2DM            |
| AZ23B22HE3      | 21.56                            | 22   | 22.44 | 5            | 55                      | 250                               | 1                                 | 0.1                             | 15.4                              | 16.4                            | 20   | 5            | 2DN            |
| AZ23B24HE3      | 23.52                            | 24   | 24.5  | 5            | 70                      | 250                               | 1                                 | 0.1                             | 16.8                              | 18.4                            | 22   | 5            | 2DO            |
| AZ23B27HE3      | 26.46                            | 27   | 27.54 | 2            | 80                      | 300                               | 0.5                               | 0.1                             | 18.9                              | 21.4                            | 25.3 | 2            | 2DP            |
| AZ23B30HE3      | 29.4                             | 30   | 30.6  | 2            | 80                      | 300                               | 0.5                               | 0.1                             | 21                                | 24.4                            | 29.4 | 2            | 2DQ            |
| AZ23B33HE3      | 32.34                            | 33   | 33.7  | 2            | 80                      | 325                               | 0.5                               | 0.1                             | 23.1                              | 27.4                            | 33.4 | 2            | 2DR            |
| AZ23B36HE3      | 35.28                            | 36   | 36.72 | 2            | 90                      | 350                               | 0.5                               | 0.1                             | 25.2                              | 30.4                            | 37.4 | 2            | 2DS            |
| AZ23B39HE3      | 38.22                            | 39   | 39.8  | 2            | 130                     | 350                               | 0.5                               | 0.1                             | 27.3                              | 33.4                            | 41.2 | 2            | 2DT            |

## Curve Characteristics

Fig. 1 - Power Derating Curve

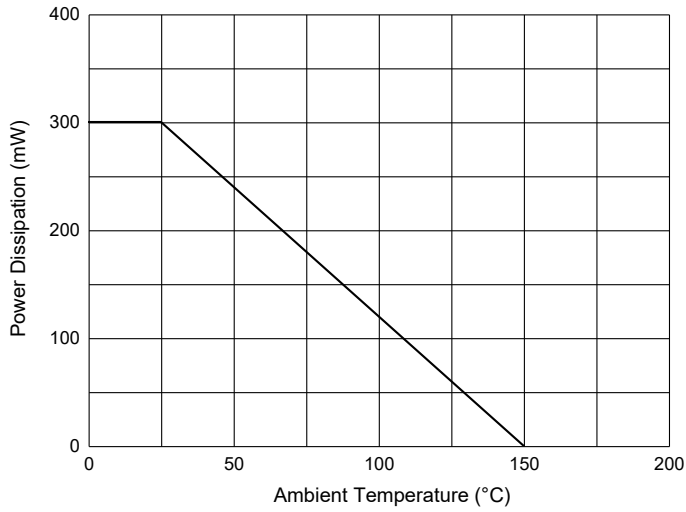


Fig. 2 - Typical Zener Breakdown Characteristics

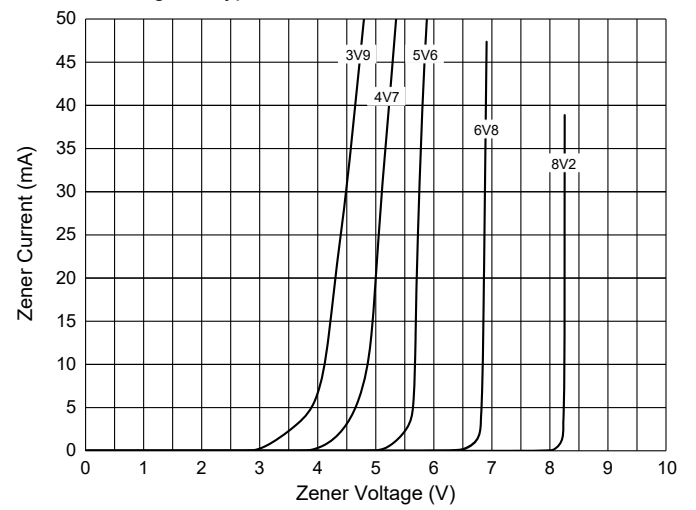
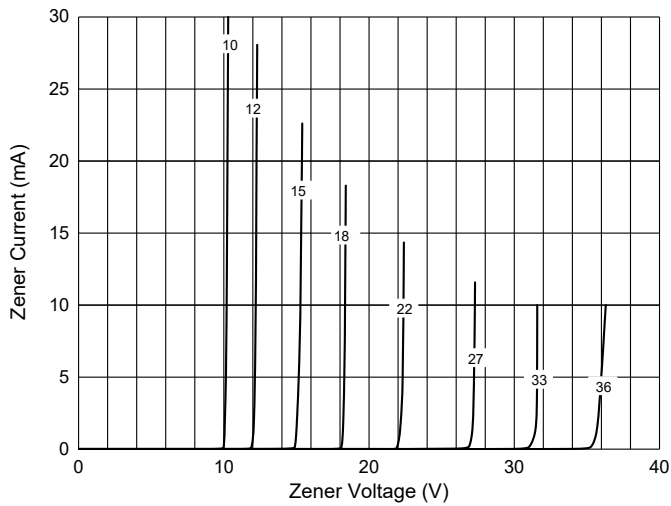


Fig. 3 - Typical Zener Breakdown Characteristics



## Ordering Information

| Device         | Packing              |
|----------------|----------------------|
| Part Number-TP | Tape&Reel:3Kpcs/Reel |

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