

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

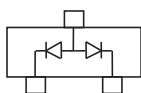
Maximum Ratings

- 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 |

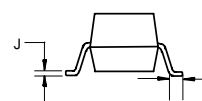
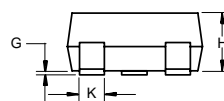
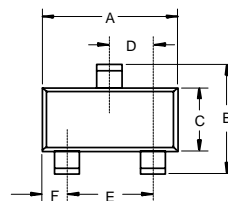
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure



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

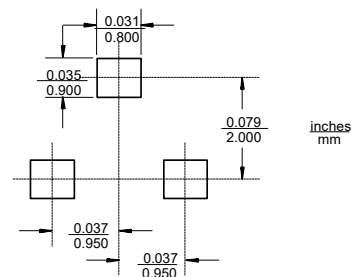
SOT-23



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 _Z @ I _{ZT} | | | | | Z _{ZT} @ I _{ZT} | Z _{ZK} @ I _{ZK} | I _{ZK} | I _R @ V _R | | T _C @ I _{ZTC} | | |
| | min. | typ. | max. | Ω | μA | | VR | | min. | max. | | | |
| | V | V | V | mA | Ω | mA | μA | V | 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

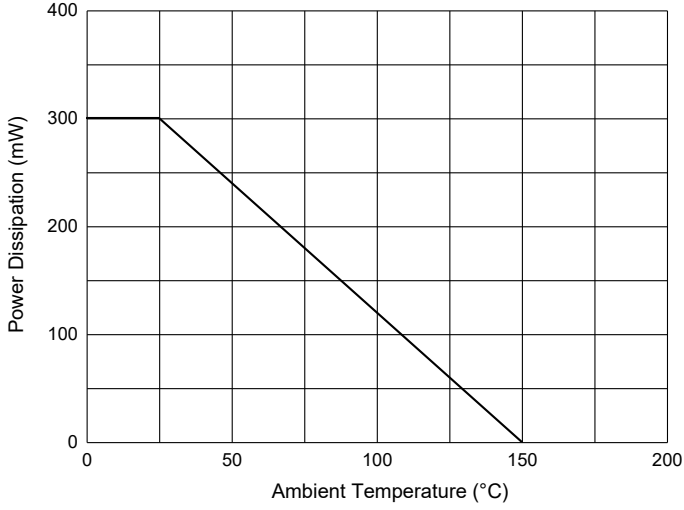


Fig. 2 - Typical Zener Breakdown Characteristics

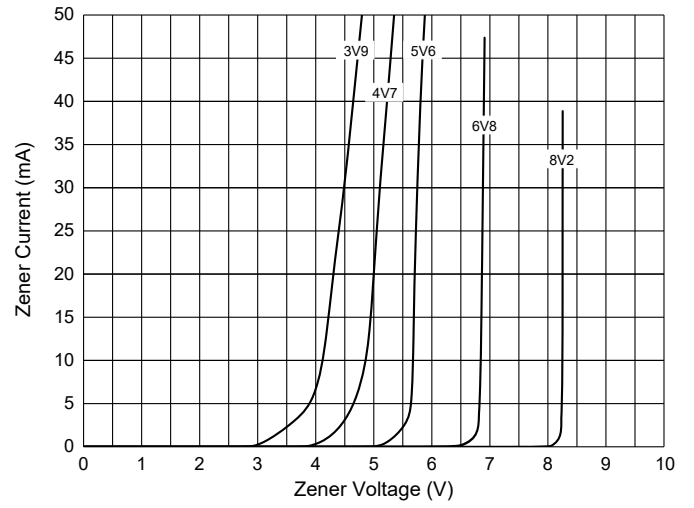
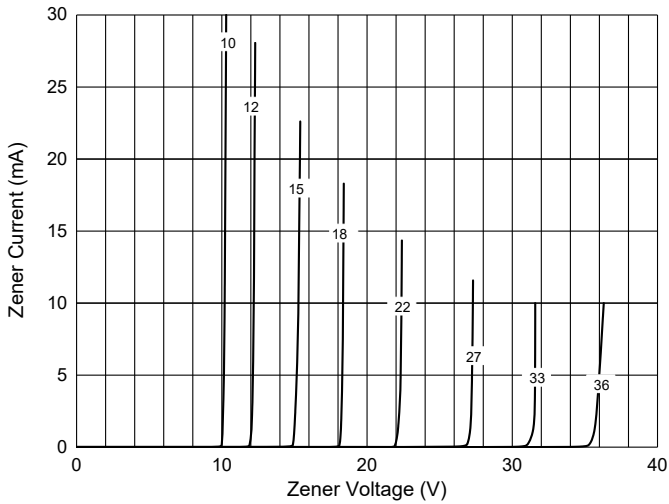


Fig. 3 - Typical Zener Breakdown Characteristics



Ordering Information

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

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