

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

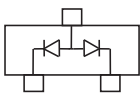
Maximum Ratings

- 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 |

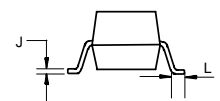
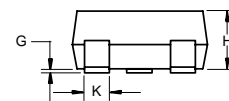
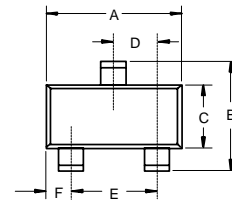
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure



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

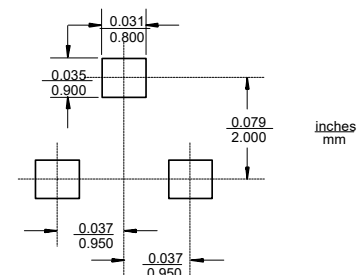
SOT-23



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} | | | | | I _{ZT} | Z _{ZT} @ I _{ZT} | Z _{ZK} @ I _{ZK} | I _R @ V _R | | T _C @ I _{ZTC} | | |
| | min. | typ. | max. | mA | Ω | | | | Ω | mA | μA | V | |
| | V | V | V | | | | | | | | | | |
| AZ23C2V4HE3 | 2.28 | 2.4 | 2.56 | 5 | 100 | 600 | 1 | 50 | 1 | -3.5 | 0 | 5 | KD0 |
| AZ23C2V7HE3 | 2.5 | 2.7 | 2.9 | 5 | 100 | 600 | 1 | 20 | 1 | -3.5 | 0 | 5 | KD1 |
| AZ23C3V0HE3 | 2.8 | 3 | 3.2 | 5 | 95 | 600 | 1 | 10 | 1 | -3.5 | 0 | 5 | KD2 |
| AZ23C3V3HE3 | 3.1 | 3.3 | 3.5 | 5 | 95 | 600 | 1 | 5 | 1 | -3.5 | 0 | 5 | KD3 |
| AZ23C3V6HE3 | 3.4 | 3.6 | 3.8 | 5 | 90 | 600 | 1 | 5 | 1 | -3.5 | 0 | 5 | KD4 |
| AZ23C3V9HE3 | 3.7 | 3.9 | 4.1 | 5 | 90 | 600 | 1 | 3 | 1 | -3.5 | 0 | 5 | KD5 |
| AZ23C4V3HE3 | 4 | 4.3 | 4.6 | 5 | 90 | 600 | 1 | 3 | 1 | -3.5 | 0 | 5 | KD6 |
| AZ23C4V7HE3 | 4.4 | 4.7 | 5 | 5 | 80 | 500 | 1 | 3 | 2 | -3.5 | 0.2 | 5 | KD7 |
| AZ23C5V1HE3 | 4.8 | 5.1 | 5.4 | 5 | 60 | 480 | 1 | 2 | 2 | -2.7 | 1.2 | 5 | KD8 |
| AZ23C5V6HE3 | 5.2 | 5.6 | 6 | 5 | 40 | 400 | 1 | 1 | 2 | -2 | 2.5 | 5 | KD9 |
| AZ23C6V2HE3 | 5.8 | 6.2 | 6.6 | 5 | 10 | 150 | 1 | 3 | 4 | 0.4 | 3.7 | 5 | KDA |
| AZ23C6V8HE3 | 6.4 | 6.8 | 7.2 | 5 | 15 | 80 | 1 | 2 | 4 | 1.2 | 4.5 | 5 | KDB |
| AZ23C7V5HE3 | 7 | 7.5 | 7.9 | 5 | 15 | 80 | 1 | 1 | 5 | 2.5 | 5.3 | 5 | KDC |
| AZ23C8V2HE3 | 7.7 | 8.2 | 8.7 | 5 | 15 | 80 | 1 | 0.7 | 5 | 3.2 | 6.2 | 5 | KDD |
| AZ23C9V1HE3 | 8.5 | 9.1 | 9.6 | 5 | 15 | 100 | 1 | 0.5 | 6 | 3.8 | 7 | 5 | KDE |
| AZ23C10HE3 | 9.4 | 10 | 10.6 | 5 | 20 | 150 | 1 | 0.2 | 7 | 4.5 | 8 | 5 | KDF |
| AZ23C11HE3 | 10.4 | 11 | 11.6 | 5 | 20 | 150 | 1 | 0.1 | 8 | 5.4 | 9 | 5 | KDG |
| AZ23C12HE3 | 11.4 | 12 | 12.7 | 5 | 25 | 150 | 1 | 0.1 | 8 | 6 | 10 | 5 | KDH |
| AZ23C13HE3 | 12.4 | 13 | 14.1 | 5 | 30 | 170 | 1 | 0.1 | 8 | 7 | 11 | 5 | KDI |
| AZ23C15HE3 | 13.8 | 15 | 15.6 | 5 | 30 | 200 | 1 | 0.1 | 10.5 | 9.2 | 13 | 5 | KDJ |
| AZ23C16HE3 | 15.3 | 16 | 17.1 | 5 | 40 | 200 | 1 | 0.1 | 11.2 | 10.4 | 14 | 5 | KDK |
| AZ23C18HE3 | 16.8 | 18 | 19.1 | 5 | 45 | 225 | 1 | 0.1 | 12.6 | 12.4 | 16 | 5 | KDL |
| AZ23C20HE3 | 18.8 | 20 | 21.2 | 5 | 55 | 225 | 1 | 0.1 | 14 | 14.4 | 18 | 5 | KDM |
| AZ23C22HE3 | 20.8 | 22 | 23.3 | 5 | 55 | 250 | 1 | 0.1 | 15.4 | 16.4 | 20 | 5 | KDN |
| AZ23C24HE3 | 22.8 | 24 | 25.6 | 5 | 70 | 250 | 1 | 0.1 | 16.8 | 18.4 | 22 | 5 | KDO |
| AZ23C27HE3 | 25.1 | 27 | 28.9 | 2 | 80 | 300 | 0.5 | 0.1 | 18.9 | 21.4 | 25.3 | 2 | KDP |
| AZ23C30HE3 | 28 | 30 | 32 | 2 | 80 | 300 | 0.5 | 0.1 | 21 | 24.4 | 29.4 | 2 | KDQ |
| AZ23C33HE3 | 31 | 33 | 35 | 2 | 80 | 325 | 0.5 | 0.1 | 23.1 | 27.4 | 33.4 | 2 | KDR |
| AZ23C36HE3 | 34 | 36 | 38 | 2 | 90 | 350 | 0.5 | 0.1 | 25.2 | 30.4 | 37.4 | 2 | KDS |
| AZ23C39HE3 | 37 | 39 | 41 | 2 | 130 | 350 | 0.5 | 0.1 | 27.3 | 33.4 | 41.2 | 2 | KDT |

Curve Characteristics

Fig. 1 - Power Derating Curve

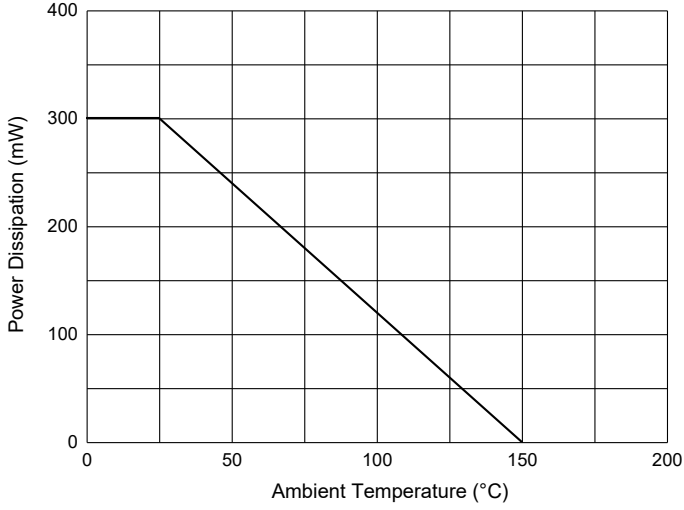


Fig. 2 - Typical Zener Breakdown Characteristics

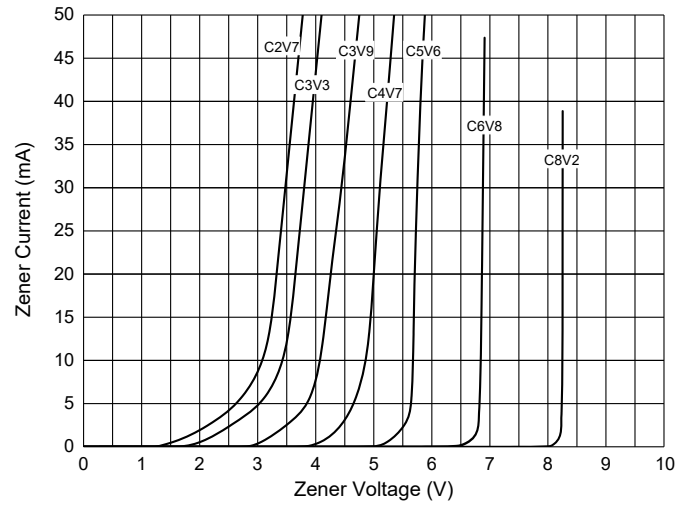
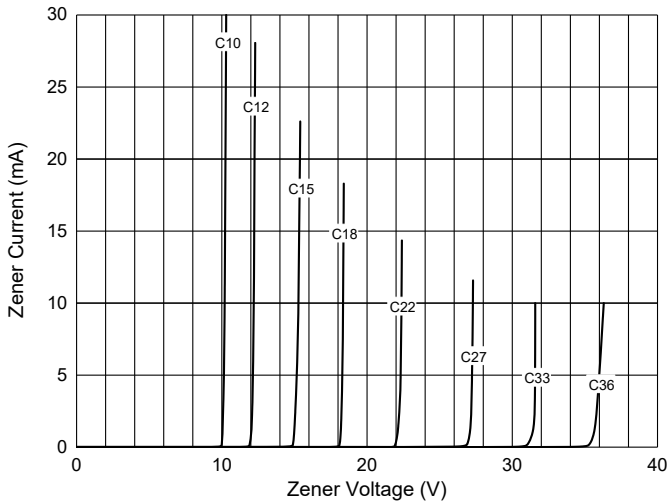


Fig. 3 - Typical Zener Breakdown Characteristics



Ordering Information

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

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