

Features

- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- Dual Zeners in Common Cathode Configuration
- ΔV_Z for Both Diodes in One Case is $\leq 5\%$.
- Ideally Suited for Automated Insertion
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

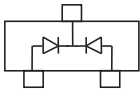
Maximum Ratings

- Operating Junction Temperature Range: -55°C to $+150^{\circ}\text{C}$
- Storage Temperature Range: -55°C to $+150^{\circ}\text{C}$
- Thermal Resistance : 417°C/W Junction to Ambient

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

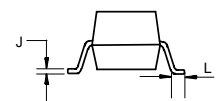
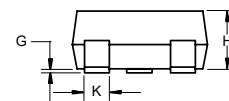
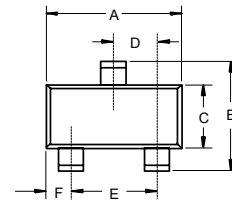
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure



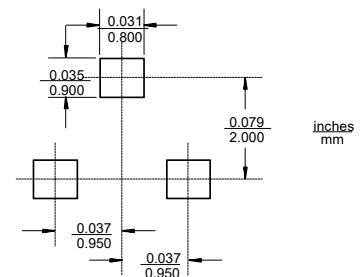
**300 mW
Zener Diode
2.4 to 47 Volts**

SOT-23



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|-------|------|------|------|
| | INCHES | | MM | | |
| | 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 | | | Maximum Zener Impedance | | Maximum Zener Impedance | | Maximum Reverse Current $I_R(\text{Max}) @ V_R$ | | Marking Code |
|-----------------|----------------|--------|---------|-------------------------|-------------------|-------------------------|-------------------|---|-------|--------------|
| | $V_Z @ I_{ZT}$ | | | I_{ZT} | $Z_{ZT} @ I_{ZT}$ | I_{ZK} | $Z_{ZK} @ I_{ZK}$ | I_R | V_R | |
| | Min.(V) | Nom(V) | Max.(V) | mA | Ω | mA | Ω | μA | V | |
| DZ23C2V4HE3 | 2.28 | 2.4 | 2.52 | 5.0 | 85 | 1.00 | 600 | 100.0 | 1.0 | V0 |
| DZ23C2V7HE3 | 2.57 | 2.7 | 2.84 | 5.0 | 83 | 1.00 | 600 | 75 | 1.0 | KV1 |
| DZ23C3V0HE3 | 2.85 | 3.0 | 3.15 | 5.0 | 95 | 1.00 | 600 | 50 | 1.0 | KV2 |
| DZ23C3V3HE3 | 3.14 | 3.3 | 3.47 | 5.0 | 95 | 1.00 | 600 | 25 | 1.0 | KV3 |
| DZ23C3V6HE3 | 3.42 | 3.6 | 3.78 | 5.0 | 95 | 1.00 | 600 | 15 | 1.0 | KV4 |
| DZ23C3V9HE3 | 3.71 | 3.9 | 4.10 | 5.0 | 95 | 1.00 | 600 | 10 | 1.0 | KV5 |
| DZ23C4V3HE3 | 4.09 | 4.3 | 4.52 | 5.0 | 95 | 1.00 | 600 | 5.0 | 1.0 | KV6 |
| DZ23C4V7HE3 | 4.47 | 4.7 | 4.94 | 5.0 | 78 | 1.00 | 500 | 5.0 | 2.0 | V7 |
| DZ23C5V1HE3 | 4.85 | 5.1 | 5.36 | 5.0 | 60 | 1.00 | 480 | 0.1 | 0.8 | KV8 |
| DZ23C5V6HE3 | 5.32 | 5.6 | 5.88 | 5.0 | 40 | 1.00 | 400 | 0.1 | 1.0 | KV9 |
| DZ23C6V2HE3 | 5.89 | 6.2 | 6.51 | 5.0 | 10 | 1.00 | 150 | 0.1 | 2.0 | KVA |
| DZ23C6V8HE3 | 6.46 | 6.8 | 7.14 | 5.0 | 8 | 1.00 | 80 | 0.1 | 3.0 | KVB |
| DZ23C7V5HE3 | 7.13 | 7.5 | 7.88 | 5.0 | 7 | 1.00 | 80 | 0.1 | 5.0 | KVC |
| DZ23C8V2HE3 | 7.79 | 8.2 | 8.61 | 5.0 | 7 | 1.00 | 80 | 0.1 | 6.0 | KVD |
| DZ23C9V1HE3 | 8.65 | 9.1 | 9.56 | 5.0 | 10 | 1.00 | 100 | 0.1 | 7.0 | KVE |
| DZ23C10HE3 | 9.50 | 10 | 10.50 | 5.0 | 15 | 1.00 | 150 | 0.1 | 7.5 | KVF |
| DZ23C11HE3 | 10.45 | 11 | 11.55 | 5.0 | 20 | 1.00 | 150 | 0.1 | 8.5 | KVG |
| DZ23C12HE3 | 11.40 | 12 | 12.60 | 5.0 | 20 | 1.00 | 150 | 0.1 | 9.0 | KVH |
| DZ23C13HE3 | 12.35 | 13 | 13.65 | 5.0 | 25 | 1.00 | 170 | 0.1 | 10.0 | KVI |
| DZ23C14HE3 | 13.30 | 14 | 14.70 | 5.0 | 25 | 1.00 | 170 | 0.1 | 10.5 | VA |
| DZ23C15HE3 | 14.25 | 15 | 15.75 | 5.0 | 30 | 1.00 | 200 | 0.1 | 11.0 | V19 |
| DZ23C16HE3 | 15.20 | 16 | 16.80 | 5.0 | 40 | 1.00 | 200 | 0.1 | 12.0 | KVK |
| DZ23C17HE3 | 16.15 | 17 | 17.85 | 5.0 | 40 | 1.00 | 200 | 0.1 | 13.0 | VB |
| DZ23C18HE3 | 17.10 | 18 | 18.90 | 5.0 | 50 | 1.00 | 225 | 0.1 | 14.0 | KVL |
| DZ23C20HE3 | 19.00 | 20 | 21.00 | 5.0 | 50 | 1.00 | 225 | 0.1 | 15.0 | KVM |
| DZ23C22HE3 | 20.90 | 22 | 23.10 | 5.0 | 55 | 1.00 | 250 | 0.1 | 17.0 | KVN |
| DZ23C24HE3 | 22.80 | 24 | 25.20 | 5.0 | 80 | 1.00 | 250 | 0.1 | 18.0 | KVO |
| DZ23C27HE3 | 25.65 | 27 | 28.35 | 5.0 | 80 | 1.00 | 300 | 0.1 | 20.0 | KVP |
| DZ23C28HE3 | 26.60 | 28 | 29.40 | 5.0 | 80 | 1.00 | 300 | 0.1 | 22.0 | VC |
| DZ23C30HE3 | 28.50 | 30 | 31.50 | 5.0 | 80 | 1.00 | 300 | 0.1 | 22.5 | KVQ |
| DZ23C33HE3 | 31.35 | 33 | 34.65 | 5.0 | 80 | 1.00 | 325 | 0.1 | 25.0 | KVR |
| DZ23C36HE3 | 34.20 | 36 | 37.80 | 5.0 | 90 | 1.00 | 350 | 0.1 | 27.0 | KVS |
| DZ23C39HE3 | 37.05 | 39 | 40.95 | 5.0 | 90 | 1.00 | 350 | 0.1 | 29.0 | KVT |
| DZ23C43HE3 | 40.85 | 43 | 45.15 | 5.0 | 100 | 1.00 | 700 | 0.1 | 32.0 | KVU |
| DZ23C47HE3 | 44.65 | 47 | 49.35 | 5.0 | 100 | 1.00 | 750 | 0.1 | 35.0 | KVV |

Curve Characteristics

Fig. 1 - Power Derating Curve

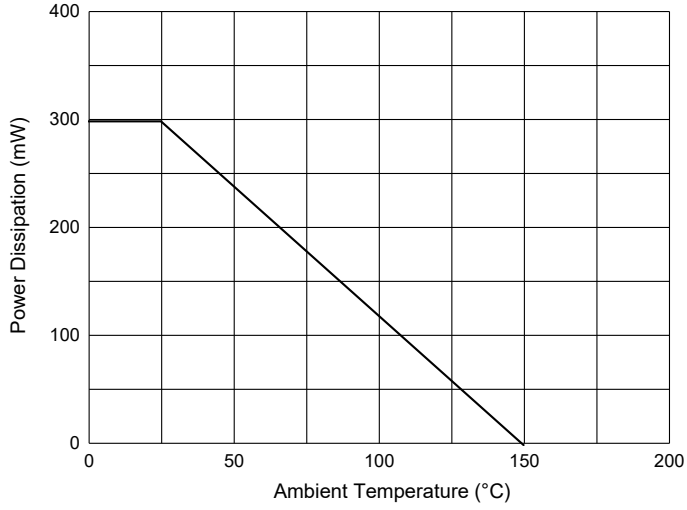


Fig. 2 - Typical Zener Breakdown Characteristics

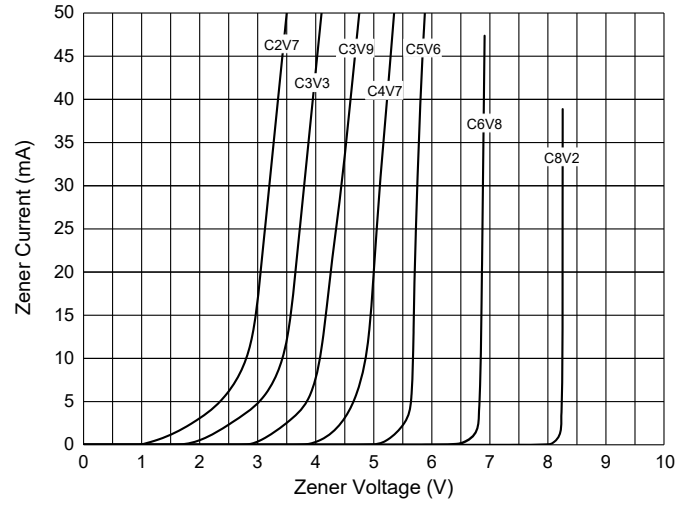
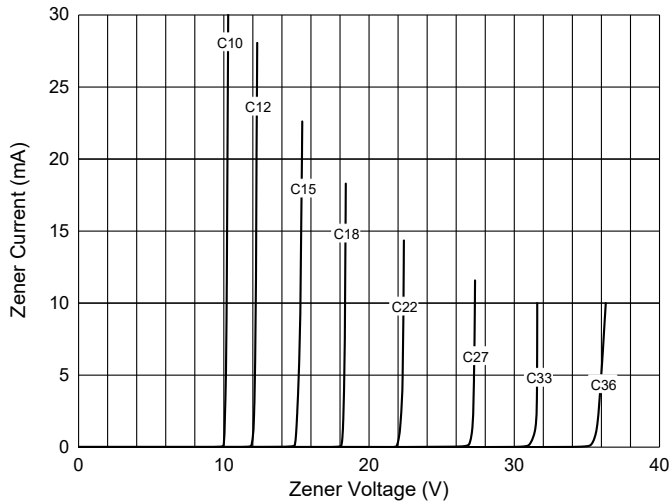


Fig. 3 - Typical Zener Breakdown Characteristics



Ordering Information

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

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