

## Features

- Dual Zeners in Common Anode Configuration
- $\Delta V_z$  for Both Diodes in One Case is  $\leq 5\%$ .
- 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

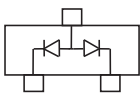
## Maximum Ratings

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

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

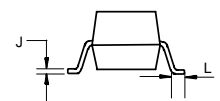
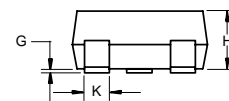
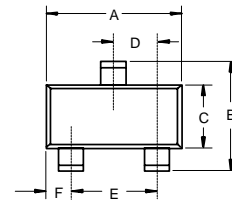
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Internal Structure



# 300 mW Zener Diode 2.7 to 51 Volts

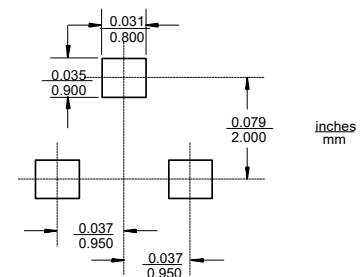
## SOT-23



### 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<br>Part Number | Zener Voltage <sup>(2)</sup><br><br>V <sub>Z</sub> @ I <sub>ZT</sub><br>V | Maximum<br>Zener<br>Impedance <sup>(3)</sup> |                                   | Maximum<br>Zener<br>Impedance <sup>(3)</sup> |                 | Min reverse<br>Voltage <sup>(2)</sup> |                | Typical<br>Temperature<br>coefficient<br><br>T <sub>c</sub><br>%/°C | Marking Code |
|--------------------|---|--|-----------------------------------|--|-----------------|---------------------------------------|----------------|---|--------------|
|                    |   | I <sub>ZT</sub>                              | Z <sub>ZT</sub> @ I <sub>ZT</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub>            | I <sub>ZK</sub> | I <sub>R</sub>                        | V <sub>R</sub> |   |              |
|                    |   | mA   | Ω                                 | Ω  | mA              | μA                                    | V              |   |              |
| AZ23C2V7           | 2.5-2.9   | 5  | 83                                | 500  | 1               | 0.1                                   | -              | -0.065  | KD1          |
| AZ23C3V0           | 2.8-3.2   | 5  | 95                                | 500  | 1               | 0.1                                   | -              | -0.060  | KD2          |
| AZ23C3V3           | 3.1-3.5   | 5  | 95                                | 500  | 1               | 0.1                                   | -              | -0.055  | KD3          |
| AZ23C3V6           | 3.4-3.8   | 5  | 95                                | 500  | 1               | 0.1                                   | -              | -0.055  | KD4          |
| AZ23C3V9           | 3.7-4.1   | 5  | 95                                | 500  | 1               | 0.1                                   | -              | -0.050  | KD5          |
| AZ23C4V3           | 4.0-4.6   | 5  | 95                                | 500  | 1               | 0.1                                   | -              | -0.035  | KD6          |
| AZ23C4V7           | 4.4-5.0   | 5  | 78                                | 500  | 1               | 0.1                                   | -              | -0.015  | KD7          |
| AZ23C5V1           | 4.8-5.4   | 5  | 60                                | 480  | 1               | 0.1                                   | 0.8            | +0.005  | KD8          |
| AZ23C5V6           | 5.2-6.0   | 5  | 40                                | 400  | 1               | 0.1                                   | 1.0            | +0.020  | KD9          |
| AZ23C6V2           | 5.8-6.6   | 5  | 10                                | 200  | 1               | 0.1                                   | 2.0            | +0.030  | KDA          |
| AZ23C6V8           | 6.4-7.2   | 5  | 8.0                               | 150  | 1               | 0.1                                   | 3.0            | +0.045  | KDB          |
| AZ23C7V5           | 7.0-7.9   | 5  | 7.0                               | 50   | 1               | 0.1                                   | 5.0            | +0.050  | KDC          |
| AZ23C8V2           | 7.7-8.7   | 5  | 7.0                               | 50   | 1               | 0.1                                   | 6.0            | +0.055  | KDD          |
| AZ23C9V1           | 8.5-9.6   | 5  | 10                                | 50   | 1               | 0.1                                   | 7.0            | +0.065  | KDE          |
| AZ23C10            | 9.4-10.6  | 5  | 15                                | 70   | 1               | 0.1                                   | 7.5            | +0.065  | KDF          |
| AZ23C11            | 10.4-11.6   | 5  | 20                                | 70   | 1               | 0.1                                   | 8.5            | +0.070  | KDG          |
| AZ23C12            | 11.4-12.7   | 5  | 20                                | 90   | 1               | 0.1                                   | 9.0            | +0.075  | KDH          |
| AZ23C13            | 12.4-14.1   | 5  | 25                                | 110  | 1               | 0.1                                   | 10.0           | +0.080  | KDI          |
| AZ23C15            | 13.8-15.6   | 5  | 30                                | 110  | 1               | 0.1                                   | 11.0           | +0.080  | KDJ          |
| AZ23C16            | 15.3-17.1   | 5  | 40                                | 170  | 1               | 0.1                                   | 12.0           | +0.090  | KDK          |
| AZ23C18            | 16.8-19.1   | 5  | 50                                | 170  | 1               | 0.1                                   | 14.0           | +0.090  | KDL          |
| AZ23C20            | 18.8-21.2   | 5  | 50                                | 220  | 1               | 0.1                                   | 15.0           | +0.090  | KDM          |
| AZ23C22            | 20.8-23.3   | 5  | 55                                | 220  | 1               | 0.1                                   | 17.0           | +0.090  | KDN          |
| AZ23C24            | 22.8-25.6   | 5  | 80                                | 220  | 1               | 0.1                                   | 18.0           | +0.090  | KDO          |
| AZ23C27            | 25.1-28.9   | 5  | 80                                | 250  | 1               | 0.1                                   | 20.0           | +0.090  | KDP          |
| AZ23C30            | 28-32   | 5  | 80                                | 250  | 1               | 0.1                                   | 22.5           | +0.090  | KDQ          |
| AZ23C33            | 31-35   | 5  | 80                                | 250  | 1               | 0.1                                   | 25.0           | +0.090  | KDR          |
| AZ23C36            | 34-38   | 5  | 90                                | 250  | 1               | 0.1                                   | 27.0           | +0.090  | KDS          |
| AZ23C39            | 37-41   | 5  | 90                                | 300  | 1               | 0.1                                   | 29.0           | +0.110  | KDT          |
| AZ23C43            | 40-46   | 5  | 100                               | 700  | 1               | 0.1                                   | 32.0           | +0.110  | D30          |
| AZ23C47            | 44-50   | 5  | 100                               | 750  | 1               | 0.1                                   | 35.0           | +0.110  | D31          |
| AZ23C51            | 48-54   | 5  | 100                               | 750  | 1               | 0.1                                   | 38.0           | +0.110  | D32          |

Note :

2. Short duration test pulse used to minimize self-heating effect.
3. f=1KHz.

## Curve Characteristics

Fig. 1 - Power Derating Curve

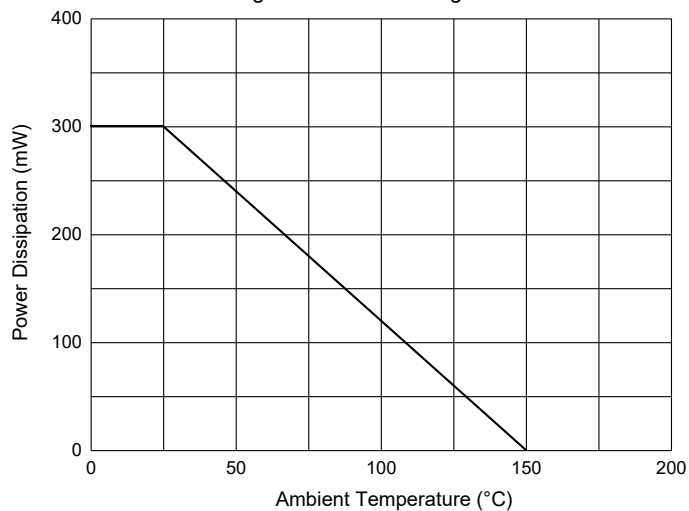


Fig. 2 - Typical Zener Breakdown Characteristics

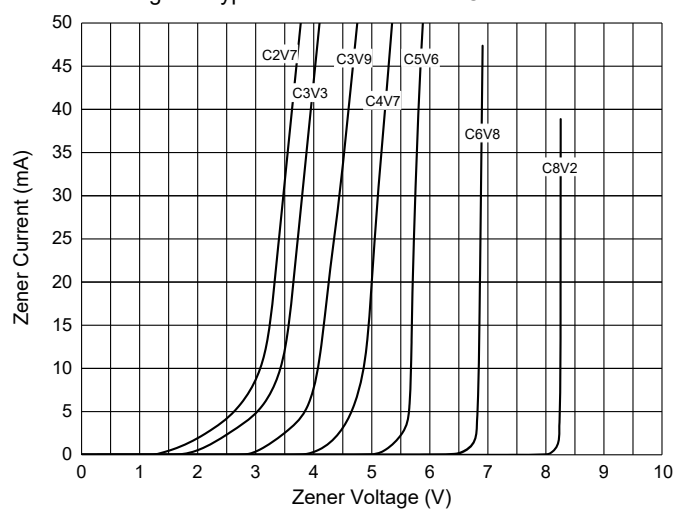
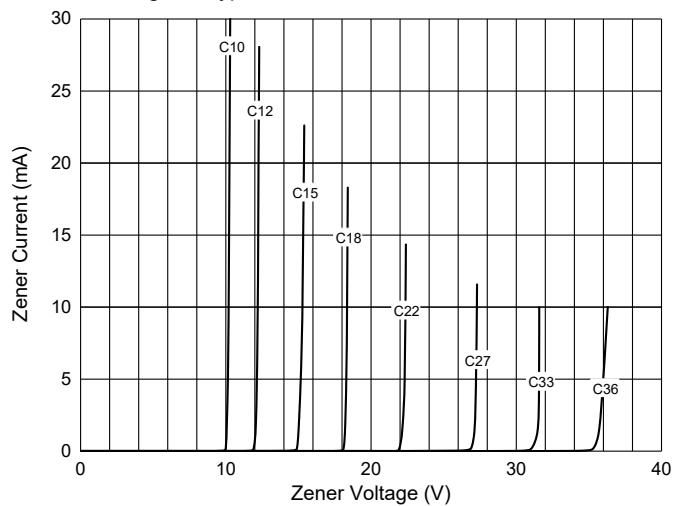


Fig. 3 - Typical Zener Breakdown Characteristics



## Ordering Information

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

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