

Features

- 1.0W Power Dissipation
- High Surge Capability
- Ideally Suited for Automatic Assembly
- Standard V_z Tolerance is +/- 5%
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates Compliant. See Ordering Information)

Maximum Ratings

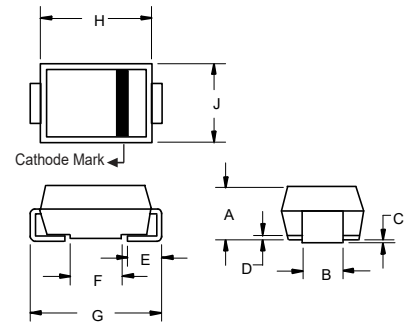
- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Junction to Terminal: 30°C/W Junction to Terminal
- Thermal Resistance: 100°C/W Junction to Ambient

| Parameter | Symbol | Rating | Conditions |
|-------------------|-----------|----------|------------------|
| Zener Current | I_{ZM} | Pd/Vz mA | |
| Power Dissipation | P_{tot} | 1.0W | $T_A=50^\circ C$ |

- Note:
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

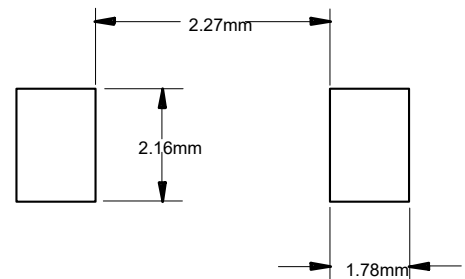
**1 Watt
Zener Diode
5.1V - 39V Volts**

**SMA (DO-214AC)
LEAD FRAME**



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|-------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.079 | 0.096 | 2.00 | 2.44 | |
| B | 0.050 | 0.064 | 1.27 | 1.63 | |
| C | 0.002 | 0.008 | 0.051 | 0.203 | |
| D | --- | 0.020 | --- | 0.51 | |
| E | 0.030 | 0.060 | 0.76 | 1.52 | |
| F | 0.065 | 0.091 | 1.65 | 2.32 | |
| G | 0.189 | 0.220 | 4.80 | 5.59 | |
| H | 0.157 | 0.181 | 4.00 | 4.60 | |
| J | 0.090 | 0.115 | 2.25 | 2.92 | |

SUGGESTED SOLDER PAD LAYOUT



Electrical Characteristics @ 25°C Unless Otherwise Specified, $V_F=1.2$ V max , $I_F=200$ mA for all types

| MCC Part Number | Zener Voltage | | | Maximum Zener Impedance | | Maximum Zener Impedance | | Reverse Current | | Maximum Zener Current (Note 3) | Marking Code |
|-----------------|----------------|--------|---------|-------------------------|----------|-------------------------|----------|-------------------|-------|--------------------------------|--------------|
| | $V_Z @ I_{ZT}$ | | | I_{ZT} | Z_{ZT} | I_{ZK} | Z_{ZK} | $I_R(\text{Max})$ | V_R | I_{ZM} | |
| | Min.(V) | Nom(V) | Max.(V) | mA | Ω | mA | Ω | μA | V | mA | |
| SMAZ5V1 | 4.84 | 5.10 | 5.40 | 100 | 5.0 | 1.0 | 500 | 2.5 | 1.0 | 196 | Z5V1 |
| SMAZ5V6 | 5.32 | 5.60 | 5.88 | 100 | 2.0 | 2.0 | 250 | 5.0 | 2.0 | 179 | Z5V6 |
| SMAZ6V2 | 5.89 | 6.20 | 6.51 | 100 | 2.0 | 2.0 | 200 | 5.0 | 3.0 | 161 | Z6V2 |
| SMAZ6V8 | 6.46 | 6.80 | 7.14 | 100 | 2.0 | 1.0 | 200 | 5.0 | 4.0 | 147 | Z6V8 |
| SMAZ7V5 | 7.13 | 7.50 | 7.88 | 100 | 2.0 | 1.0 | 450 | 5.0 | 5.0 | 133 | Z7V5 |
| SMAZ8V2 | 7.79 | 8.20 | 8.61 | 100 | 2.0 | 1.0 | 200 | 5.0 | 6.0 | 122 | Z8V2 |
| SMAZ9V1 | 8.65 | 9.10 | 9.56 | 50 | 4.0 | 1.0 | 200 | 5.0 | 7.0 | 110 | Z9V1 |
| SMAZ10 | 9.50 | 10.00 | 10.50 | 50 | 4.0 | 1.0 | 200 | 1.0 | 7.6 | 100 | Z10 |
| SMAZ12 | 11.40 | 12.00 | 12.60 | 50 | 7.0 | 1.0 | 150 | 1.0 | 9.1 | 83 | Z12 |
| SMAZ15 | 14.25 | 15.00 | 15.75 | 50 | 10.0 | 1.0 | 150 | 1.0 | 11.4 | 67 | Z15 |
| SMAZ16 | 15.20 | 16.00 | 16.80 | 25 | 15.0 | 1.0 | 150 | 0.5 | 12.2 | 63 | Z16 |
| SMAZ18 | 17.10 | 18.00 | 18.90 | 25 | 15.0 | 1.0 | 150 | 0.5 | 13.7 | 56 | Z18 |
| SMAZ20 | 19.00 | 20.00 | 21.00 | 25 | 15.0 | 1.0 | 180 | 0.5 | 15.2 | 50 | Z20 |
| SMAZ22 | 20.90 | 22.00 | 23.10 | 25 | 15.0 | 1.0 | 180 | 0.5 | 16.7 | 45 | Z22 |
| SMAZ24 | 22.80 | 24.00 | 25.20 | 25 | 15.0 | 1.0 | 180 | 0.5 | 18.2 | 42 | Z24 |
| SMAZ27 | 25.65 | 27.00 | 28.35 | 25 | 15.0 | 1.0 | 200 | 0.5 | 20.5 | 37 | Z27 |
| SMAZ30 | 28.50 | 30.00 | 31.50 | 25 | 15.0 | 1.0 | 250 | 0.5 | 22.8 | 33 | Z30 |
| SMAZ33 | 31.35 | 33.00 | 34.65 | 25 | 15.0 | 1.0 | 300 | 0.5 | 25.1 | 30 | Z33 |
| SMAZ36 | 34.20 | 36.00 | 37.80 | 10 | 40.0 | 1.0 | 350 | 0.5 | 27.4 | 28 | Z36 |
| SMAZ39 | 37.05 | 39.00 | 40.95 | 10 | 40.0 | 1.0 | 450 | 0.5 | 29.6 | 26 | Z39 |

Notes: 3.Device mounted on FR-4 PCB, 1 inch x0.85 inch x 0.062 inch

Curve Characteristics

Fig. 1 - Power Derating Curve

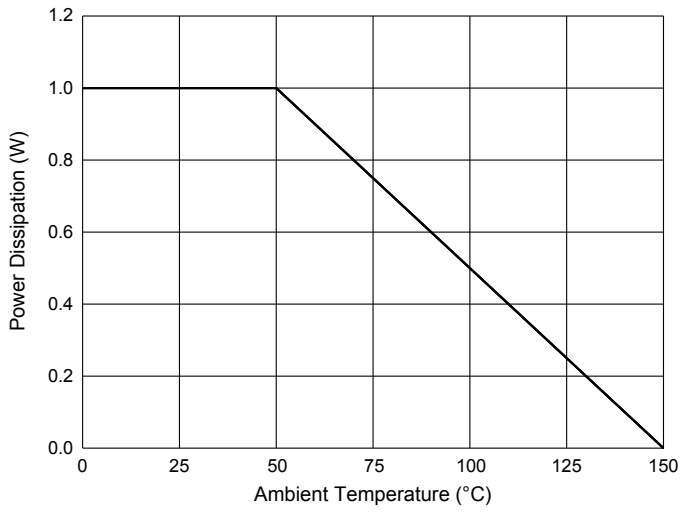


Fig. 2 - Typical Zener Breakdown Characteristics

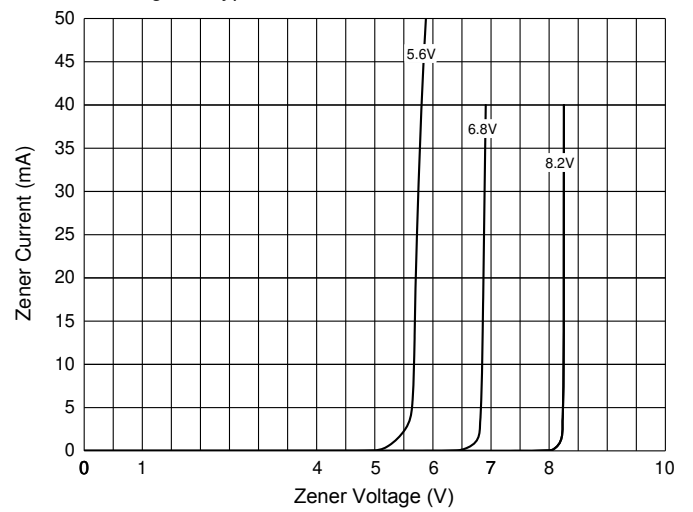
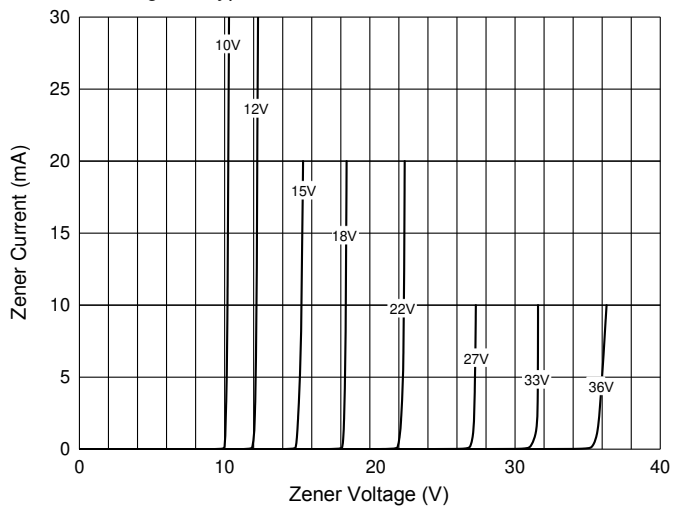


Fig. 3 - Typical Zener Breakdown Characteristics



Ordering Information

| Device | Packing |
|----------------|------------------------|
| Part Number-TP | Tape&Reel:7.5Kpcs/Reel |

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