

Features

- Wide Voltage Range Available
- Small Outline Package For Space Savings
- Surface Mount Package
- Halogen Free. "Green" Device (Note 1)
- 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

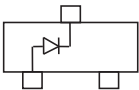
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance : 625°C/W Junction to Ambient

| Parameter | Symbol | Rating | Conditions |
|-------------------------|--------|--------|------------|
| Power Dissipation | P_D | 200mW | Note 2 |
| Maximum Forward Voltage | V_F | 0.9V | $I_F=10mA$ |

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

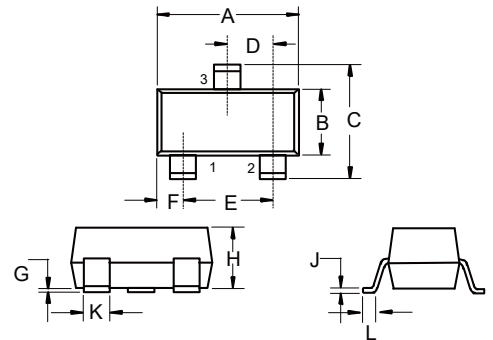
2. Mounted on FR4 PC Board With Our Suggested Solder Pad Layout .

Internal Structure



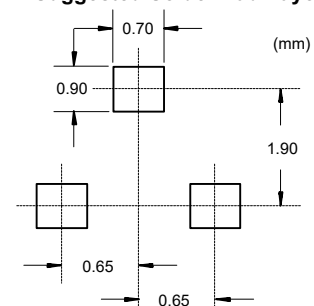
200 mWatt Zener Diodes 2.4V to 39 Volts

SOT-323



| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|-------|------|------|------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | 0.071 | 0.087 | 1.80 | 2.20 | |
| B | 0.045 | 0.053 | 1.15 | 1.35 | |
| C | 0.083 | 0.096 | 2.10 | 2.45 | |
| D | 0.026 | | 0.65 | | TYP. |
| E | 0.047 | 0.055 | 1.20 | 1.40 | |
| F | 0.012 | 0.016 | 0.30 | 0.40 | |
| G | 0.000 | 0.004 | 0.00 | 0.10 | |
| H | 0.035 | 0.044 | 0.90 | 1.10 | |
| J | 0.002 | 0.010 | 0.05 | 0.25 | |
| K | 0.006 | 0.016 | 0.15 | 0.40 | |
| L | 0.010 | 0.018 | 0.26 | 0.46 | |

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

| MCC Part Number | Nominal Zener Voltage ^(3,4) | Test Current | Maximum Zener Impedance ⁽⁵⁾ | | | Maximum Reverse Leakage Current | | Marking Code | |
|-----------------|--|--------------|--|-----------------------------------|-----------------|---------------------------------|----------------|--------------|----------------|
| | V _Z | | I _{ZT} | Z _{ZT} @ I _{ZT} | I _{ZK} | Z _{Zk} | I _R | | V _R |
| | V | | mA | Ω | mA | Ω | μA | | V |
| MMBZ5221BW | 2.4 | 20 | 30 | 0.25 | 1200 | 100 | 1.0 | KC1 | |
| MMBZ5222BW | 2.5 | 20 | 30 | 0.25 | 1250 | 100 | 1.0 | KC2 | |
| MMBZ5223BW | 2.7 | 20 | 30 | 0.25 | 1300 | 75 | 1.0 | KC3 | |
| MMBZ5225BW | 3.0 | 20 | 29 | 0.25 | 1600 | 50 | 1.0 | KC5 | |
| MMBZ5226BW | 3.3 | 20 | 28 | 0.25 | 1600 | 25 | 1.0 | KG1 | |
| MMBZ5227BW | 3.6 | 20 | 24 | 0.25 | 1700 | 15 | 1.0 | KG2 | |
| MMBZ5228BW | 3.9 | 20 | 23 | 0.25 | 1900 | 10 | 1.0 | KG3 | |
| MMBZ5229BW | 4.3 | 20 | 22 | 0.25 | 2000 | 5.0 | 1.0 | KG4 | |
| MMBZ5230BW | 4.7 | 20 | 19 | 0.25 | 1900 | 5.0 | 2.0 | KG5 | |
| MMBZ5231BW | 5.1 | 20 | 17 | 0.25 | 1600 | 5.0 | 2.0 | KE1 | |
| MMBZ5232BW | 5.6 | 20 | 11 | 0.25 | 1600 | 5.0 | 3.0 | KE2 | |
| MMBZ5234BW | 6.2 | 20 | 7.0 | 0.25 | 1000 | 5.0 | 4.0 | KE4 | |
| MMBZ5235BW | 6.8 | 20 | 5.0 | 0.25 | 750 | 3.0 | 5.0 | KE5 | |
| MMBZ5236BW | 7.5 | 20 | 6.0 | 0.25 | 500 | 3.0 | 6.0 | KF1 | |
| MMBZ5237BW | 8.2 | 20 | 8.0 | 0.25 | 500 | 3.0 | 6.5 | KF2 | |
| MMBZ5239BW | 9.1 | 20 | 10 | 0.25 | 600 | 3.0 | 7.0 | KF4 | |
| MMBZ5240BW | 10 | 20 | 17 | 0.25 | 600 | 3.0 | 8.0 | KF5 | |
| MMBZ5241BW | 11 | 20 | 22 | 0.25 | 600 | 2.0 | 8.4 | KH1 | |
| MMBZ5242BW | 12 | 20 | 30 | 0.25 | 600 | 1.0 | 9.1 | KH2 | |
| MMBZ5243BW | 13 | 9.5 | 13 | 0.25 | 600 | 0.5 | 9.9 | KH3 | |
| MMBZ5244BW | 14 | 9.0 | 15 | 0.25 | 600 | 0.1 | 10 | KH4 | |
| MMBZ5245BW | 15 | 8.5 | 16 | 0.25 | 600 | 0.1 | 11 | KH5 | |
| MMBZ5246BW | 16 | 7.8 | 17 | 0.25 | 600 | 0.1 | 12 | KJ1 | |
| MMBZ5248BW | 18 | 7.0 | 21 | 0.25 | 600 | 0.1 | 14 | KJ3 | |
| MMBZ5250BW | 20 | 6.2 | 25 | 0.25 | 600 | 0.1 | 15 | KJ5 | |
| MMBZ5251BW | 22 | 5.6 | 29 | 0.25 | 600 | 0.1 | 17 | KK1 | |
| MMBZ5252BW | 24 | 5.2 | 33 | 0.25 | 600 | 0.1 | 18 | KK2 | |
| MMBZ5254BW | 27 | 5.0 | 41 | 0.25 | 600 | 0.1 | 21 | KK4 | |
| MMBZ5255BW | 28 | 4.5 | 44 | 0.25 | 600 | 0.1 | 21 | KK5 | |
| MMBZ5256BW | 30 | 4.2 | 49 | 0.25 | 600 | 0.1 | 23 | KM1 | |
| MMBZ5257BW | 33 | 3.8 | 58 | 0.25 | 700 | 0.1 | 25 | KM2 | |
| MMBZ5258BW | 36 | 3.4 | 70 | 0.25 | 700 | 0.1 | 27 | KM3 | |
| MMBZ5259BW | 39 | 3.2 | 80 | 0.25 | 800 | 0.1 | 30 | KM4 | |

Note:

3. Tolerance and Type Number Designation. The Type Numbers Listed Have a Standard Tolerance on The Nominal Zener Voltage of ±5%.
4. Zener Voltage (V_Z) Measurement. Guarantees The Zener Voltage When Measured at 90 Seconds While Maintaining The Lead Temperature (T_L) at 25°C, from The Diode Body.
5. Zener Impedance (Z_Z) Derivation. The zener Impedance is Derived from The 60 Cycle AC Voltage, Which Results When an AC Current Having an rms Value Equal to 10% of the DC Zener Current (I_{ZT} or I_{ZK}) is Superimposed on I_{ZT} or I_{ZK}.

Curve Characteristics

Fig. 1 - Power Derating Curve

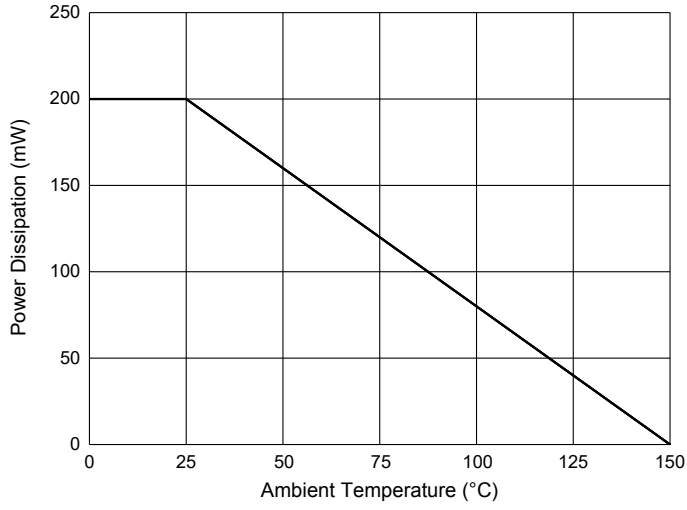
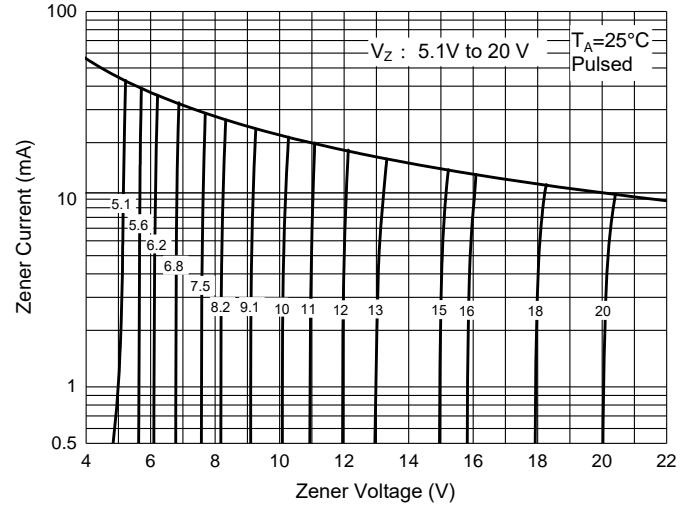


Fig. 2 - Typical Zener Breakdown Characteristics



Ordering Information

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

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