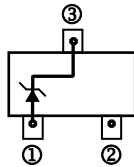


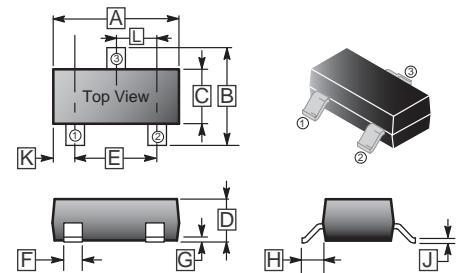
RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- Planar die construction
- 200mW power dissipation on FR-4 PCB
- General purpose, medium current
- Ideally suited for automated assembly



SOT-323



| REF. | Millimeter | | REF. | Millimeter | |
|------|------------|------|------|------------|------|
| | Min. | Max. | | Min. | Max. |
| A | 2.00 | 2.20 | F | 0.20 | 0.40 |
| B | 2.15 | 2.45 | G | - | - |
| C | 1.15 | 1.35 | H | 0.525 REF. | |
| D | 0.90 | 1.10 | J | 0.08 | 0.15 |
| E | 1.20 | 1.40 | | | |

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

| PARAMETER | SYMBOL | VALUE | UNITS |
|---|-----------------------------------|-----------|--------|
| Forward Voltage @ I _F = 10mA | V _F | 0.9 | V |
| Power Dissipation | P _D | 200 | mW |
| Thermal Resistance, Junction to Ambient Air | R _{θJA} | 625 | °C / W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 ~ 150 | °C |

ELECTRICAL RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

| Type Number | Marking Code | Zener Voltage Range (Note 1) | | | Test Current | Maximum Zener Impedance (Notes 2) | | Maximum Reverse Leakage Current (Note 1) | |
|-------------|--------------|------------------------------|---------|---------|--------------|-----------------------------------|-------------------|--|-------|
| | | $V_Z @ I_{ZT}$ | | | | I_{ZT} | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK}$ | I_R |
| | | Nom (V) | Min (V) | Max (V) | mA | Ω | | μA | V |
| MMBZ5221BW | KC1 | 2.4 | 2.28 | 2.52 | 20 | 30 | 1200 | 100 | 1.0 |
| MMBZ5222BW | KC2 | 2.5 | 2.38 | 2.63 | 20 | 30 | 1250 | 100 | 1.0 |
| MMBZ5223BW | KC3 | 2.7 | 2.57 | 2.84 | 20 | 30 | 1300 | 75 | 1.0 |
| MMBZ5225BW | KC5 | 3.0 | 2.85 | 3.15 | 20 | 30 | 1600 | 50 | 1.0 |
| MMBZ5226BW | KG1 | 3.3 | 3.14 | 3.47 | 20 | 28 | 1600 | 25 | 1.0 |
| MMBZ5227BW | KG2 | 3.6 | 3.42 | 3.78 | 20 | 24 | 1700 | 15 | 1.0 |
| MMBZ5228BW | KG3 | 3.9 | 3.71 | 4.10 | 20 | 23 | 1900 | 10 | 1.0 |
| MMBZ5229BW | KG4 | 4.3 | 4.09 | 4.52 | 20 | 22 | 2000 | 5.0 | 1.0 |
| MMBZ5230BW | KG5 | 4.7 | 4.47 | 4.94 | 20 | 19 | 1900 | 5.0 | 2.0 |
| MMBZ5231BW | KE1 | 5.1 | 4.85 | 5.36 | 20 | 17 | 1600 | 5.0 | 2.0 |
| MMBZ5232BW | KE2 | 5.6 | 5.32 | 5.88 | 20 | 11 | 1600 | 5.0 | 3.0 |
| MMBZ5233BW | KE3 | 6.0 | 5.70 | 6.30 | 20 | 7 | 1600 | 5.0 | 3.5 |
| MMBZ5234BW | KE4 | 6.2 | 5.89 | 6.51 | 20 | 7 | 1000 | 5.0 | 4.0 |
| MMBZ5235BW | KE5 | 6.8 | 6.46 | 7.14 | 20 | 5 | 750 | 3.0 | 5.0 |
| MMBZ5236BW | KF1 | 7.5 | 7.13 | 7.88 | 20 | 6 | 500 | 3.0 | 6.0 |
| MMBZ5237BW | KF2 | 8.2 | 7.79 | 8.61 | 20 | 8 | 500 | 3.0 | 6.5 |
| MMBZ5238BW | KF3 | 8.7 | 8.27 | 9.14 | 20 | 8 | 600 | 3.0 | 6.5 |
| MMBZ5239BW | KF4 | 9.1 | 8.65 | 9.56 | 20 | 10 | 600 | 3.0 | 7.0 |
| MMBZ5240BW | KF5 | 10 | 9.50 | 10.50 | 20 | 17 | 600 | 3.0 | 8.0 |
| MMBZ5241BW | KH1 | 11 | 10.45 | 11.55 | 20 | 22 | 600 | 2.0 | 8.4 |
| MMBZ5242BW | KH2 | 12 | 11.40 | 12.60 | 20 | 30 | 600 | 1.0 | 9.1 |
| MMBZ5243BW | KH3 | 13 | 12.35 | 13.65 | 9.5 | 13 | 600 | 0.5 | 9.9 |
| MMBZ5244BW | KH4 | 14 | 13.30 | 14.70 | 9.0 | 15 | 600 | 0.1 | 10 |
| MMBZ5245BW | KH5 | 15 | 14.25 | 15.75 | 8.5 | 16 | 600 | 0.1 | 11 |
| MMBZ5246BW | KJ1 | 16 | 15.20 | 16.80 | 7.8 | 17 | 600 | 0.1 | 12 |
| MMBZ5247BW | KJ2 | 17 | 16.15 | 17.85 | 7.4 | 19 | 600 | 0.1 | 13 |
| MMBZ5248BW | KJ3 | 18 | 17.10 | 18.90 | 7.0 | 21 | 600 | 0.1 | 14 |
| MMBZ5249BW | KJ4 | 19 | 18.05 | 19.95 | 6.6 | 23 | 600 | 0.1 | 14 |
| MMBZ5250BW | KJ5 | 20 | 19.00 | 21.00 | 6.2 | 25 | 600 | 0.1 | 15 |
| MMBZ5251BW | KK1 | 22 | 20.90 | 23.10 | 5.6 | 29 | 600 | 0.1 | 17 |
| MMBZ5252BW | KK2 | 24 | 22.80 | 25.20 | 5.2 | 33 | 600 | 0.1 | 18 |
| MMBZ5253BW | KK3 | 25 | 23.75 | 26.25 | 5.0 | 35 | 600 | 0.1 | 19 |
| MMBZ5254BW | KK4 | 27 | 25.65 | 28.35 | 5.0 | 41 | 600 | 0.1 | 21 |
| MMBZ5255BW | KK5 | 28 | 26.60 | 29.40 | 4.5 | 44 | 600 | 0.1 | 21 |
| MMBZ5256BW | KM1 | 30 | 28.50 | 31.50 | 4.2 | 49 | 600 | 0.1 | 23 |
| MMBZ5257BW | KM2 | 33 | 31.35 | 34.65 | 3.8 | 58 | 700 | 0.1 | 25 |
| MMBZ5258BW | KM3 | 36 | 34.20 | 37.80 | 3.4 | 70 | 700 | 0.1 | 27 |
| MMBZ5259BW | KM4 | 39 | 37.05 | 40.95 | 3.2 | 80 | 800 | 0.1 | 30 |

Notes: 1. Short duration test pulse used to minimize self-heating effect.
2. $f = 1\text{KHz}$.

CHARACTERISTIC CURVES

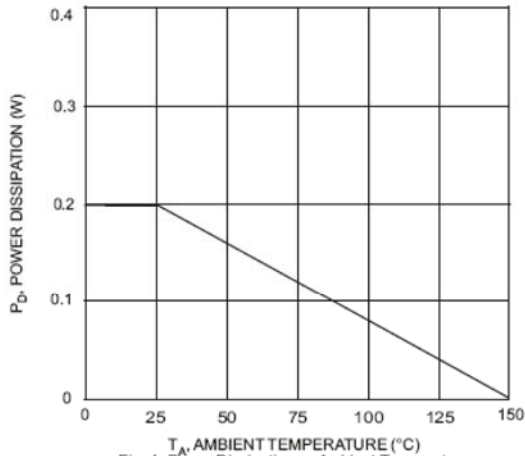


Fig. 1 Power Dissipation vs Ambient Temperature

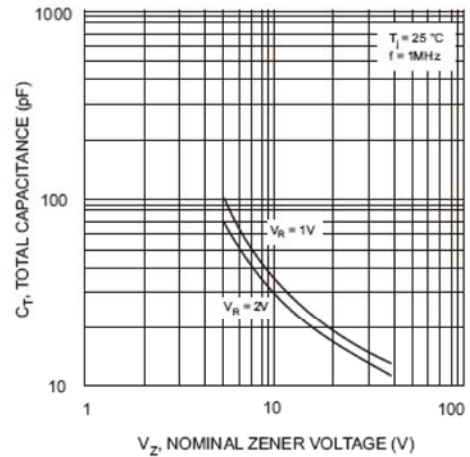


Fig. 2 Total Capacitance vs Nominal Zener Voltage

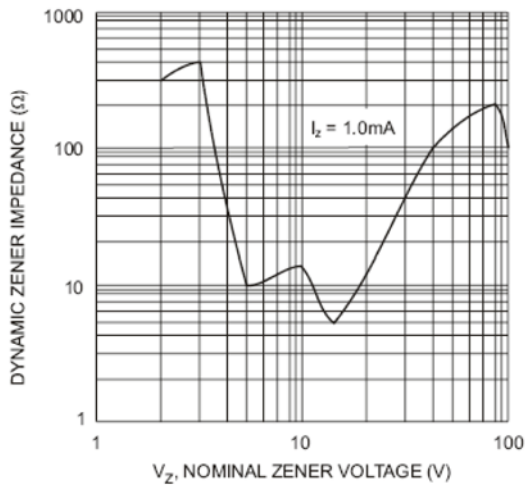


Fig. 3 Zener Voltage vs. Zener Impedance

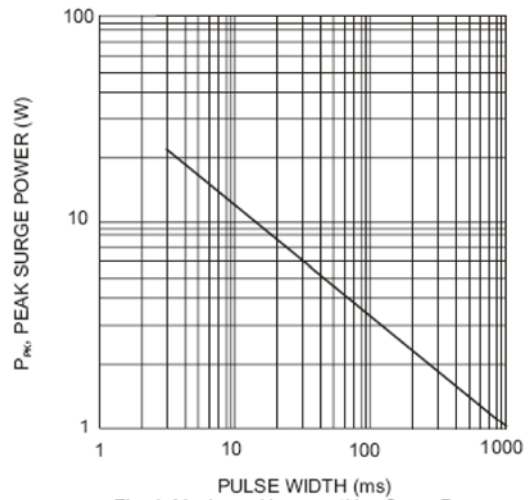


Fig. 4 Maximum Non-repetitive Surge Power

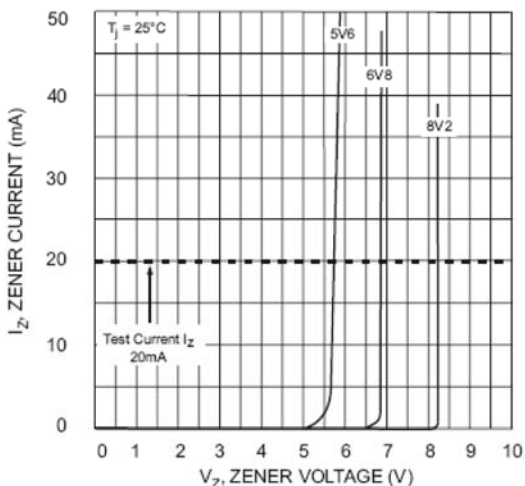


Fig. 5 Zener Breakdown Characteristics

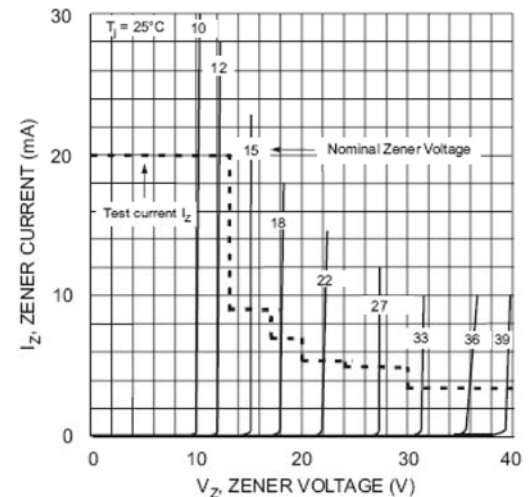


Fig. 6 Zener Breakdown Characteristics