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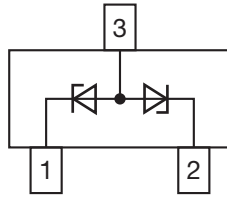
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Small Signal Zener Diodes, Dual



FEATURES

- Dual silicon planar Zener diodes with common anode configurations
- Dual package provides for bidirectional or separate unidirectional configurations
- The dual configurations protect two separate lines with only one device
- Peak power: 40 W at 1 ms (bidirectional)
- For bidirectional operation, circuit connected to pins 1 and 2. For unidirectional operation, circuit connected to pins 1 and 3 or pins 2 and 3
- AEC-Q101 qualified
- ESD capability according to AEC-Q101: Human body model > 8 kV Machine model > 800 V
- Base P/N-G3 - green, commercial grade
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



| PRIMARY CHARACTERISTICS | | |
|-------------------------|-------------------|------|
| PARAMETER | VALUE | UNIT |
| V_Z range nom. | 27 | V |
| Test current I_{ZT} | 1 | mA |
| V_Z specification | Pulse current | |
| Int. construction | Dual common anode | |

| ORDERING INFORMATION | | | |
|----------------------|-----------------|--------------------------------|------------------------|
| DEVICE NAME | ORDERING CODE | TAPED UNITS PER REEL | MINIMUM ORDER QUANTITY |
| MMBZ27VDA-G | MMBZ27VDA-G3-08 | 3000 (8 mm tape on 7" reel) | 15 000 |
| | MMBZ27VDA-G3-18 | 10 000 (8 mm tape on 13" reel) | 10 000 |

| PACKAGE | | | | |
|--------------|--------|--------------------------------------|-----------------------------------|--------------------------|
| PACKAGE NAME | WEIGHT | MOLDING COMPOUND FLAMMABILITY RATING | MOISTURE SENSITIVITY LEVEL | SOLDERING CONDITIONS |
| SOT-23 | 8.1 mg | UL 94 V-0 | MSL level 1 (according J-STD-020) | 260 °C/10 s at terminals |

| ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ °C}$, unless otherwise specified) | | | | |
|---|---|----------------|---------------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Peak power dissipation ⁽¹⁾ | | P_{PK} | 40 | W |
| Power dissipation on FR-5 board ⁽²⁾ | $T_{amb} = 25\text{ °C}$, derate above 25 °C | P_{tot} | 225 | mW |
| | | | 1.8 | mW/K |
| Power dissipation on alumina substrate ⁽³⁾ | $T_{amb} = 25\text{ °C}$, derate above 25 °C | P_{tot} | 300 | mW |
| | | | 2.4 | mW/K |
| Thermal resistance junction to ambient air | | R_{thJA} | 556 | K/W |
| Operating temperature range | | T_{op} | - 55 to + 150 | °C |
| Storage temperature range | | T_j, T_{stg} | - 55 to + 150 | °C |

Notes

- (1) Non repetitive current pulse per figure 2 and derate above $T_{amb} = 25\text{ °C}$ per figure 3
- (2) FR-5 = 1" x 0.75" x 0.62"
- (3) Alumina = 0.4" x 0.3" x 0.024", 99.5 % alumina.

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | | | | | | | |
|---|--------------|------------------------------------|------|-------|--------------|------------------------------|------------------------------|----------------------------|--|------------------------------|----------------------|-----|
| PART NUMBER | MARKING CODE | ZENER VOLTAGE RANGE ⁽¹⁾ | | | TEST CURRENT | WORKING PEAK REVERSE VOLTAGE | MAX. REVERSE LEAKAGE CURRENT | MAX. REVERSE SURGE CURRENT | MAX. REVERSE VOLTAGE (CLAMPING VOLTAGE) ⁽²⁾ | MAX. TEMPERATURE COEFFICIENT | MAX. FORWARD VOLTAGE | |
| | | V_Z at I_{ZT1} | | | I_{ZT1} | V_{RWM} | I_R at V_{RWM} | I_{PP} | V_C at I_{RSM} | V_Z | V_F at I_F | |
| | | V | | | mA | V | nA | A | V | mV/ $^{\circ}\text{C}$ | V | mA |
| | | MIN. | NOM. | MAX. | | | | | | | | |
| MMBZ27VDA-G | TA8 | 25.65 | 27 | 28.35 | 1 | 22 | 80 | 1 | 38 | 30 | 1.1 | 200 |

Notes

- (1) V_Z measured at pulse test current I_{ZT1} at an ambient temperature of $25\text{ }^{\circ}\text{C}$
 (2) Surge current waveform per figure 2 and derate per figure 3

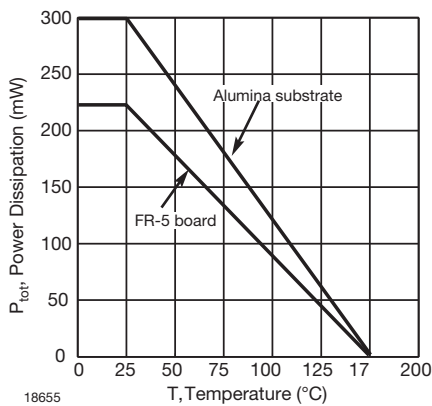
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Steady State Power Derating Curve

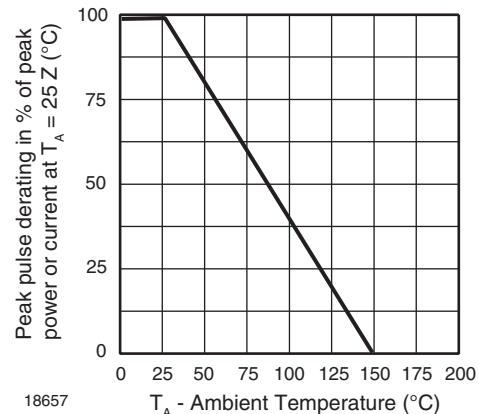


Fig. 3 - Pulse Derating Curve

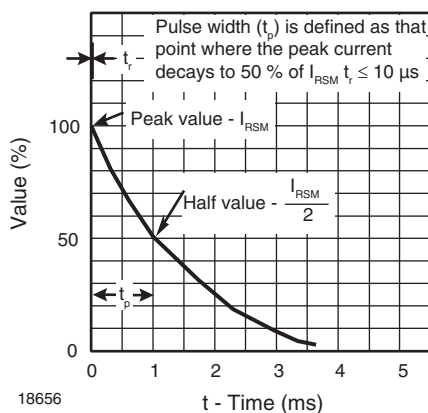
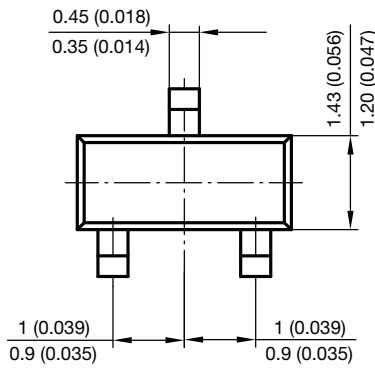
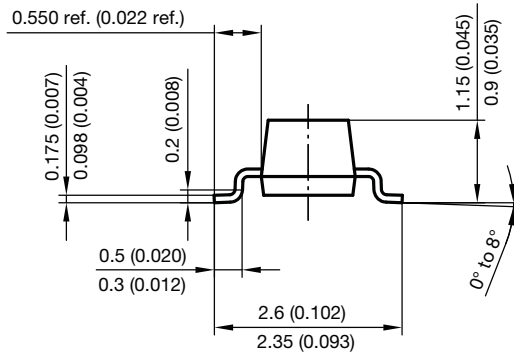
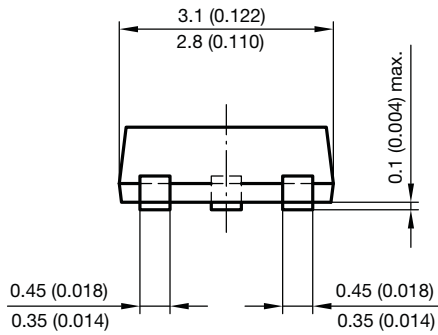


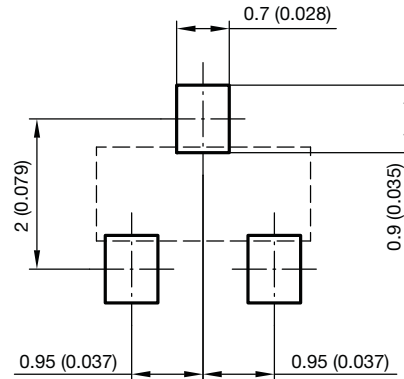
Fig. 2 - Pulse Waveform



PACKAGE DIMENSIONS in millimeters (inches): SOT-23



Foot print recommendation:



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