



PZ1AH3V6B-AU~PZ1AH75B-AU

SILICON ZENER DIODE

VOLTAGE

3.6V~75V

POWER

1Watt

Features

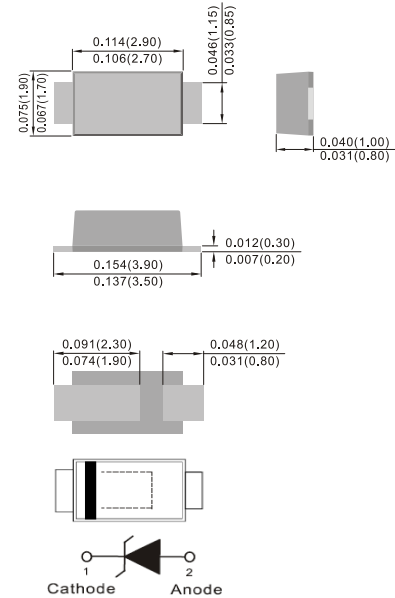
- Silicon planar Zener diode
- Low profile surface-mount package
- Low leakage current
- Excellent stability
- AEC-Q101 qualified
- High temperature soldering : 260 °C/10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: SOD-123HE, plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.0006 ounces, 0.0184 grams

SOD-123HE

Unit: inch(mm)



Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|--|-----------------|-------------|----------------------|
| Peak Pulse Power Dissipation at $T_A=25^{\circ}\text{C}$ (Notes 1) | P_D | 1 | W |
| ESD Voltage per IEC61000-4-2 (Air) | V_{ESD} | ± 30 | kV |
| ESD Voltage per IEC61000-4-2 (Contact) | | ± 30 | |
| Typical Thermal Resistance (Notes 2) | $R_{\theta JA}$ | 185 | $^{\circ}\text{C/W}$ |
| Operating Junction Temperature Range | T_J | -55 to +150 | $^{\circ}\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | $^{\circ}\text{C}$ |

NOTES :

1. Mounted on a 5mm^2 copper pads to each terminal.
2. Mounted on a FR-4 PCB, single-sided copper, mini pad .



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Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

| Part Number | Nominal Zener Voltage | | | | Nominal Zener Impedance | | | | Max. Reverse Leakage Current | | Marking Code |
|--------------|-----------------------|--------|--------|-----|-------------------------|-----|-----------------|------|------------------------------|-----|--------------|
| | $V_Z@I_{ZT}$ | | | | $Z_{ZT}@I_{ZT}$ | | $Z_{ZK}@I_{ZK}$ | | $I_R@V_R$ | | |
| | Nom. V | Min. V | Max. V | mA | Ω | mA | Ω | mA | μA | V | |
| PZ1AH3V6B-AU | 3.6 | 3.42 | 3.78 | 100 | 8 | 100 | 400 | 1 | 100 | 1 | ACH |
| PZ1AH3V9B-AU | 3.9 | 3.71 | 4.10 | 100 | 8 | 100 | 400 | 1 | 50 | 1 | BCH |
| PZ1AH4V3B-AU | 4.3 | 4.09 | 4.52 | 100 | 7 | 100 | 400 | 1 | 25 | 1 | CCH |
| PZ1AH4V7B-AU | 4.7 | 4.47 | 4.94 | 100 | 7 | 100 | 500 | 1 | 10 | 1 | DCH |
| PZ1AH5V1B-AU | 5.1 | 4.85 | 5.36 | 100 | 6 | 100 | 550 | 1 | 5 | 1 | ECH |
| PZ1AH5V6B-AU | 5.6 | 5.32 | 5.88 | 100 | 4 | 100 | 600 | 1 | 10 | 2 | FCH |
| PZ1AH6V0B-AU | 6 | 5.7 | 6.3 | 100 | 3 | 100 | 650 | 1 | 8 | 2 | HCH |
| PZ1AH6V2B-AU | 6.2 | 5.89 | 6.51 | 100 | 3 | 100 | 700 | 1 | 5 | 2 | ICH |
| PZ1AH6V8B-AU | 6.8 | 6.46 | 7.14 | 100 | 3 | 100 | 700 | 1 | 10 | 3 | JCH |
| PZ1AH7V5B-AU | 7.5 | 7.13 | 7.88 | 100 | 2 | 100 | 700 | 0.5 | 10 | 3 | KCH |
| PZ1AH8V2B-AU | 8.2 | 7.79 | 8.61 | 100 | 2 | 100 | 700 | 0.5 | 10 | 3 | LCH |
| PZ1AH8V7B-AU | 8.7 | 8.27 | 9.14 | 50 | 3 | 50 | 700 | 0.5 | 10 | 4 | MCH |
| PZ1AH9V1B-AU | 9.1 | 8.65 | 9.56 | 50 | 4 | 50 | 700 | 0.5 | 10 | 5 | NCH |
| PZ1AH10B-AU | 10 | 9.50 | 10.50 | 50 | 4 | 50 | 700 | 0.25 | 7 | 7.5 | PCH |
| PZ1AH11B-AU | 11 | 10.45 | 11.55 | 50 | 7 | 50 | 700 | 0.25 | 4 | 8.2 | RCH |
| PZ1AH12B-AU | 12 | 11.40 | 12.60 | 50 | 7 | 50 | 700 | 0.25 | 3 | 9.1 | SCH |
| PZ1AH13B-AU | 13 | 12.35 | 13.65 | 50 | 10 | 50 | 700 | 0.25 | 2 | 10 | TCH |
| PZ1AH14B-AU | 14 | 13.30 | 14.70 | 50 | 10 | 50 | 700 | 0.25 | 2 | 11 | UCH |
| PZ1AH15B-AU | 15 | 14.25 | 15.75 | 50 | 12 | 50 | 700 | 0.25 | 1 | 11 | VCH |
| PZ1AH16B-AU | 16 | 15.20 | 16.80 | 25 | 15 | 25 | 700 | 0.25 | 1 | 12 | WCH |
| PZ1AH17B-AU | 17 | 16.15 | 17.85 | 25 | 15 | 25 | 750 | 0.25 | 1 | 13 | XCH |
| PZ1AH18B-AU | 18 | 17.10 | 18.90 | 25 | 15 | 25 | 750 | 0.25 | 1 | 13 | YCH |
| PZ1AH19B-AU | 19 | 18.05 | 19.95 | 25 | 15 | 25 | 750 | 0.25 | 1 | 14 | ZCH |
| PZ1AH20B-AU | 20 | 19.00 | 21.00 | 25 | 15 | 25 | 750 | 0.25 | 1 | 15 | 2CH |
| PZ1AH22B-AU | 22 | 20.90 | 23.10 | 25 | 15 | 25 | 750 | 0.25 | 1 | 16 | 3CH |
| PZ1AH24B-AU | 24 | 22.80 | 25.20 | 25 | 15 | 25 | 750 | 0.25 | 1 | 18 | 4CH |
| PZ1AH25B-AU | 25 | 23.75 | 26.25 | 25 | 15 | 25 | 750 | 0.25 | 1 | 19 | 6CH |
| PZ1AH27B-AU | 27 | 25.65 | 28.35 | 25 | 15 | 25 | 750 | 0.25 | 1 | 20 | 7CH |
| PZ1AH28B-AU | 28 | 26.60 | 29.40 | 25 | 15 | 25 | 850 | 0.25 | 1 | 21 | 9CH |



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Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

| Part Number | Nominal Zener Voltage | | | | Nominal Zener Impedance | | | | Max. Reverse Leakage Current | | Marking Code |
|-------------|-----------------------|--------|--------|----|-------------------------|----|-----------------|------|------------------------------|----|--------------|
| | $V_Z@I_{ZT}$ | | | | $Z_{ZT}@I_{ZT}$ | | $Z_{ZK}@I_{ZK}$ | | $I_R@V_R$ | | |
| | Nom. V | Min. V | Max. V | mA | Ω | mA | Ω | mA | μA | V | |
| PZ1AH30B-AU | 30 | 28.50 | 31.50 | 25 | 15 | 25 | 1000 | 0.25 | 1 | 22 | AEH |
| PZ1AH33B-AU | 33 | 31.35 | 34.65 | 25 | 15 | 25 | 1000 | 0.25 | 1 | 24 | BEH |
| PZ1AH36B-AU | 36 | 34.20 | 37.80 | 10 | 40 | 10 | 1000 | 0.25 | 1 | 27 | CEH |
| PZ1AH39B-AU | 39 | 37.05 | 40.95 | 10 | 40 | 10 | 1000 | 0.25 | 1 | 30 | DEH |
| PZ1AH43B-AU | 43 | 40.85 | 45.15 | 10 | 45 | 10 | 1500 | 0.25 | 1 | 33 | EEH |
| PZ1AH47B-AU | 47 | 44.65 | 49.35 | 10 | 45 | 10 | 1500 | 0.25 | 1 | 36 | FEH |
| PZ1AH51B-AU | 51 | 48.45 | 53.55 | 10 | 60 | 10 | 1500 | 0.25 | 1 | 39 | HEH |
| PZ1AH56B-AU | 56 | 53.20 | 58.80 | 10 | 60 | 10 | 2000 | 0.25 | 1 | 43 | IEH |
| PZ1AH62B-AU | 62 | 58.90 | 65.10 | 10 | 80 | 10 | 2000 | 0.25 | 1 | 47 | JEH |
| PZ1AH68B-AU | 68 | 64.60 | 71.40 | 10 | 80 | 10 | 2000 | 0.25 | 1 | 51 | KEH |
| PZ1AH75B-AU | 75 | 71.25 | 78.75 | 10 | 100 | 10 | 2000 | 0.25 | 1 | 56 | LEH |



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TYPICAL CHARACTERISTIC CURVES

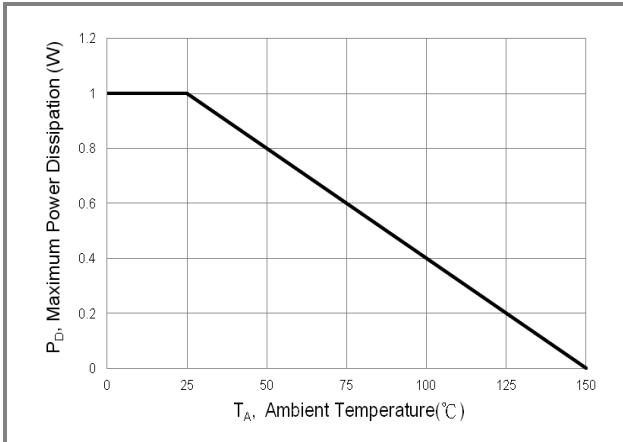


Fig.1 Steady-State Power Derating Curve

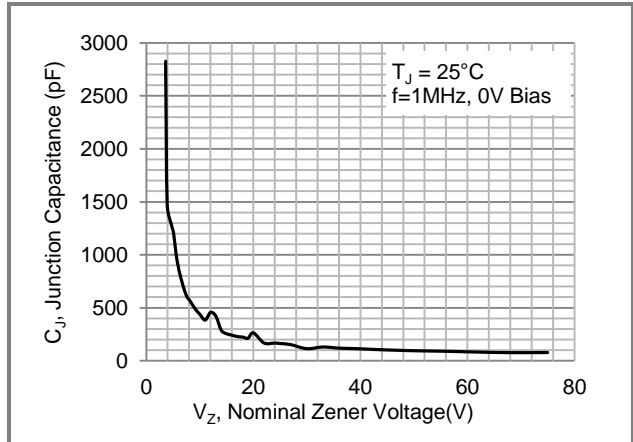


Fig.2 Typical Capacitance Versus V_Z

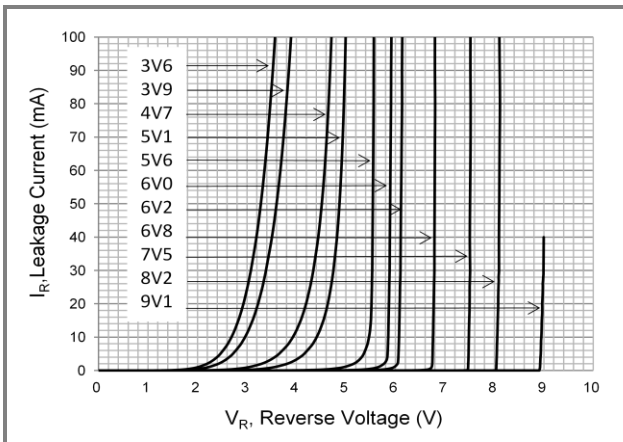


Fig.3 Typical Zener Breakdown Characteristics

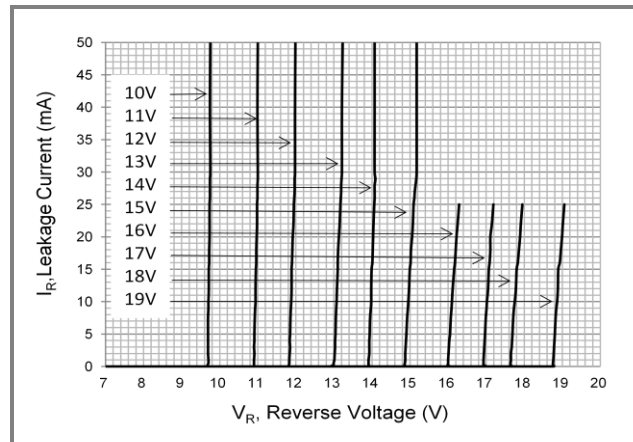


Fig.4 Typical Zener Breakdown Characteristics

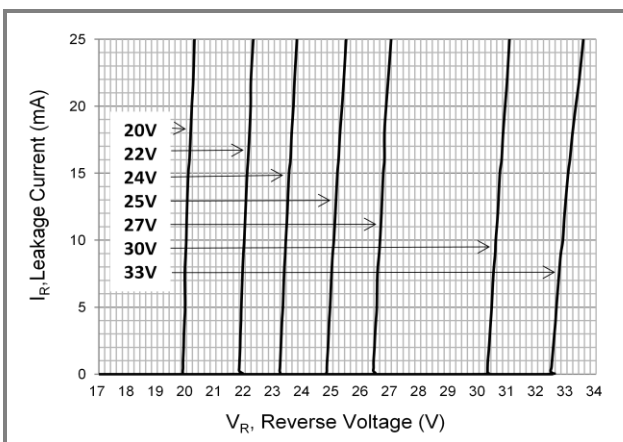


Fig.5 Typical Zener Breakdown Characteristics

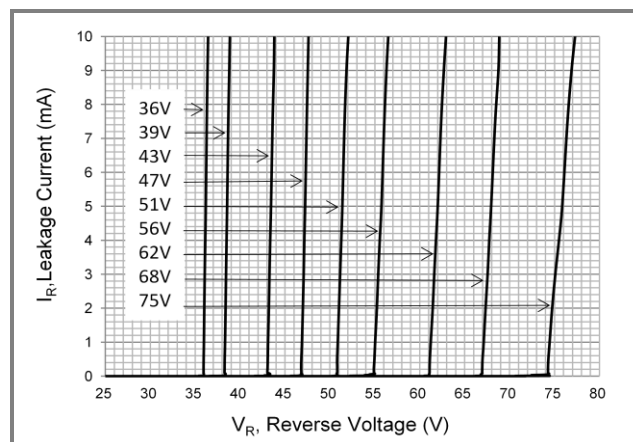


Fig.6 Typical Zener Breakdown Characteristics



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Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type | Marking | Version |
|-----------------------|--------------|--------------------|---------|--------------|
| PZ1AH3V6B-AU_R1_000A1 | SOD-123HE | 3K pcs / 7" reel | ACH | Halogen free |
| PZ1AH3V6B-AU_R2_000A1 | SOD-123HE | 10K pcs / 13" reel | ACH | Halogen free |

Mounting Pad Layout

