



## PZS513V9BAS ~ PZS5143BAS Series

### SILICON ZENER DIODE

**Voltage**

**3.9~43V**

**Power**

**500 mW**

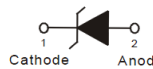
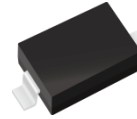
#### Features

- Planar Die construction
- 500mW Power Dissipation
- Ideally Suited for Automated Assembly Processes
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

#### Mechanical Data

- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.0004 ounces, 0.001 grams

SOD-123



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

| PARAMETER  | SYMBOL                | LIMIT       | UNITS                     |
|--|-----------------------|-------------|---------------------------|
| Peak Pulse Power Dissipation at $T_A=25^\circ\text{C}$ | $P_D^{(1)}$           | 500         | mW                        |
| Typical Thermal Resistance Junction to Ambient         | $R_{\theta JA}^{(2)}$ | 250         | $^\circ\text{C}/\text{W}$ |
| 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  $5\text{mm}^2$  copper pads to each terminal.
2. Mounted on a FR-4 PCB, single-sided copper, mini pad .



## PZS513V9BAS ~ PZS5143BAS Series

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

| Part Number | Nominal Zener Voltage |       |       |      | Max. Reverse Leakage Current |      | Marking Code |
|-------------|-----------------------|-------|-------|------|------------------------------|------|--------------|
|             | $V_Z@I_{ZT}$          |       |       |      | $I_R@V_R$                    |      |              |
|             | Nom. V                | Min.V | Max.V | mA   | $\mu\text{A}$                | V    |              |
| PZS513V9BAS | 3.9                   | 3.71  | 4.10  | 0.05 | 5                            | 2    | ACH          |
| PZS514V3BAS | 4.3                   | 4.09  | 4.52  | 0.05 | 4                            | 2    | BCH          |
| PZS514V7BAS | 4.7                   | 4.47  | 4.94  | 0.05 | 10                           | 3    | CCH          |
| PZS515V1BAS | 5.1                   | 4.85  | 5.36  | 0.05 | 10                           | 3    | DCH          |
| PZS515V3BAS | 5.3                   | 5.03  | 5.57  | 0.05 | 10                           | 4    | ECH          |
| PZS515V6BAS | 5.6                   | 5.32  | 5.88  | 0.05 | 7                            | 4.2  | FCH          |
| PZS516V2BAS | 6.2                   | 5.89  | 6.51  | 0.05 | 10                           | 5    | HCH          |
| PZS516V8BAS | 6.8                   | 6.46  | 7.14  | 0.05 | 10                           | 5.1  | ICH          |
| PZS517V5BAS | 7.5                   | 7.13  | 7.88  | 0.05 | 10                           | 5.7  | JCH          |
| PZS518V2BAS | 8.2                   | 7.79  | 8.61  | 0.05 | 1                            | 6.2  | KCH          |
| PZS518V7BAS | 8.7                   | 8.27  | 9.14  | 0.05 | 1                            | 6.6  | LCH          |
| PZS519V1BAS | 9.1                   | 8.65  | 9.56  | 0.05 | 1                            | 6.9  | MCH          |
| PZS5110BAS  | 10                    | 9.5   | 10.5  | 0.05 | 1                            | 7.6  | NCH          |
| PZS5111BAS  | 11                    | 10.5  | 11.6  | 0.05 | 0.05                         | 8.4  | PCH          |
| PZS5112BAS  | 12                    | 11.4  | 12.6  | 0.05 | 0.05                         | 9.1  | RCH          |
| PZS5113BAS  | 13                    | 12.4  | 13.7  | 0.05 | 0.05                         | 9.8  | SCH          |
| PZS5114BAS  | 14                    | 13.3  | 14.7  | 0.05 | 0.05                         | 10.6 | TCH          |
| PZS5115BAS  | 15                    | 14.3  | 15.8  | 0.05 | 0.05                         | 11.4 | UCH          |
| PZS5116BAS  | 16                    | 15.2  | 16.8  | 0.05 | 0.05                         | 12.1 | VCH          |
| PZS5117BAS  | 17                    | 16.2  | 17.9  | 0.05 | 0.05                         | 12.9 | WCH          |
| PZS5118BAS  | 18                    | 17.1  | 18.9  | 0.05 | 0.05                         | 13.6 | XCH          |
| PZS5119BAS  | 19                    | 18.1  | 20    | 0.05 | 0.05                         | 14.4 | YCH          |
| PZS5120BAS  | 20                    | 19    | 21    | 0.05 | 0.01                         | 15.2 | ZCH          |
| PZS5122BAS  | 22                    | 20.9  | 23.1  | 0.05 | 0.01                         | 16.7 | 2CH          |
| PZS5124BAS  | 24                    | 22.8  | 25.2  | 0.05 | 0.01                         | 18.2 | 3CH          |
| PZS5125BAS  | 25                    | 23.8  | 26.3  | 0.05 | 0.01                         | 19   | 4CH          |
| PZS5127BAS  | 27                    | 25.7  | 28.4  | 0.05 | 0.01                         | 20.4 | 6CH          |
| PZS5128BAS  | 28                    | 26.6  | 29.4  | 0.05 | 0.01                         | 21.2 | 7CH          |
| PZS5130BAS  | 30                    | 28.5  | 31.5  | 0.05 | 0.01                         | 22.8 | 9CH          |
| PZS5133BAS  | 33                    | 31.4  | 34.7  | 0.05 | 0.01                         | 25   | AEH          |
| PZS5136BAS  | 36                    | 34.2  | 37.8  | 0.05 | 0.01                         | 27.3 | BEH          |
| PZS5139BAS  | 39                    | 37.1  | 41    | 0.05 | 0.01                         | 29.6 | CEH          |
| PZS5143BAS  | 43                    | 40.9  | 45.2  | 0.05 | 0.01                         | 32.6 | DEH          |



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## TYPICAL CHARACTERISTIC CURVES

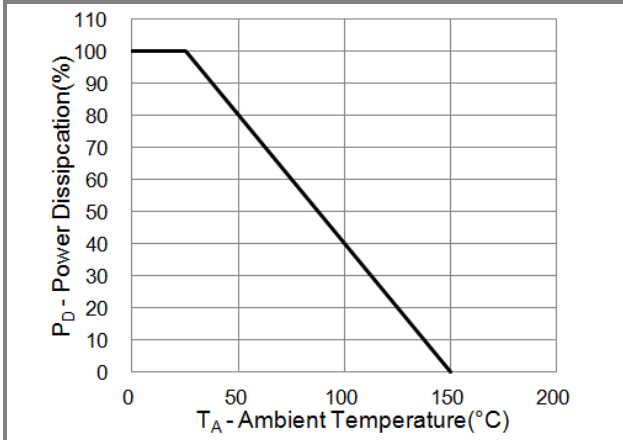


Fig.1 Power Derating Curve

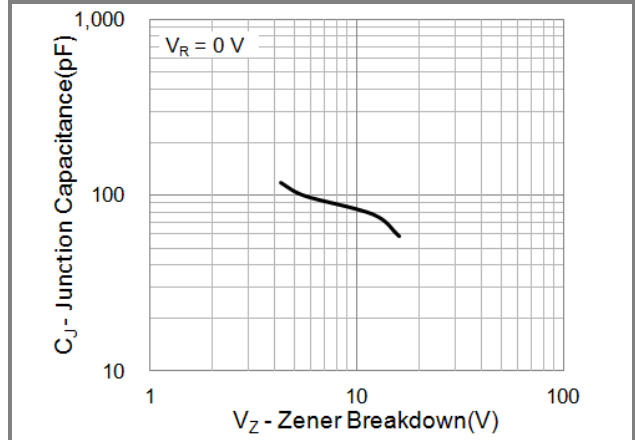


Fig.2 Typical Junction Capacitance

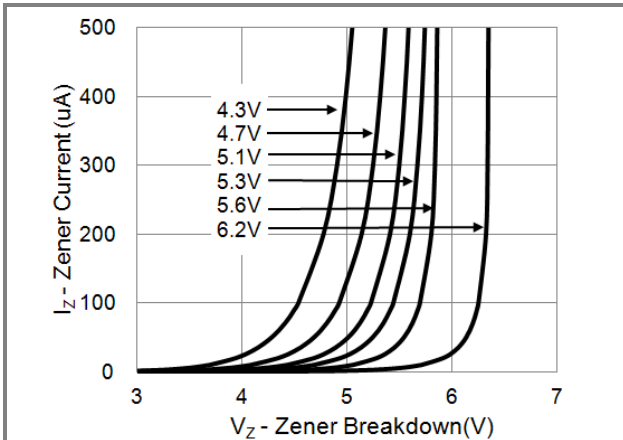


Fig.3 Typical Zener Breakdown

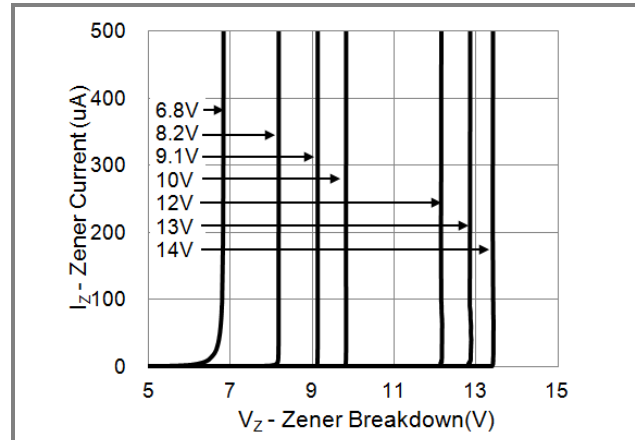


Fig.4 Typical Zener Breakdown

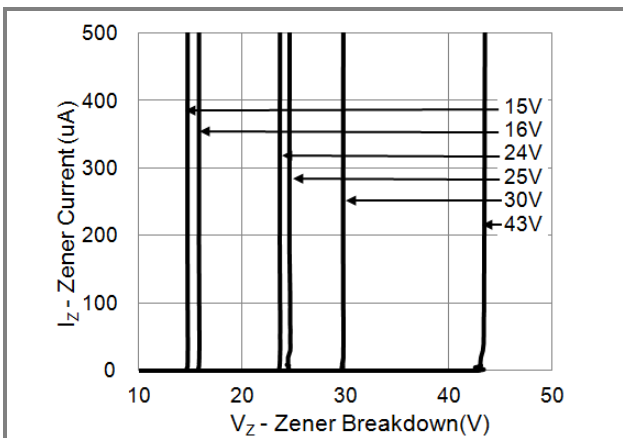


Fig.5 Typical Zener Breakdown



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## Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type | Marking   | Version      |
|----------------------|--------------|--------------|-----------|--------------|
| PZS51xxxBAS_R1_00001 | SOD-123      | 3K / 7" Reel | See Table | Halogen Free |

## Packaging Information & Mounting Pad Layout

