

## PZS513V9BCH-AU ~ PZS5143BCH-AU Series

### SILICON ZENER DIODE

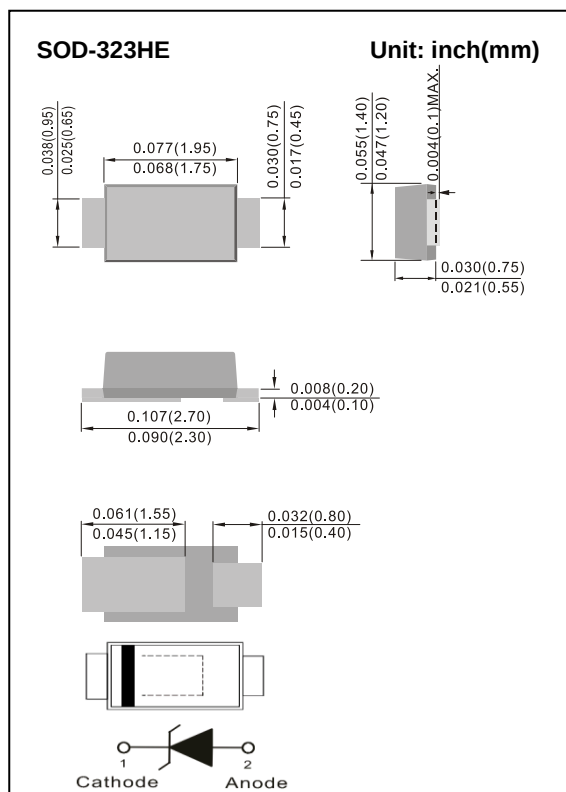
**Voltage** 3.9~43 V **Power** 500 mW

#### 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
- AEC-Q101 qualified

#### Mechanical Data

- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.0002 ounces, 0.005 grams



### 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         | $^\circ\text{C/W}$ |
| 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<sup>2</sup> 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<br>Number | Nominal Zener Voltage           |       |       |      | Max. Reverse Leakage Current   |      | Marking<br>Code |
|----------------|---------------------------------|-------|-------|------|--------------------------------|------|-----------------|
|                | V <sub>Z</sub> @I <sub>ZT</sub> |       |       |      | I <sub>R</sub> @V <sub>R</sub> |      |                 |
|                | Nom. V                          | Min.V | Max.V | mA   | uA                             | V    |                 |
| PZS513V9BCH-AU | 3.9                             | 3.71  | 4.10  | 0.05 | 5                              | 2    | AJS             |
| PZS514V3BCH-AU | 4.3                             | 4.09  | 4.52  | 0.05 | 4                              | 2    | BJS             |
| PZS514V7BCH-AU | 4.7                             | 4.47  | 4.94  | 0.05 | 10                             | 3    | CJS             |
| PZS515V1BCH-AU | 5.1                             | 4.85  | 5.36  | 0.05 | 10                             | 3    | DJS             |
| PZS515V3BCH-AU | 5.3                             | 5.03  | 5.57  | 0.05 | 10                             | 4    | EJS             |
| PZS515V6BCH-AU | 5.6                             | 5.32  | 5.88  | 0.05 | 7                              | 4.2  | FJS             |
| PZS516V2BCH-AU | 6.2                             | 5.89  | 6.51  | 0.05 | 10                             | 5    | HJS             |
| PZS516V8BCH-AU | 6.8                             | 6.46  | 7.14  | 0.05 | 10                             | 5.1  | IJS             |
| PZS517V5BCH-AU | 7.5                             | 7.13  | 7.88  | 0.05 | 10                             | 5.7  | JJS             |
| PZS518V2BCH-AU | 8.2                             | 7.79  | 8.61  | 0.05 | 1                              | 6.2  | KJS             |
| PZS518V7BCH-AU | 8.7                             | 8.27  | 9.14  | 0.05 | 1                              | 6.6  | LJS             |
| PZS519V1BCH-AU | 9.1                             | 8.65  | 9.56  | 0.05 | 1                              | 6.9  | MJS             |
| PZS5110BCH-AU  | 10                              | 9.5   | 10.5  | 0.05 | 1                              | 7.6  | NJS             |
| PZS5111BCH-AU  | 11                              | 10.5  | 11.6  | 0.05 | 0.05                           | 8.4  | PJS             |
| PZS5112BCH-AU  | 12                              | 11.4  | 12.6  | 0.05 | 0.05                           | 9.1  | RJS             |
| PZS5113BCH-AU  | 13                              | 12.4  | 13.7  | 0.05 | 0.05                           | 9.8  | SJS             |
| PZS5114BCH-AU  | 14                              | 13.3  | 14.7  | 0.05 | 0.05                           | 10.6 | TJS             |
| PZS5115BCH-AU  | 15                              | 14.3  | 15.8  | 0.05 | 0.05                           | 11.4 | UJS             |
| PZS5116BCH-AU  | 16                              | 15.2  | 16.8  | 0.05 | 0.05                           | 12.1 | VJS             |
| PZS5117BCH-AU  | 17                              | 16.2  | 17.9  | 0.05 | 0.05                           | 12.9 | WJS             |
| PZS5118BCH-AU  | 18                              | 17.1  | 18.9  | 0.05 | 0.05                           | 13.6 | XJS             |
| PZS5119BCH-AU  | 19                              | 18.1  | 20    | 0.05 | 0.05                           | 14.4 | YJS             |
| PZS5120BCH-AU  | 20                              | 19    | 21    | 0.05 | 0.01                           | 15.2 | ZJS             |
| PZS5122BCH-AU  | 22                              | 20.9  | 23.1  | 0.05 | 0.01                           | 16.7 | 2JS             |
| PZS5124BCH-AU  | 24                              | 22.8  | 25.2  | 0.05 | 0.01                           | 18.2 | 3JS             |
| PZS5125BCH-AU  | 25                              | 23.8  | 26.3  | 0.05 | 0.01                           | 19   | 4JS             |
| PZS5127BCH-AU  | 27                              | 25.7  | 28.4  | 0.05 | 0.01                           | 20.4 | 6JS             |
| PZS5128BCH-AU  | 28                              | 26.6  | 29.4  | 0.05 | 0.01                           | 21.2 | 7JS             |
| PZS5130BCH-AU  | 30                              | 28.5  | 31.5  | 0.05 | 0.01                           | 22.8 | 9JS             |
| PZS5133BCH-AU  | 33                              | 31.4  | 34.7  | 0.05 | 0.01                           | 25   | AKS             |
| PZS5136BCH-AU  | 36                              | 34.2  | 37.8  | 0.05 | 0.01                           | 27.3 | BKS             |
| PZS5139BCH-AU  | 39                              | 37.1  | 41    | 0.05 | 0.01                           | 29.6 | CKS             |
| PZS5143BCH-AU  | 43                              | 40.9  | 45.2  | 0.05 | 0.01                           | 32.6 | DKS             |

## PZS513V9BCH-AU ~ PZS5143BCH-AU Series

### TYPICAL CHARACTERISTIC CURVES

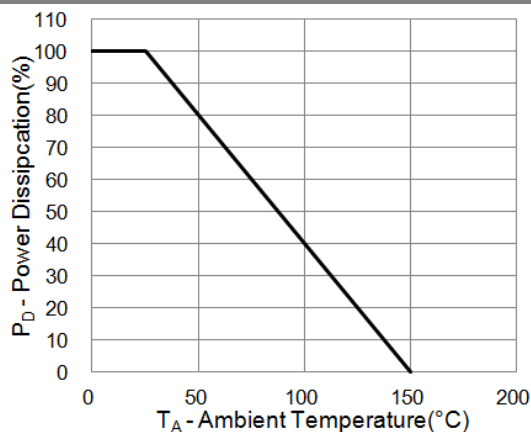


Fig.1 Power Derating Curve

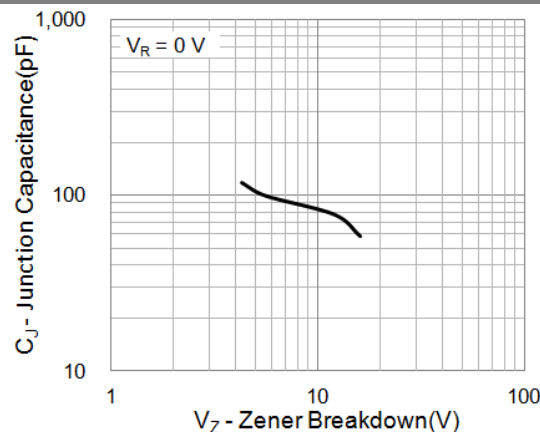


Fig.2 Typical Junction Capacitance

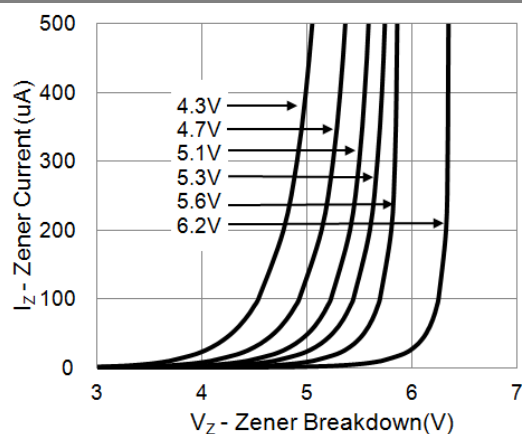


Fig.3 Typical Zener Breakdown

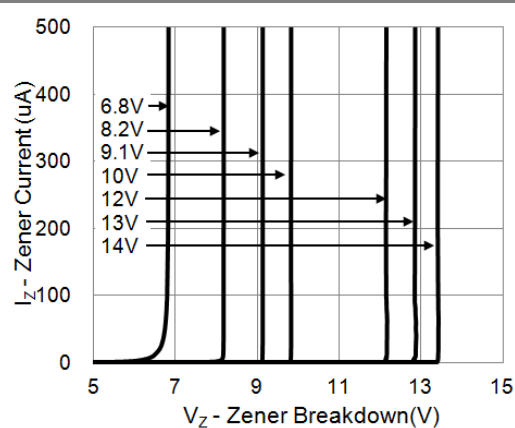


Fig.4 Typical Zener Breakdown

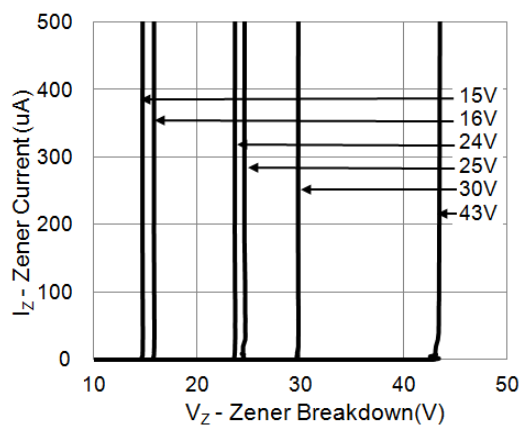


Fig.5 Typical Zener Breakdown



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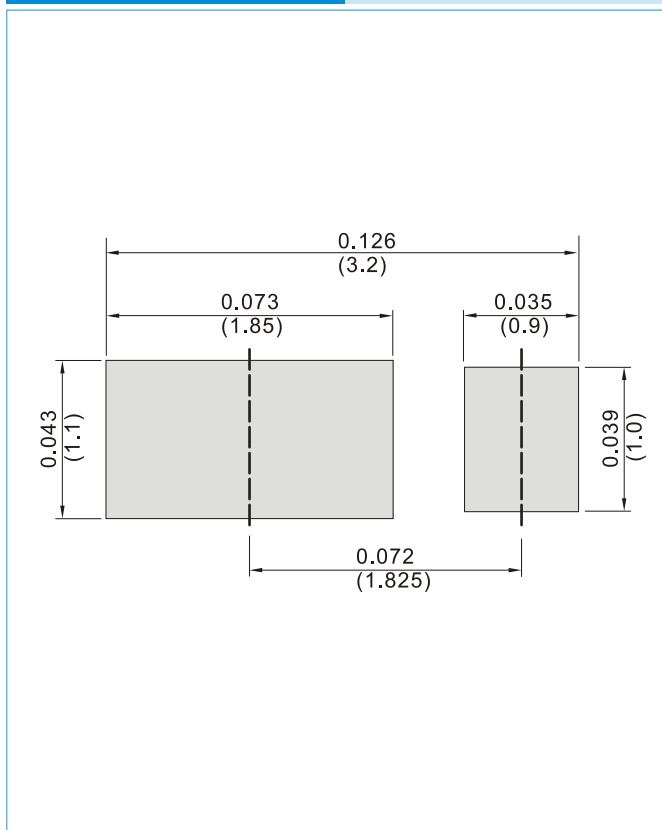
### PART NO PACKING CODE VERSION

| Part No Packing Code   | Package Type | Packing Type | Marking   | Version      |
|------------------------|--------------|--------------|-----------|--------------|
| PZS51xxxCH-AU_R1_000A1 | SOD-323HE    | 5K / 7" Reel | See Table | Halogen Free |

### MOUNTING PAD LAYOUT

**SOD-323HE**

Unit : inch(mm)





## **PZS513V9BCH-AU ~ PZS5143BCH-AU Series**

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