

## PZS51A3V9CS ~ PZS51A43CS Series

### SILICON ZENER DIODE

**Voltage**

**3.9~43 V**

**Power**

**200 mW**

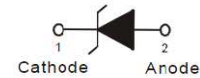
#### Features

- Planar Die construction
- 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

- Case : SOD-323 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.00014 ounces, 0.0041 grams

**SOD-323**



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

| PARAMETER                                                | SYMBOL                | LIMIT   | UNITS              |
|----------------------------------------------------------|-----------------------|---------|--------------------|
| Peak Pulse Power Dissipation at $T_A = 25^\circ\text{C}$ | $P_D^{(1)}$           | 200     | mW                 |
| Typical Thermal Resistance Junction to Ambient           | $R_{\theta JA}^{(2)}$ | 650     | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range                     | $T_J$                 | -55~150 | $^\circ\text{C}$   |
| Storage Temperature Range                                | $T_{STG}$             | -55~150 | $^\circ\text{C}$   |



## PZS51A3V9CS ~ PZS51A43CS Series

**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    |                 |
| PZS51A3V9CS    | 3.9                             | 3.82  | 3.98  | 0.05 | 5                              | 2    | ACH             |
| PZS51A4V3CS    | 4.3                             | 4.21  | 4.39  | 0.05 | 4                              | 2    | BCH             |
| PZS51A4V7CS    | 4.7                             | 4.61  | 4.79  | 0.05 | 10                             | 3    | CCH             |
| PZS51A5V1CS    | 5.1                             | 5.00  | 5.20  | 0.05 | 10                             | 3    | DCH             |
| PZS51A5V3CS    | 5.3                             | 5.19  | 5.41  | 0.05 | 10                             | 4    | ECH             |
| PZS51A5V6CS    | 5.6                             | 5.49  | 5.71  | 0.05 | 7                              | 4.2  | FCH             |
| PZS51A6V2CS    | 6.2                             | 6.08  | 6.32  | 0.05 | 10                             | 5    | HCH             |
| PZS51A6V8CS    | 6.8                             | 6.66  | 6.94  | 0.05 | 10                             | 5.1  | ICH             |
| PZS51A7V5CS    | 7.5                             | 7.35  | 7.65  | 0.05 | 10                             | 5.7  | JCH             |
| PZS51A8V2CS    | 8.2                             | 8.04  | 8.36  | 0.05 | 1                              | 6.2  | KCH             |
| PZS51A8V7CS    | 8.7                             | 8.53  | 8.87  | 0.05 | 1                              | 6.6  | LCH             |
| PZS51A9V1CS    | 9.1                             | 8.92  | 9.28  | 0.05 | 1                              | 6.9  | MCH             |
| PZS51A10CS     | 10                              | 9.80  | 10.20 | 0.05 | 1                              | 7.6  | NCH             |
| PZS51A11CS     | 11                              | 10.78 | 11.22 | 0.05 | 0.05                           | 8.4  | PCH             |
| PZS51A12CS     | 12                              | 11.76 | 12.24 | 0.05 | 0.05                           | 9.1  | RCH             |
| PZS51A13CS     | 13                              | 12.74 | 13.26 | 0.05 | 0.05                           | 9.8  | SCH             |
| PZS51A14CS     | 14                              | 13.72 | 14.28 | 0.05 | 0.05                           | 10.6 | TCH             |
| PZS51A15CS     | 15                              | 14.70 | 15.30 | 0.05 | 0.05                           | 11.4 | UCH             |
| PZS51A16CS     | 16                              | 15.68 | 16.32 | 0.05 | 0.05                           | 12.1 | VCH             |
| PZS51A17CS     | 17                              | 16.66 | 17.34 | 0.05 | 0.05                           | 12.9 | WCH             |
| PZS51A18CS     | 18                              | 17.64 | 18.36 | 0.05 | 0.05                           | 13.6 | XCH             |
| PZS51A19CS     | 19                              | 18.62 | 19.38 | 0.05 | 0.05                           | 14.4 | YCH             |
| PZS51A20CS     | 20                              | 19.60 | 20.40 | 0.05 | 0.01                           | 15.2 | ZCH             |
| PZS51A22CS     | 22                              | 21.56 | 22.44 | 0.05 | 0.01                           | 16.7 | 2CH             |
| PZS51A24CS     | 24                              | 23.52 | 24.48 | 0.05 | 0.01                           | 18.2 | 3CH             |
| PZS51A25CS     | 25                              | 24.50 | 25.50 | 0.05 | 0.01                           | 19   | 4CH             |
| PZS51A27CS     | 27                              | 26.46 | 27.54 | 0.05 | 0.01                           | 20.4 | 6CH             |
| PZS51A28CS     | 28                              | 27.44 | 28.56 | 0.05 | 0.01                           | 21.2 | 7CH             |
| PZS51A30CS     | 30                              | 29.40 | 30.60 | 0.05 | 0.01                           | 22.8 | 9CH             |



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| 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    |                 |
| PZS51A33CS     | 33                              | 32.34 | 33.66 | 0.05 | 0.01                           | 25   | AEH             |
| PZS51A36CS     | 36                              | 35.28 | 36.72 | 0.05 | 0.01                           | 27.3 | BEH             |
| PZS51A39CS     | 39                              | 38.22 | 39.78 | 0.05 | 0.01                           | 29.6 | CEH             |
| PZS51A43CS     | 43                              | 42.14 | 43.86 | 0.05 | 0.01                           | 32.6 | DEH             |

**NOTES :**

1. Mounted on a FR-4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area
2. Mounted on a FR4 PCB, single-sided copper, standard footprint

## PZS51A3V9CS ~ PZS51A43CS Series

### TYPICAL CHARACTERISTIC CURVES

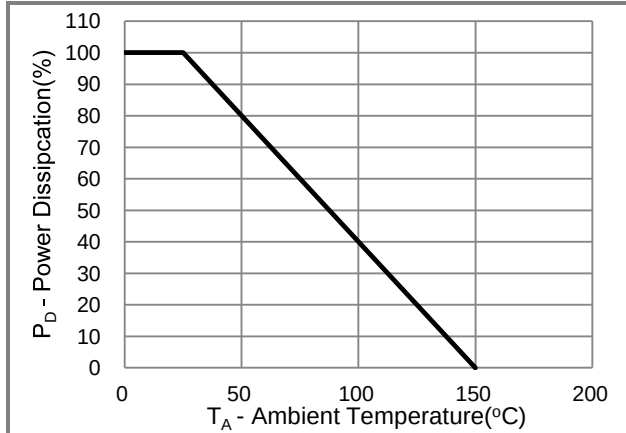


Fig.1 Power Rating Curve

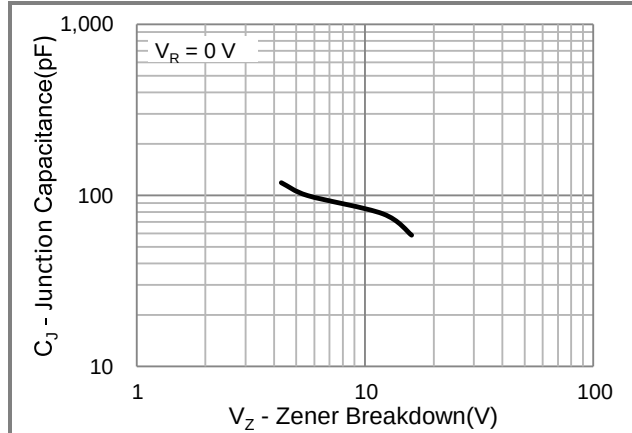


Fig.2 Typical Junction Capacitance

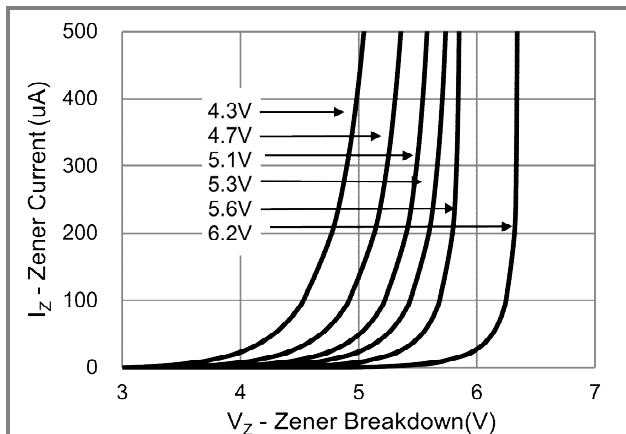


Fig.3 Typical Zener Breakdown

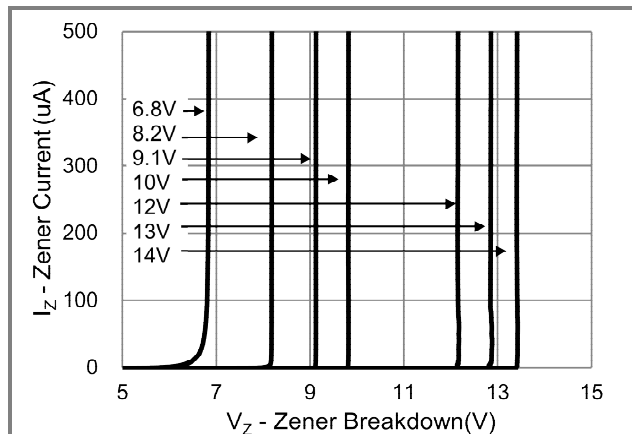


Fig.4 Typical Zener Breakdown

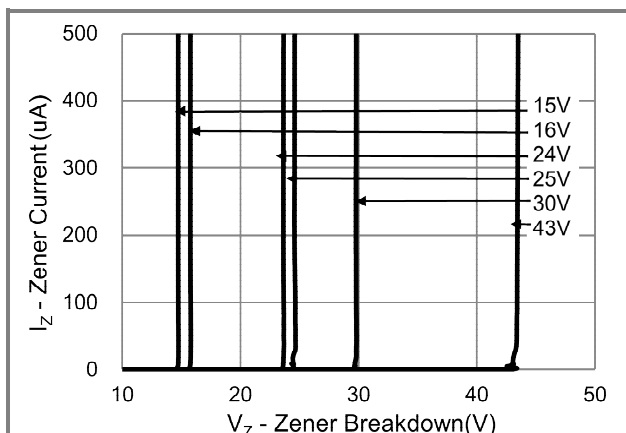


Fig.5 Typical Zener Breakdown

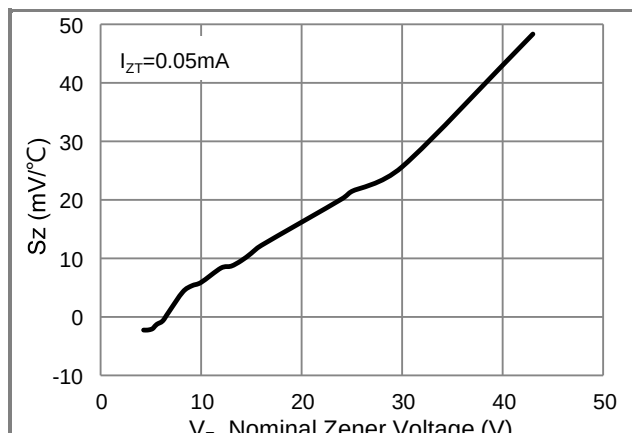


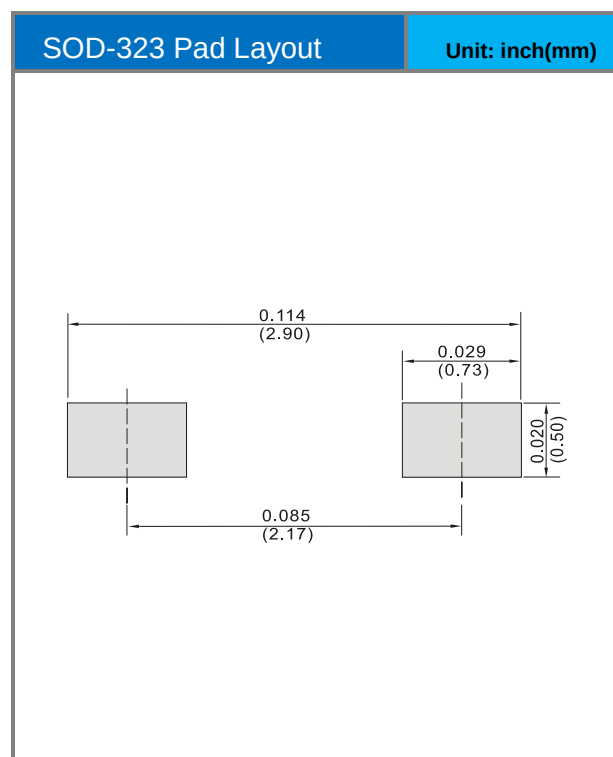
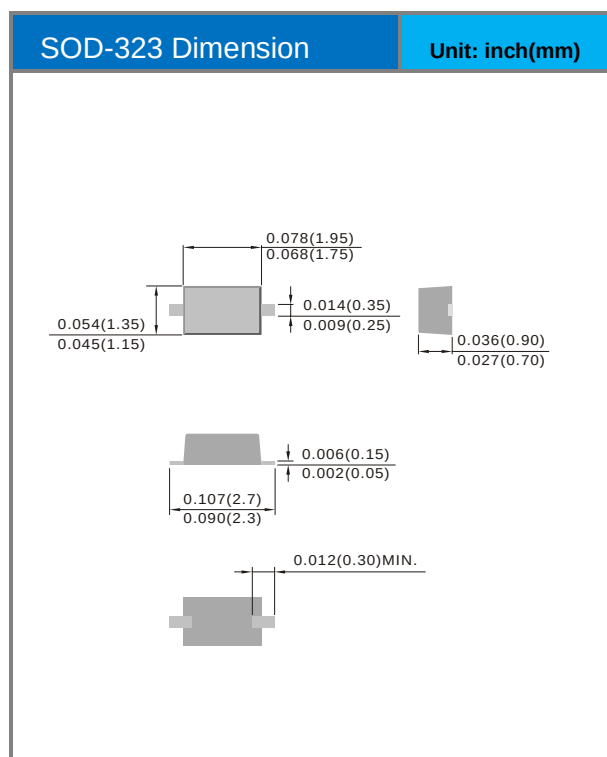
Fig.6 Typical Temperature Coefficient

## PZS51A3V9CS ~ PZS51A43CS Series

Part No. Packing Code Version

| Part No. Packing Code | Package Type | Packing Type | Marking   | Version      |
|-----------------------|--------------|--------------|-----------|--------------|
| PZS51AxxxCS_R1_00001  | SOD-323      | 5K / 7" Reel | See Table | Halogen free |

### Packaging Information & Mounting Pad Layout





## **PZS51A3V9CS ~ PZS51A43CS Series**

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