

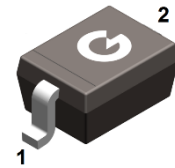
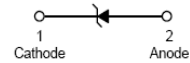
## Features

- Ultra low-profile package well suited for automated assembly
- Moisture sensitivity level 1

HF

## Mechanical Data

- Case: SOD-323
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



SOD-323

## Ordering Information

| Part Number | Package | Shipping Quantity      | Marking Code |
|-------------|---------|------------------------|--------------|
| PDZ22B      | SOD-323 | 3000 pcs / Tape & Reel | ZP           |

## Thermal Characteristics

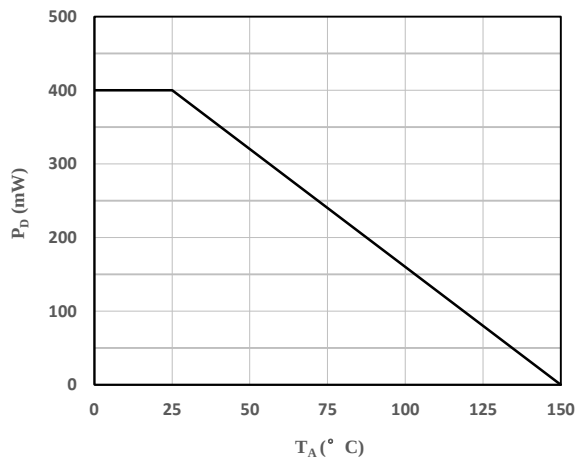
| Parameter                            | Symbol           | Value      | Unit |
|--------------------------------------|------------------|------------|------|
| Power Dissipation <sup>*1</sup>      | P <sub>D</sub>   | 400        | mW   |
| Continuous Forward Current           | I <sub>F</sub>   | 200        | mA   |
| Thermal Resistance Junction-to-Air   | R <sub>θJA</sub> | 312        | °C/W |
| Thermal Resistance Junction-to-Case  | R <sub>θJC</sub> | 166        | °C/W |
| Thermal Resistance Junction-to-Lead  | R <sub>θJL</sub> | 135        | °C/W |
| Operating Junction Temperature Range | T <sub>J</sub>   | -55 ~ +150 | °C   |
| Storage Temperature Range            | T <sub>STG</sub> | -65 ~ +150 | °C   |

Note 1: Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

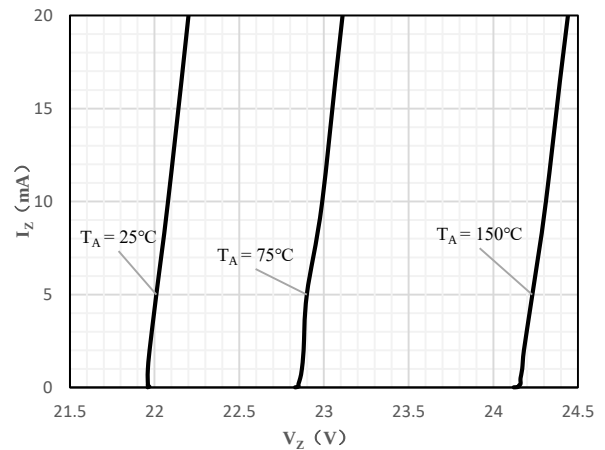
## Electrical Characteristics (@ T<sub>A</sub> = 25°C unless otherwise specified)

| Parameter               | Symbol          | Test Condition                 | Min.  | Typ. | Max.  | Unit  |
|-------------------------|-----------------|--------------------------------|-------|------|-------|-------|
| Zener Voltage           | V <sub>Z</sub>  | I <sub>ZT</sub> = 5mA          | 21.54 | -    | 22.47 | V     |
| Forward Voltage         | V <sub>F</sub>  | I <sub>F</sub> = 10mA          | -     | -    | 0.9   | V     |
|                         |                 | I <sub>F</sub> = 100mA         | -     | -    | 1.1   | V     |
| Maximum Reverse Current | I <sub>R</sub>  | V <sub>R</sub> = 17V           | -     | -    | 0.05  | μA    |
| Maximum Zener Impedance | Z <sub>ZT</sub> | I <sub>ZT</sub> = 5mA          | -     | -    | 25    | Ω     |
| Maximum Zener Impedance | Z <sub>ZK</sub> | I <sub>ZK</sub> = 0.5mA        | -     | -    | 100   | Ω     |
| Temperature Coefficient | T <sub>C</sub>  | I <sub>ZT</sub> = 5mA          | -     | 18.4 | -     | mV/°C |
| Diode Capacitance       | C <sub>J</sub>  | V <sub>R</sub> = 0V, f = 1 MHz | -     | -    | 84    | pF    |

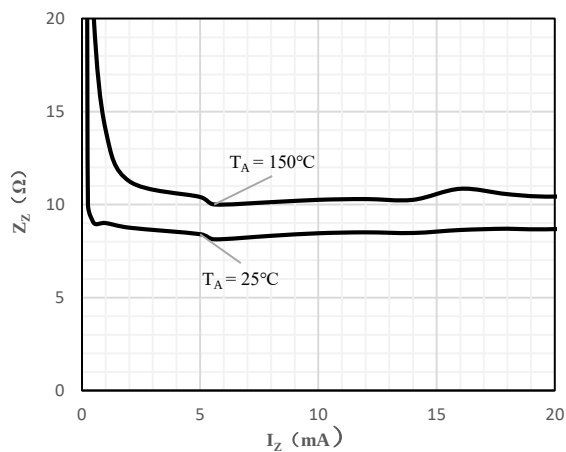
**TYPICAL CHARACTERISTICS** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)



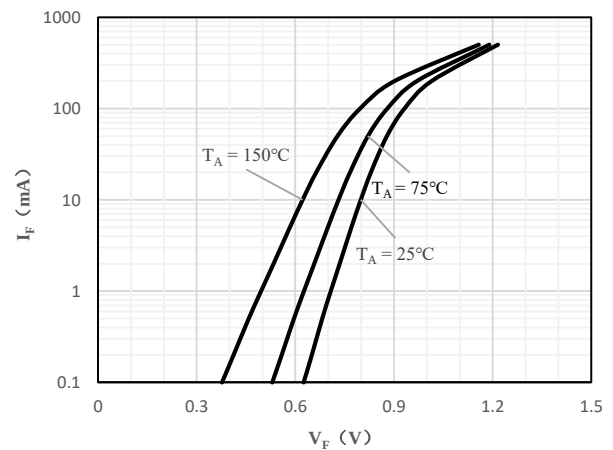
**Fig 1 Steady State Power Derating**



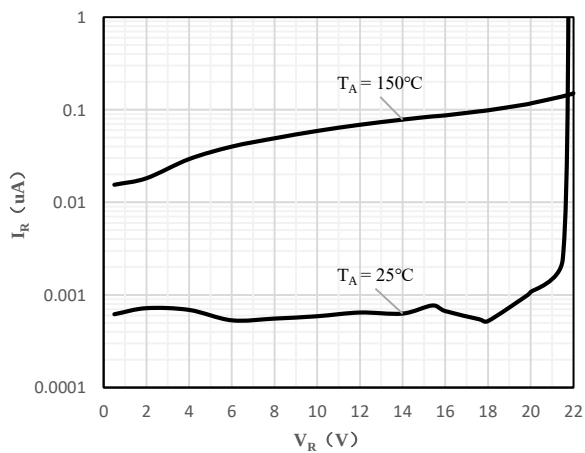
**Fig 2 Typical Zener Breakdown Characteristics**



**Fig 3 Zener Impedance vs. Zener Current**

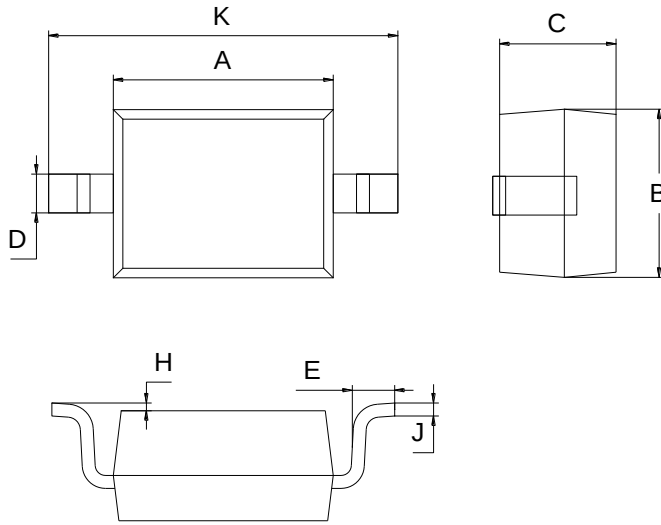


**Fig 4 Typical Forward Characteristics**



**Fig 5 Typical Reverse Characteristics**

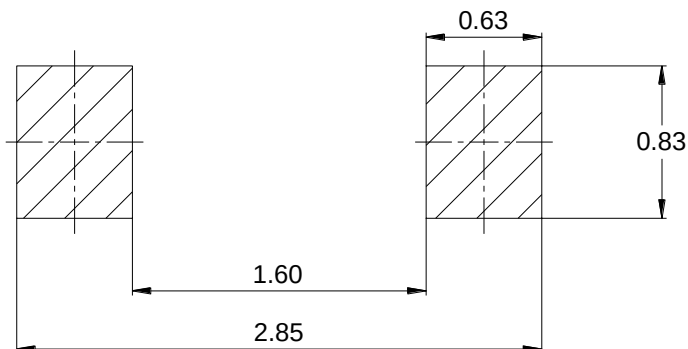
## Package Outline Dimensions (Unit: mm)



| SOD-323   |      |      |
|-----------|------|------|
| Dimension | Min. | Max. |
| A         | 1.60 | 1.80 |
| B         | 1.20 | 1.40 |
| C         | 0.80 | 0.90 |
| D         | 0.25 | 0.35 |
| E         | 0.22 | 0.42 |
| H         | 0.02 | 0.10 |
| J         | 0.05 | 0.15 |
| K         | 2.55 | 2.75 |

## Mounting Pad Layout (Unit: mm)

### SOD-323



## Important Notice

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