

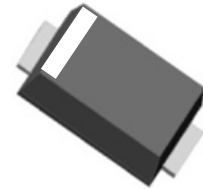
## Small Signal Zener Diode

### Features and Benefits

- Silicon planar power Zener diode
- Low Zener impedance and low leakage current
- High reliability and very high stability
- “Green” device and RoHS compliant device

### Applications

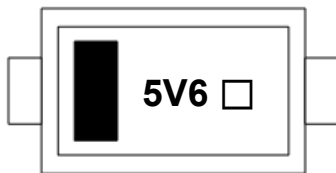
- Constant voltage regulation
- Reference voltage application


**SOD-123**


### Ordering Information

| Part Number    | Marking Code | Package        | Packaging              |
|----------------|--------------|----------------|------------------------|
| <b>SDZ5V6G</b> | <b>5V6 □</b> | <b>SOD-123</b> | <b>Tape &amp; Reel</b> |

### Marking Information

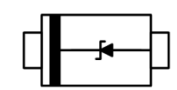


**5V6 = Specific Device Code**

**□ = Year & Week Code Marking**

**■ = Color band denote cathode**

### Pinning Information

| Pin      | Description    | Simplified Outline                                                                   | Graphic Symbol                                                                        |
|----------|----------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>1</b> | <b>Cathode</b> |  |  |
| <b>2</b> | <b>Anode</b>   |                                                                                      |                                                                                       |

### Absolute Maximum Ratings (T<sub>amb</sub>=25°C, Unless otherwise specified)

| Characteristic                  | Symbol           | Ratings         | Unit |
|---------------------------------|------------------|-----------------|------|
| Power dissipation <sup>1)</sup> | P <sub>D</sub>   | 500             | mW   |
| Operating junction temperature  | T <sub>J</sub>   | 150             | °C   |
| Storage temperature range       | T <sub>stg</sub> | -55°C to +150°C | °C   |

<sup>1)</sup> Device mounted on FR4 PCB, Single Side Copper, Mounting Pad for 2.5x2.5 mm.

**Electrical Characteristics** ( $T_{amb}=25^{\circ}\text{C}$ , Unless otherwise specified)

| Device  | Marking Info. | $V_Z$      |       |       | $Z_{ZT}$ |            | $Z_{ZK}$ |            | $I_R$         |         |
|---------|---------------|------------|-------|-------|----------|------------|----------|------------|---------------|---------|
|         |               | @ $I_{ZT}$ | Min   | Max   | Max      | @ $I_{ZT}$ | Max      | @ $I_{ZK}$ | Max           | @ $V_R$ |
|         |               | mA         | V     |       | $\Omega$ | mA         | $\Omega$ | mA         | $\mu\text{A}$ | V       |
| SDZ3V0G | 3V0           | 20         | 2.85  | 3.15  | 29       | 20         | 1600     | 0.25       | 50            | 1.0     |
| SDZ3V3G | 3V3           | 20         | 3.14  | 3.50  | 28       | 20         | 1600     | 1.0        | 25            | 1.0     |
| SDZ3V6G | 3V6           | 20         | 3.42  | 3.78  | 24       | 20         | 1700     | 0.25       | 15            | 1.0     |
| SDZ3V9G | 3V9           | 20         | 3.71  | 4.10  | 23       | 20         | 1900     | 0.25       | 5             | 1.0     |
| SDZ5V1G | 5V1           | 20         | 4.94  | 5.20  | 17       | 20         | 1600     | 0.25       | 5             | 1.5     |
| SDZ5V6G | 5V6           | 20         | 5.45  | 5.73  | 40       | 20         | 500      | 1.0        | 5             | 2.5     |
| SDZ6V2G | 6V2           | 20         | 6.08  | 6.35  | 7        | 20         | 1600     | 0.25       | 5             | 4.0     |
| SDZ6V8G | 6V8           | 20         | 6.66  | 7.01  | 15       | 20         | 75       | 1.0        | 1.8           | 4.0     |
| SDZ7V5G | 7V5           | 20         | 7.29  | 7.67  | 6        | 20         | 500      | 0.25       | 3             | 6.0     |
| SDZ8V2G | 8V2           | 20         | 8.04  | 8.40  | 15       | 20         | 120      | 1.0        | 0.7           | 5.0     |
| SDZ9V1G | 9V1           | 20         | 8.85  | 9.28  | 10       | 20         | 600      | 0.25       | 3             | 7.0     |
| SDZ12VG | 12V           | 10         | 11.44 | 12.24 | 25       | 10         | 150      | 1.0        | 0.2           | 9.0     |
| SDZ13VG | 13V           | 10         | 12.70 | 13.30 | 30       | 10         | 160      | 1.0        | 0.2           | 10.0    |
| SDZ15VG | 15V           | 8.5        | 14.25 | 15.75 | 16       | 8.5        | 600      | 0.25       | 0.1           | 11.0    |
| SDZ16VG | 16V           | 10         | 15.64 | 16.38 | 40       | 10         | 188      | 1.0        | 0.2           | 12.0    |
| SDZ18VG | 18V           | 7.0        | 16.80 | 19.10 | 21       | 7.0        | 600      | 0.25       | 0.1           | 14.0    |
| SDZ20VG | 20V           | 6.2        | 19.00 | 21.00 | 25       | 6.2        | 600      | 0.25       | 0.1           | 15.0    |
| SDZ24VG | 24V           | 5.2        | 22.80 | 25.20 | 33       | 5.2        | 600      | 0.25       | 0.1           | 18.0    |
| SDZ28VG | 28V           | 4.5        | 26.60 | 29.40 | 44       | 4.5        | 600      | 0.25       | 0.1           | 21.0    |
| SDZ30VG | 30V           | 4.2        | 28.50 | 31.50 | 49       | 4.2        | 600      | 0.25       | 0.1           | 23.0    |
| SDZ33VG | 33V           | 3.8        | 31.35 | 34.65 | 58       | 3.8        | 700      | 0.25       | 0.1           | 25.0    |
| SDZ36VG | 36V           | 3.4        | 34.2  | 37.8  | 70       | 3.4        | 700      | 0.25       | 0.1           | 27.0    |

## Rating and Characteristic Curves

Fig. 1) Typical Zener Characteristics

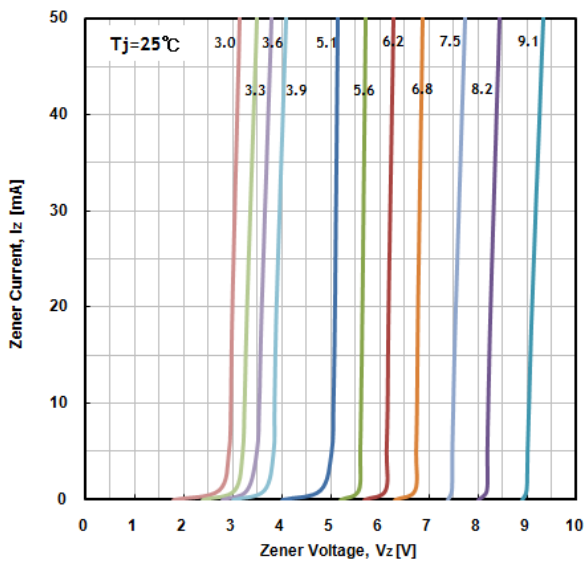


Fig. 2) Typical Zener Characteristics

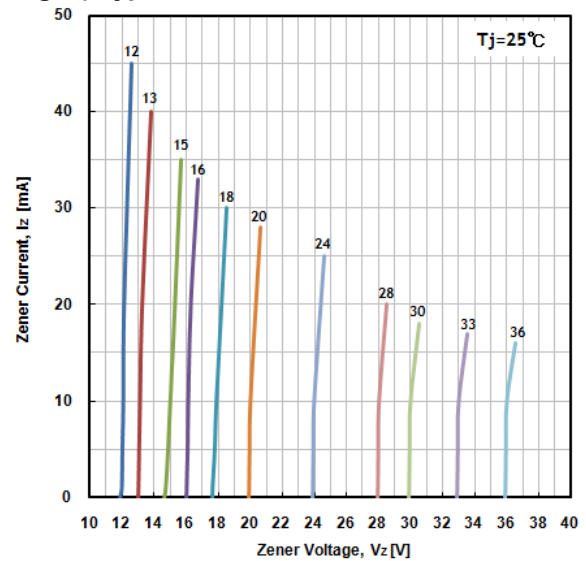


Fig. 3) Typical Forward Characteristics

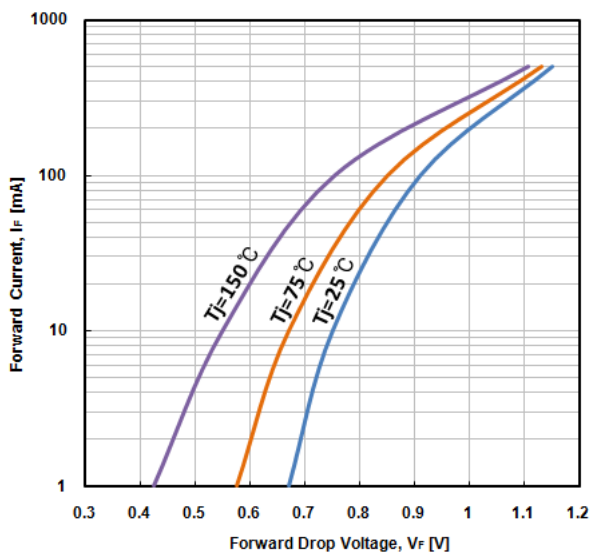


Fig. 4) Power Dissipation vs. Ambient Temperature

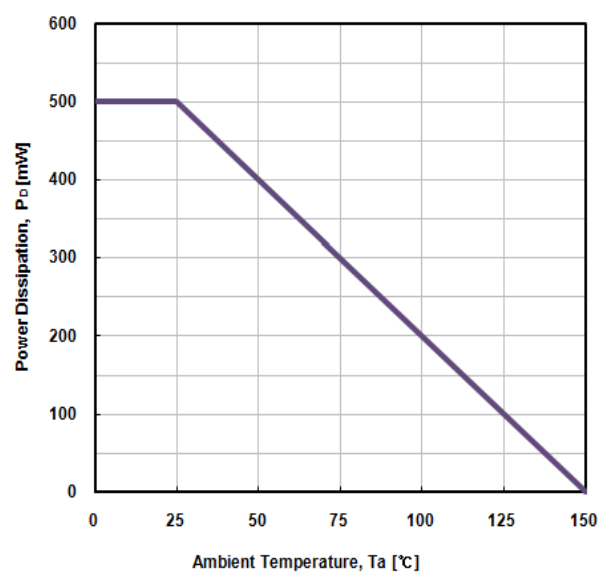
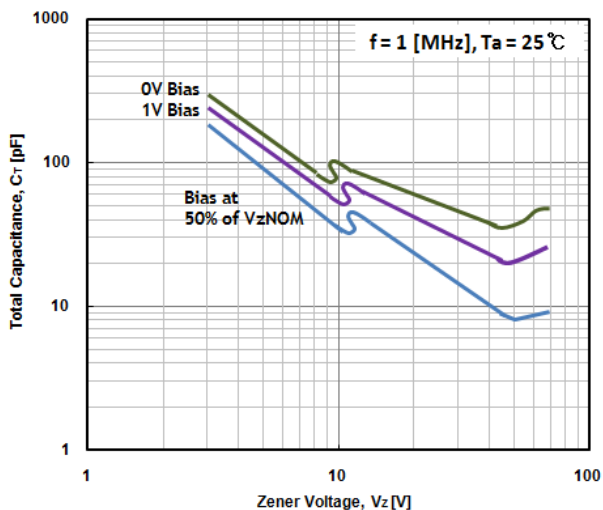
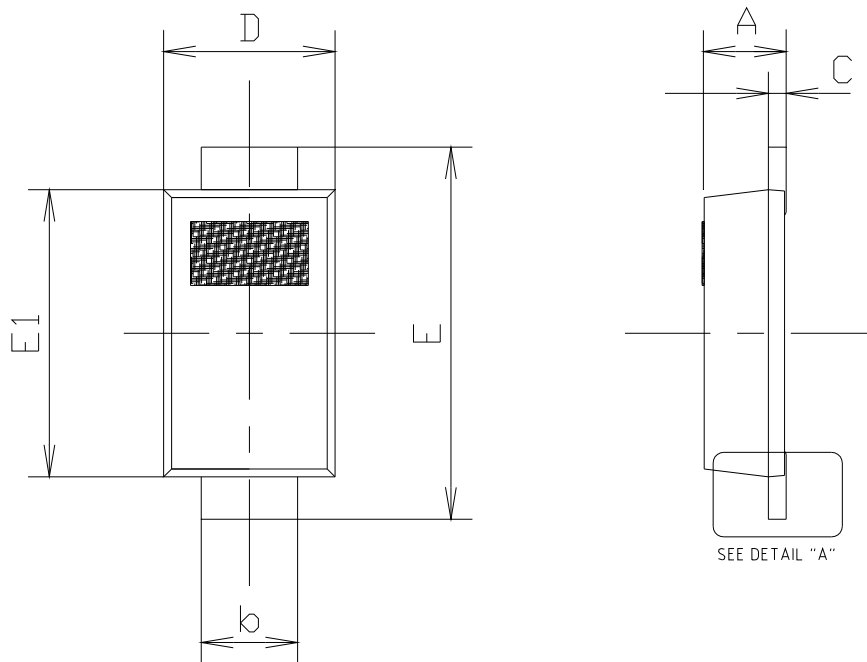


Fig. 5) Typical Capacitance Characteristics

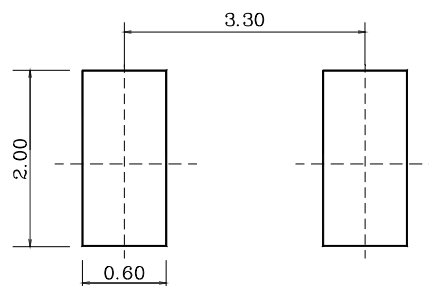


## Package Outline Dimensions



| SYMBOL | MILLIMETERS |         |         | NOTE |
|--------|-------------|---------|---------|------|
|        | MINIMUM     | NOMINAL | MAXIMUM |      |
| A      | 0.70        | 0.85    | 1.00    |      |
| b      | 0.50        | 0.75    | 1.00    |      |
| c      | 0.12        | 0.16    | 0.20    |      |
| D      | 1.50        | 1.60    | 1.70    |      |
| E      | 3.30        | 3.50    | 3.70    |      |
| E1     | 2.50        | 2.65    | 2.80    |      |

※ Recommend PCB solder land (Unit : mm)



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