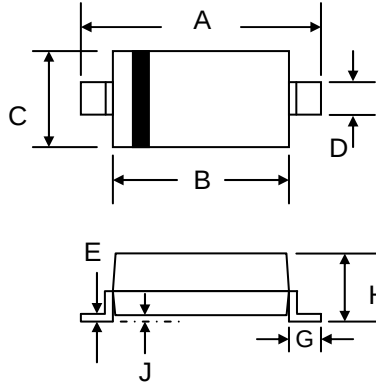


### Features

- Very Low Forward Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Designed for Surface Mount Application
- Plastic Material – UL Recognition Flammability Classification 94V-O



| SOD-123              |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 3.6  | 3.9  |
| B                    | 2.5  | 2.8  |
| C                    | 1.4  | 1.8  |
| D                    | 0.5  | 0.7  |
| E                    | —    | 0.2  |
| G                    | 0.4  | —    |
| H                    | 0.95 | 1.35 |
| J                    | —    | 0.12 |
| All Dimensions in mm |      |      |

### Mechanical Data

- Case: SOD-123, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.01 grams (approx.)
- Marking: Device Code, See Page 3
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 4**

### Maximum Ratings @T<sub>A</sub>=25°C unless otherwise specified

| Characteristic                                                                                                     | Symbol                                                 | SS0520      | SS0530 | SS0540 | Unit |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------|--------|--------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                             | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 20          | 30     | 40     | V    |
| Forward Continuous Current (Note 1)                                                                                | I <sub>F</sub>                                         | 500         |        |        | mA   |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>                                       | 5.5         |        |        | A    |
| Thermal Resistance, Junction to Ambient (Note 1)                                                                   | R <sub>θJA</sub>                                       | 206         |        |        | °C/W |
| Operating and Storage Temperature Range                                                                            | T <sub>J</sub> , T <sub>STG</sub>                      | -65 to +125 |        |        | °C   |

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

| Characteristic                                                                | Symbol          | SS0520      | SS0530       | SS0540   | Unit |
|-------------------------------------------------------------------------------|-----------------|-------------|--------------|----------|------|
| Forward Voltage Drop @I <sub>F</sub> = 0.1A / 0.5A                            | V <sub>FM</sub> | 0.3 / 0.385 | 0.375 / 0.43 | — / 0.51 | V    |
| Peak Reverse Leakage Current @V <sub>R</sub> = 50% / 100% DC Blocking Voltage | I <sub>RM</sub> | 75 / 250    | 20 / 130     | 10 / 20  | μA   |
| Typical Junction Capacitance (V <sub>R</sub> = 0V DC, f = 1MHz)               | C <sub>j</sub>  | 170         |              |          | pF   |

Note: 1. Mounted on FR-4 PCB with 645mm<sup>2</sup> pad size.

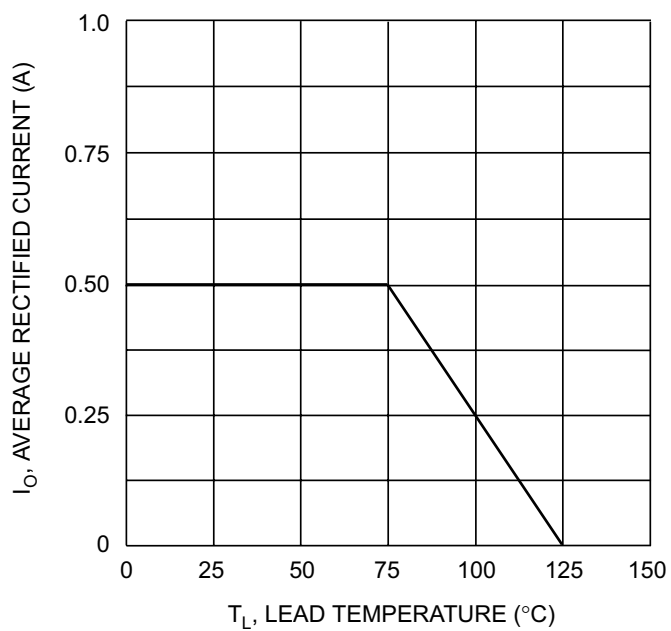


Fig. 1 Forward Current Derating Curve

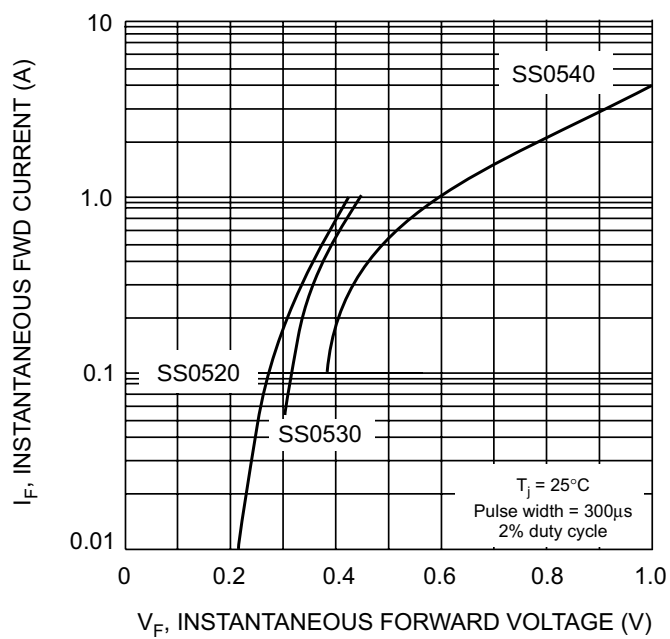


Fig. 2 Typical Forward Characteristics

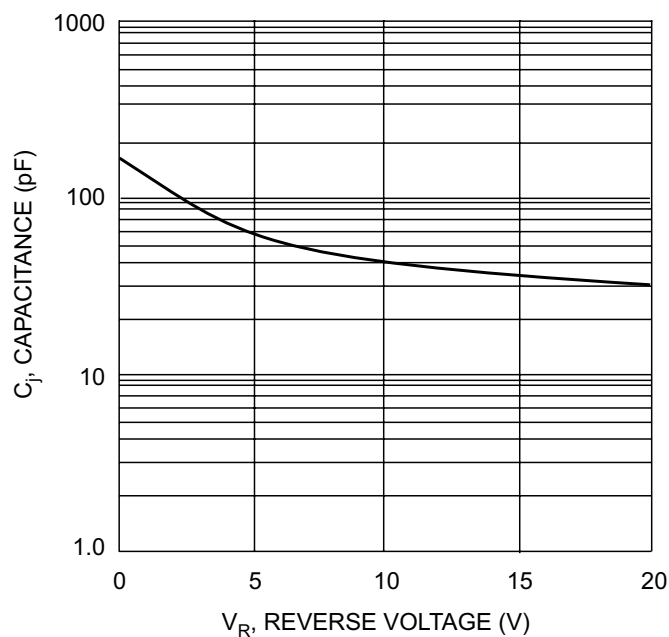


Fig. 3 Typ. Junction Capacitance vs Reverse Voltage

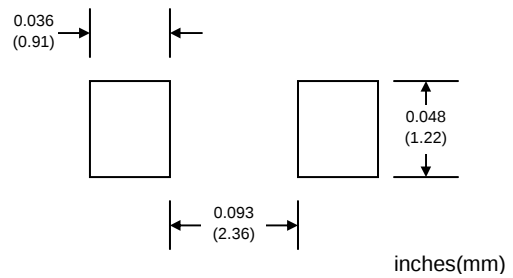
## MARKING INFORMATION



xx = Device Code, See Table Below

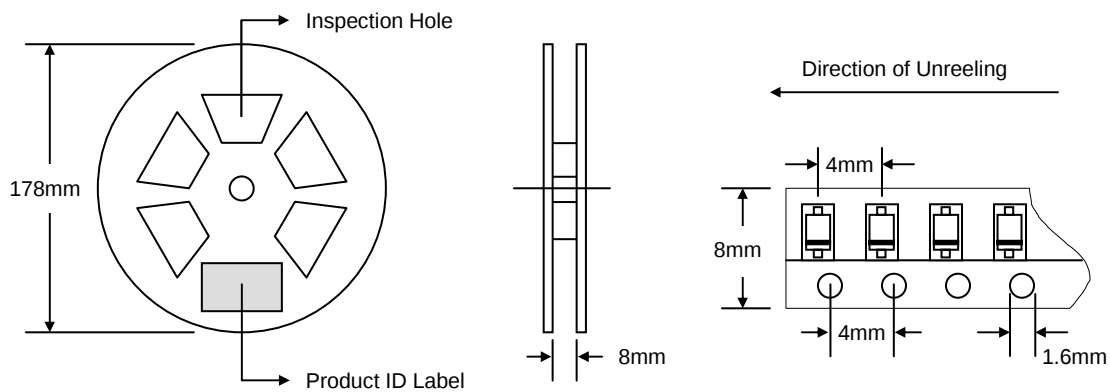
| Mfg Site | SS0520 | SS0530 | SS0540 |
|----------|--------|--------|--------|
| TW Plant | B2     | B3     | B4     |
| CN Plant | SD     | SE     | SF     |

## RECOMMENDED FOOTPRINT



## PACKAGING INFORMATION

### TAPE & REEL



| Reel Diameter (mm) | Quantity (PCS) | Inner Box Size L x W x H (mm) | Quantity (PCS) | Carton Size L x W x H (mm) | Quantity (PCS) | Approx. Gross Weight (KG) |
|--------------------|----------------|-------------------------------|----------------|----------------------------|----------------|---------------------------|
| 178                | 3,000          | 187 x 187 x 65                | 15,000         | 390 x 240 x 420            | 150,000        | 10.0                      |

**Note:** 1. Anti-static plastic reel, white, water clear or blue color. Inspection hole might be varied in different alignment.  
2. Components are packed in accordance with EIA standard 481-1 and 481-2.

## ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
|-------------|--------------|-------------------|
| SS0520-T1   | SOD-123      | 3000/Tape & Reel  |
| SS0530-T1   | SOD-123      | 3000/Tape & Reel  |
| SS0540-T1   | SOD-123      | 3000/Tape & Reel  |

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, SS0520-T1-LF.**

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