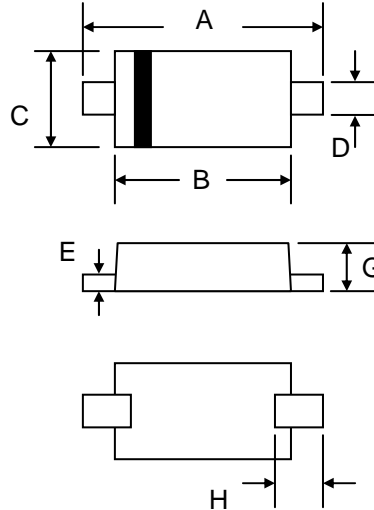


### Features

- Low Turn-On Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Designed for Surface Mount Application
- Plastic Material – UL Recognition Flammability Classification 94V-0



| SOD-123FL            |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 3.30 | 3.70 |
| B                    | 2.60 | 2.95 |
| C                    | 1.65 | 1.95 |
| D                    | 0.75 | 1.35 |
| E                    | 0.10 | 0.20 |
| G                    | 0.98 | 1.08 |
| H                    | 0.50 | 0.80 |
| All Dimensions in mm |      |      |

### Mechanical Data

- Case: SOD-123FL, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.017 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 @ $T_A=25^\circ\text{C}$ unless otherwise specified

| Characteristic  | Symbol                          | SS2020FL    | SS2030FL | SS2040FL | SS2060FL | SS20100FL | Unit                      |
|---|---------------------------------|-------------|----------|----------|----------|-----------|---------------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 20          | 30       | 40       | 60       | 100       | V                         |
| Forward Continuous Current (Note 1)   | $I_F$                           | 2.0         |          |          |          |           | A                         |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single Half Sine-Wave Superimposed on<br>Rated Load (JEDEC Method) | $I_{FSM}$                       | 50          |          |          |          |           | A                         |
| Thermal Resistance, Junction to Lead (Note 2)<br>Thermal Resistance, Junction to Ambient (Note 1)                     | $R_{JL}$<br>$R_{JA}$            | 26<br>85    |          |          |          |           | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range   | $T_J$                           | -55 to +125 |          |          |          |           | $^\circ\text{C}$          |
| Storage Temperature Range   | $T_{STG}$                       | -55 to +150 |          |          |          |           | $^\circ\text{C}$          |

### Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

| Characteristic                                     | Symbol   | SS2020FL | SS2030FL | SS2040FL | SS2060FL | SS20100FL | Unit          |
|--|----------|----------|----------|----------|----------|-----------|---------------|
| Maximum Forward Voltage Drop @ $I_F = 2.0\text{A}$ | $V_{FM}$ | 0.52     | 0.55     |          | 0.70     | 0.85      | V             |
| Peak Reverse Leakage Current @ $V_{RRM}$           | $I_{RM}$ | 100      |          |          |          |           | $\mu\text{A}$ |
| Typical Junction Capacitance (Note 3)              | $C_J$    | 60       |          |          | 50       | 40        | pF            |

- Note: 1. Mounted on FR-4 PCB with 645mm<sup>2</sup> pad size.  
 2. Mounted on FR-4 PCB with minimum recommended pad size.  
 3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

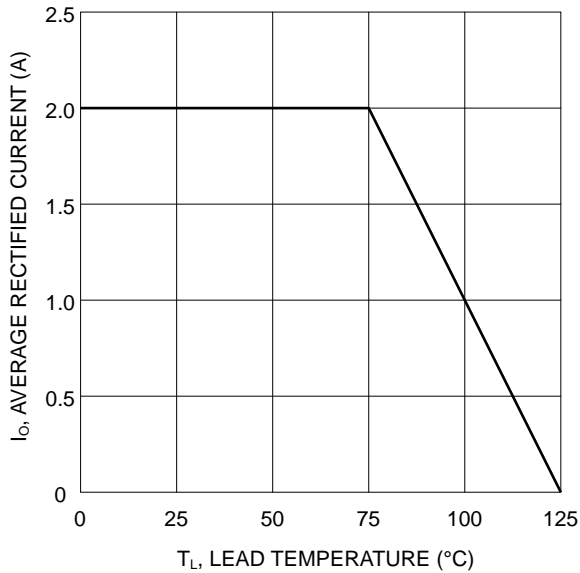


Fig. 1 Forward Current Derating Curve

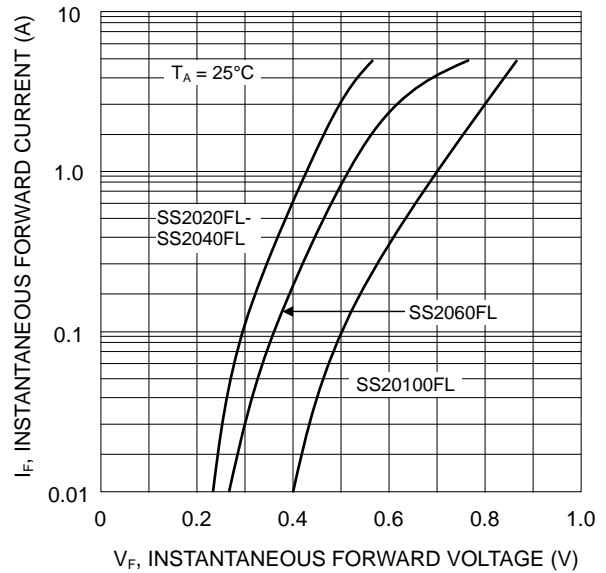


Fig. 2 Typical Forward Characteristics

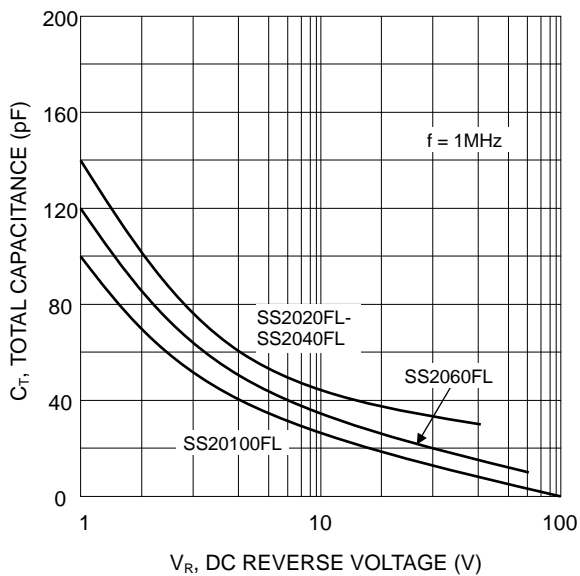


Fig. 3 Total Capacitance vs. Reverse Voltage

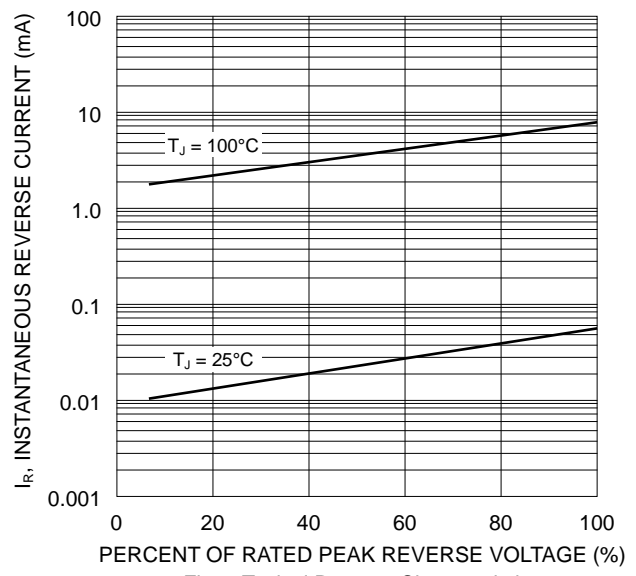


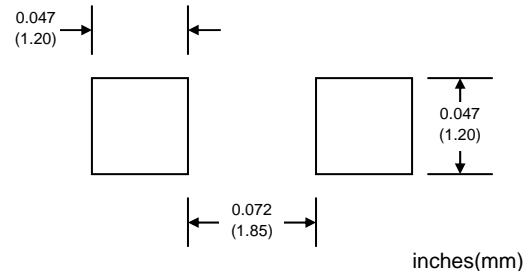
Fig. 4 Typical Reverse Characteristics

## MARKING INFORMATION



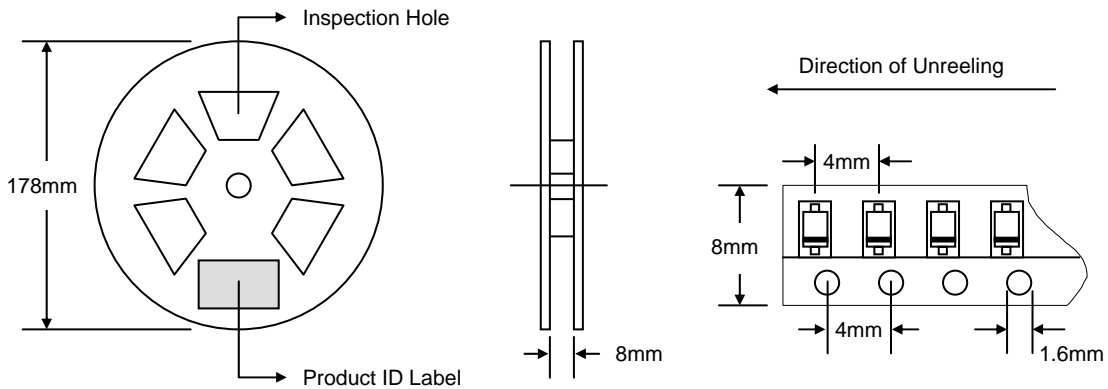
Cathode = Polarity Band  
 GM = SS2020FL  
 GN = SS2030FL  
 GP = SS2040FL  
 GQ = SS2060FL  
 GR = SS20100FL

## 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          | 195 x 135 x 195               | 30,000         | 370 x 370 x 420            | 240,000        | 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 |
|--------------|--------------|-------------------|
| SS2020FL-T1  | SOD-123FL    | 3000/Tape & Reel  |
| SS2030FL-T1  | SOD-123FL    | 3000/Tape & Reel  |
| SS2040FL-T1  | SOD-123FL    | 3000/Tape & Reel  |
| SS2060FL-T1  | SOD-123FL    | 3000/Tape & Reel  |
| SS20100FL-T1 | SOD-123FL    | 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, SS2020FL-T1-LF.**

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**Internet:** <http://www.wontop.com>

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