

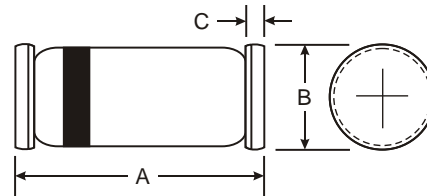
**NOT RECOMMENDED FOR NEW DESIGNS**  
**PLEASE USE SD103AW - SD103CW**

### Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Fast Reverse Recovery Time
- **Lead Free Finish, RoHS Compliant (Note 3)**

### Mechanical Data

- Case: MiniMELF
- Case Material: Glass. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish Sn97.5Ag2.5. Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Ordering Information: See Last Page
- Marking: Cathode Band Only
- Weight: 0.05 grams (approximate)



| MiniMELF             |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 3.30 | 3.70 |
| B                    | 1.30 | 1.60 |
| C                    | 0.28 | 0.50 |
| All Dimensions in mm |      |      |

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

| Characteristic  | Symbol              | LLSD103A    | LLSD103B | LLSD103C | Unit |
|---|---------------------|-------------|----------|----------|------|
| Peak Repetitive Reverse Voltage                                 | V <sub>RRM</sub>    | 40          | 30       | 20       | V    |
| Working Peak Reverse Voltage                                    | V <sub>RWM</sub>    |             |          |          |      |
| DC Blocking Voltage   | V <sub>R</sub>      |             |          |          |      |
| RMS Reverse Voltage   | V <sub>R(RMS)</sub> | 28          | 21       | 14       | V    |
| Forward Continuous Current (Note 1)                             | I <sub>FM</sub>     | 350         |          |          | mA   |
| Repetitive Peak Forward Current @ t = 1.0s                      | I <sub>FRM</sub>    | 1.0         |          |          | A    |
| Non-Repetitive Peak Forward Surge Current @ t = 1.0s @ t = 10ms | I <sub>FSM</sub>    | 1.5<br>7.5  |          |          | A    |
| Power Dissipation (Note 1)                                      | P <sub>d</sub>      | 400         |          |          | mW   |
| Thermal Resistance, Junction to Ambient Air (Note 1)            | R <sub>JA</sub>     | 250         |          |          | °C/W |
| Operating Temperature Range                                     | T <sub>j</sub>      | -55 to +125 |          |          | °C   |
| Storage Temperature Range                                       | T <sub>STG</sub>    | -55 to +150 |          |          | °C   |

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

| Characteristic                | Symbol          | Min | Typ | Max          | Unit | Test Condition  |
|-------------------------------|-----------------|-----|-----|--------------|------|---|
| Forward Voltage               | V <sub>F</sub>  |     |     | 0.37<br>0.60 | V    | I <sub>F</sub> = 20mA<br>I <sub>F</sub> = 200mA   |
| Peak Reverse Current (Note 2) | I <sub>R</sub>  |     |     | 5.0          | µA   | V <sub>R</sub> = 30V<br>V <sub>R</sub> = 20V<br>V <sub>R</sub> = 10V  |
| Total Capacitance             | C <sub>T</sub>  |     | 50  |              | pF   | V <sub>R</sub> = 0V, f = 1.0MHz   |
| Reverse Recovery Time         | t <sub>rr</sub> |     |     | 10           | ns   | I <sub>F</sub> = I <sub>R</sub> = 50mA to 200mA,<br>I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100 |

- Note: 1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
2. Short duration test pulse used to minimize self-heating effect.
3. EC Directive 2002/95/EC (RoHS) revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied where applicable, see EU Directive Annex Notes 5 and 7.

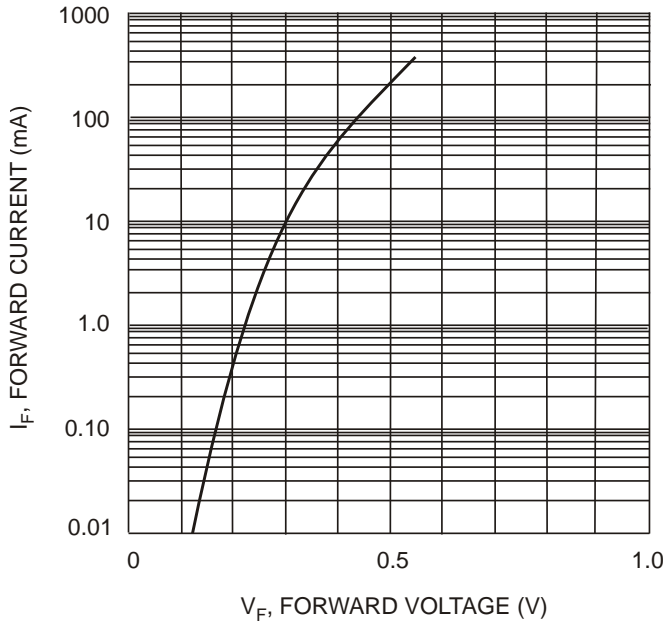


Fig. 1 Typical Forward Characteristics

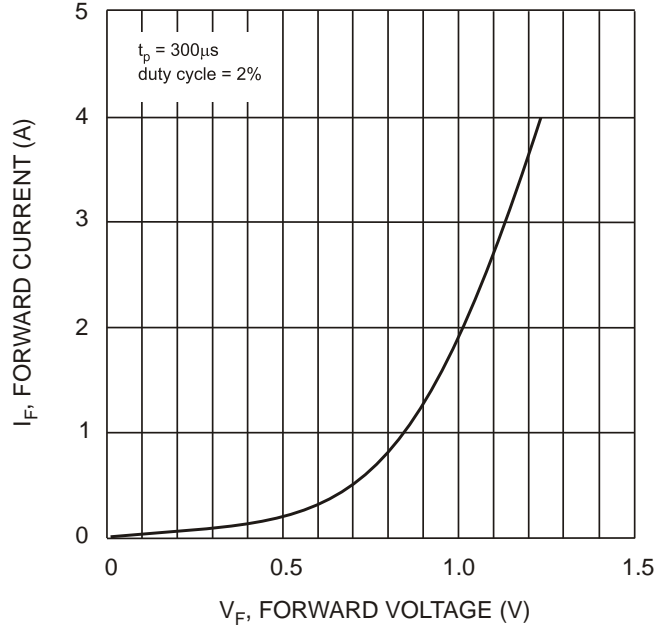


Fig. 2 Typical High Current Forward Characteristics

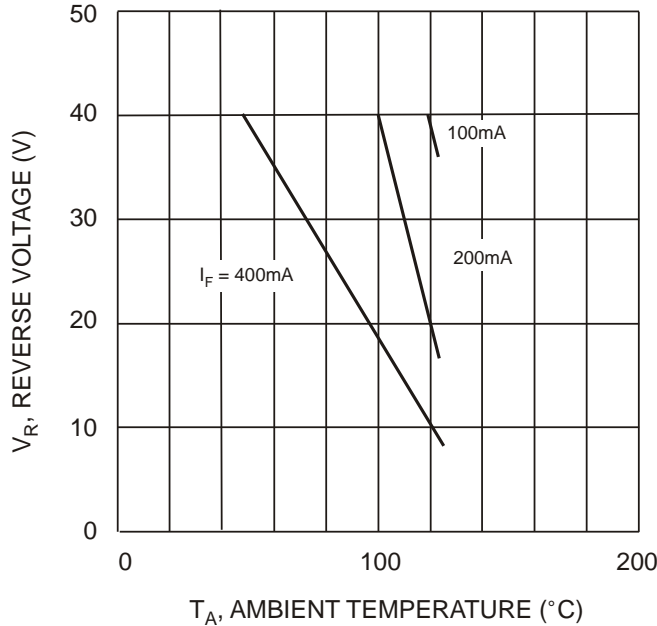


Fig. 3 Blocking Voltage Derating Curves

**Ordering Information** (Note 4)

| Device      | Packaging | Shipping                 |
|-------------|-----------|--------------------------|
| LLSD103A-7  | MiniMELF  | 2.5K/Tape & Reel, 7-inch |
| LLSD103A-13 | MiniMELF  | 10K/Tape & Reel, 13-inch |
| LLSD103B-7  | MiniMELF  | 2.5K/Tape & Reel, 7-inch |
| LLSD103B-13 | MiniMELF  | 10K/Tape & Reel, 13-inch |
| LLSD103C-7  | MiniMELF  | 2.5K/Tape & Reel, 7-inch |
| LLSD103C-13 | MiniMELF  | 10K/Tape & Reel, 13-inch |

Notes: 4. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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