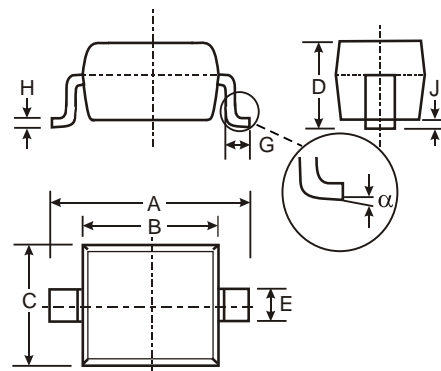


### Features

- Very Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- **Lead Free By Design/RoHS Compliant (Note 4)**
- **"Green Device" (Note 2)**

### Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic. "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminal Connections: Cathode Band
- Terminals: Finish – Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking & Type Code Information: See Page 2  
Type Code: VF
- Ordering Information: See Page 2
- Weight: 0.004 grams (approx.)



| SOD-323              |              |      |
|----------------------|--------------|------|
| Dim                  | Min          | Max  |
| A                    | 2.30         | 2.70 |
| B                    | 1.60         | 1.80 |
| C                    | 1.20         | 1.40 |
| D                    | 1.00         | 1.10 |
| E                    | 0.25         | 0.35 |
| G                    | 0.20         | 0.40 |
| H                    | 0.10         | 0.15 |
| J                    | 0.05 Typical |      |
|                      | 0°           | 8°   |
| All Dimensions in mm |              |      |

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

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| Characteristic  | Symbol   | Value | 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> | 30    | V    |
| RMS Reverse Voltage   | V <sub>R(RMS)</sub>                                    | 21    | V    |
| Average Rectified Output Current  | I <sub>O</sub>   | 1     | A    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms single half sine-wave superimposed on rated load | I <sub>FSM</sub>                                       | 9     | A    |

### Thermal Characteristics

| Characteristic  | Symbol                            | Value       | Unit |
|---|-----------------------------------|-------------|------|
| Power Dissipation (Note 1)                              | P <sub>d</sub>                    | 200         | mW   |
| Typical Thermal Resistance Junction to Ambient (Note 1) | R <sub>JA</sub>                   | 426         | °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             | Min | Typ | Max        | Unit | Test Conditions                               |
|------------------------------------|--------------------|-----|-----|------------|------|---|
| Reverse Breakdown Voltage (Note 3) | V <sub>(BR)R</sub> | 30  |     |            | V    | I <sub>R</sub> = 500μA                        |
| Forward Voltage Drop               | V <sub>F</sub>     |     |     | 360<br>485 | mV   | I <sub>F</sub> = 100mA<br>I <sub>F</sub> = 1A |
| Leakage Current (Note 3)           | I <sub>R</sub>     |     |     | 100        | μA   | V <sub>R</sub> = 20V                          |
| Total Capacitance                  | C <sub>T</sub>     |     | 22  |            | pF   | f = 1MHz, V <sub>R</sub> = 10VDC              |

- Note:
1. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. Diodes Inc's "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).
  3. Short duration test pulse used to minimize self-heating effect.
  4. No purposefully added lead.

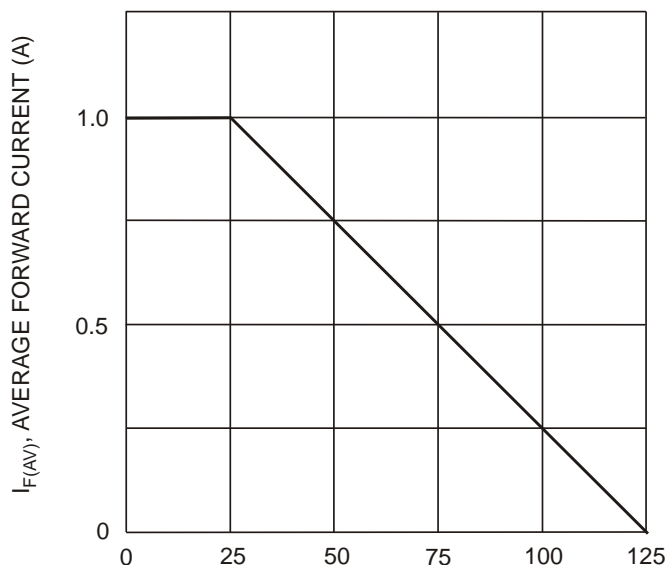


Fig. 1 Forward Current Derating Curve

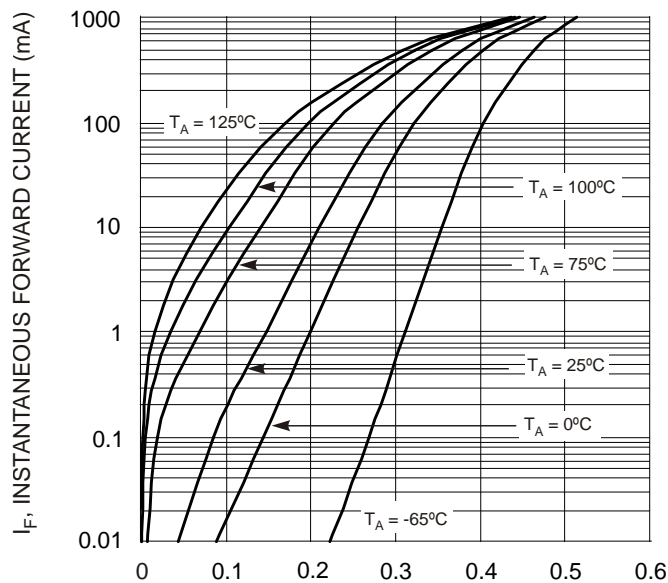


Fig. 2 Typical Forward Characteristics

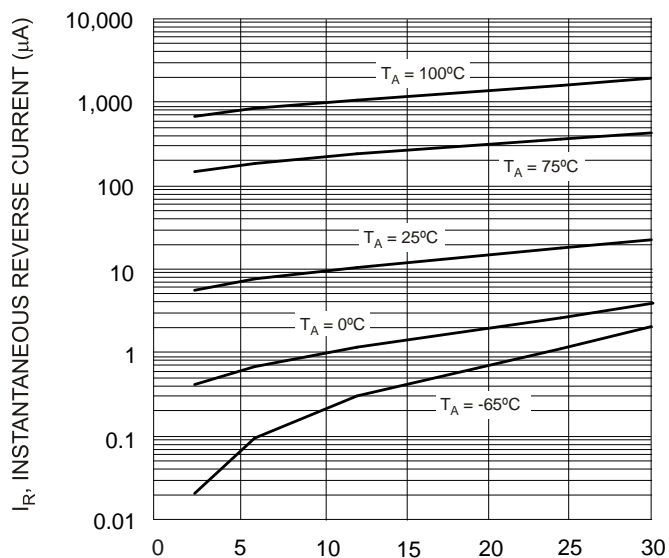


Fig. 3 Typical Reverse Characteristics

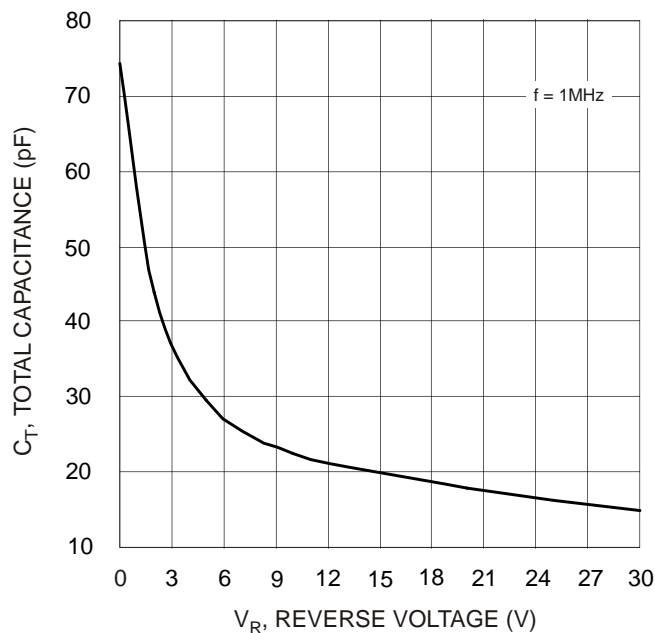


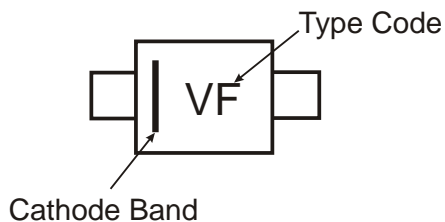
Fig. 4 Typ. Total Capacitance vs Reverse Voltage

## Ordering Information (Note 5)

| Device         | Packaging | Shipping           |
|----------------|-----------|--------------------|
| SDM100K30L-7-F | SOD-323   | 3000/Tape and Reel |

Note: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



## IMPORTANT NOTICE

Diodes, Inc. and its subsidiaries reserve the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. Diodes, Inc. does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

## LIFE SUPPORT

The products located on our website at [www.diodes.com](http://www.diodes.com) are not recommended for use in life support systems where a failure or malfunction of the component may directly threaten life or cause injury without the expressed written approval of Diodes Incorporated.