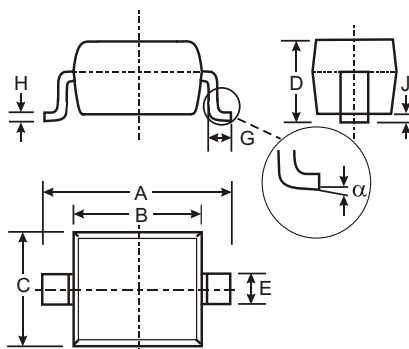


### Features

Fast Switching Speed  
 Ultra-Small Surface Mount Package  
 For General Purpose Switching Applications  
 High Conductance

### Mechanical Data

Case: SOD-323, Molded Plastic  
 Case material - UL Flammability Rating  
 Classification 94V-0  
 Moisture sensitivity: Level 1 per J-STD-020A  
 Terminals: Solderable per MIL-STD-202,  
 Method 208  
 Polarity: See Diagram  
 Marking: See Sheet 2  
 Weight: 0.006 grams (approx.)  
 Ordering Information: See Below



| SOD-323              |              |      |
|----------------------|--------------|------|
| Dim                  | Min          | Max  |
| A                    | 2.30         | 2.70 |
| B                    | 1.60         | 1.80 |
| C                    | 1.20         | 1.40 |
| D                    | 1.05 Typical |      |
| 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 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic                                                                         | Symbol                          | Value       | Unit               |
|----------------------------------------------------------------------------------------|---------------------------------|-------------|--------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 45          | V                  |
| RMS Reverse Voltage                                                                    | $V_{R(RMS)}$                    | 40          | V                  |
| Forward Continuous Current (Note 1)                                                    | $I_{FM}$                        | 100         | mA                 |
| Forward Surge Current @ $t < 8.3\text{ms}$                                             | $I_{FSM}$                       | 1.0         | A                  |
| Power Dissipation (Note 1)                                                             | $P_d$                           | 200         | mW                 |
| Thermal Resistance Junction to Ambient Air (Note 1)                                    | $R_{JA}$                        | 500         | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range                                                | $T_J, T_{STG}$                  | -40 to +125 | $^\circ\text{C}$   |

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

| Characteristic                     | Symbol      | Min | Typ  | Max | Unit | Test Condition                        |
|------------------------------------|-------------|-----|------|-----|------|---------------------------------------|
| Reverse Breakdown Voltage (Note 2) | $V_{(BR)R}$ | 45  |      |     |      | $I_R = 100 \text{ A}$                 |
| Forward Voltage (Note 2)           | $V_F$       |     | 370  | 450 | mV   | $I_F = 10\text{mA}$                   |
| Reverse Leakage Current (Note 2)   | $I_R$       |     | 0.07 | 1.0 | A    | $V_R = 10\text{V}$                    |
| Total Capacitance                  | $C_T$       |     | 6.0  |     | pF   | $V_R = 10\text{V}, f = 1.0\text{MHz}$ |

### Ordering Information (Note 3)

| Device     | Packaging | Shipping         |
|------------|-----------|------------------|
| SDM10K45-7 | SOD-323   | 3000/Tape & Reel |

- Note:
1. Device mounted on FR-5 PCB 1.0 x 0.75 x 0.062 inch pad layout as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. Short duration pulse test to minimize self-heating effect.
  3. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information

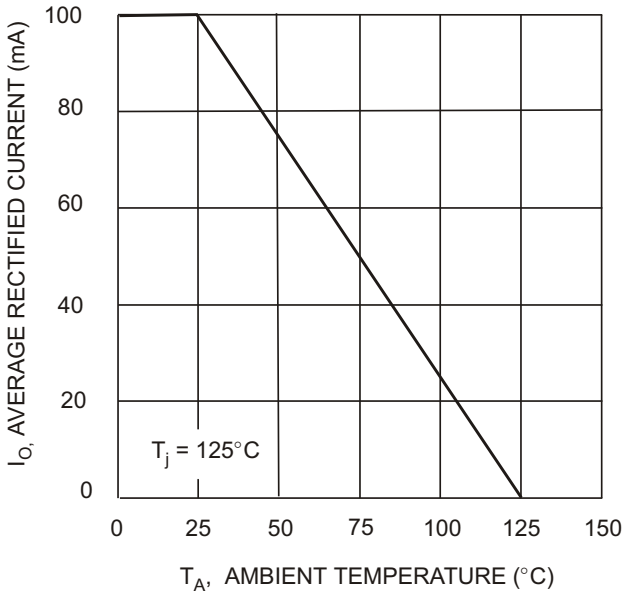
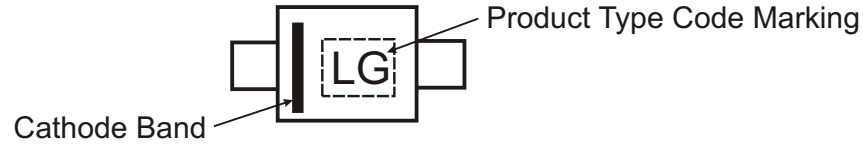


Fig. 1 Forward Current Derating Curve

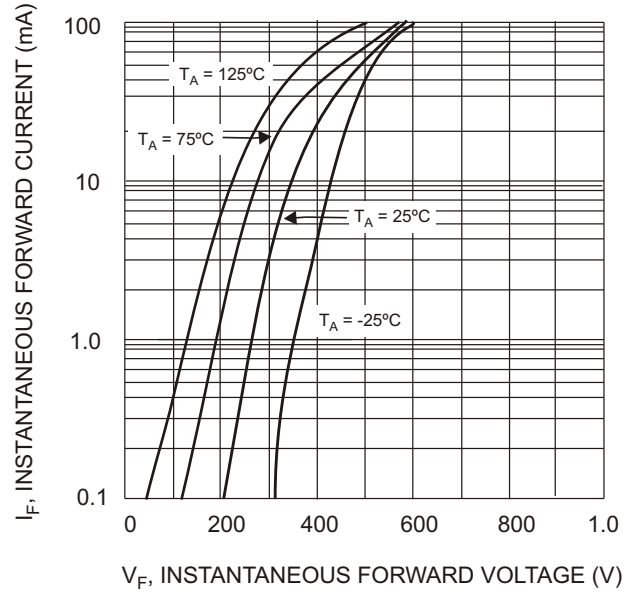


Fig. 2 Typical Forward Characteristics

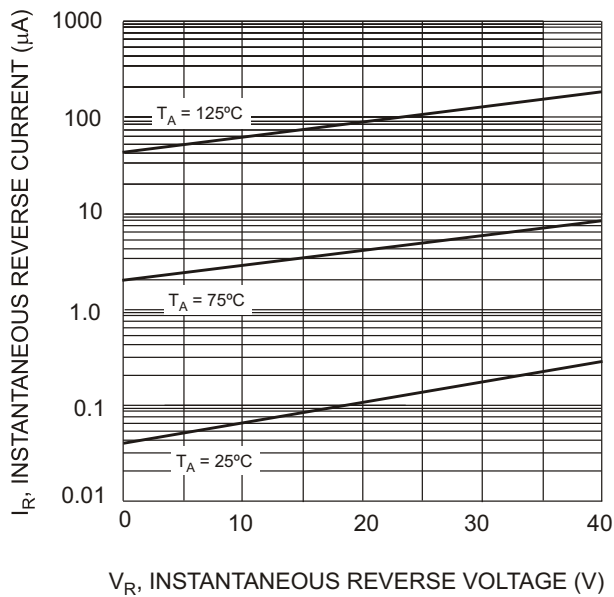


Fig. 3 Typical Reverse Characteristics

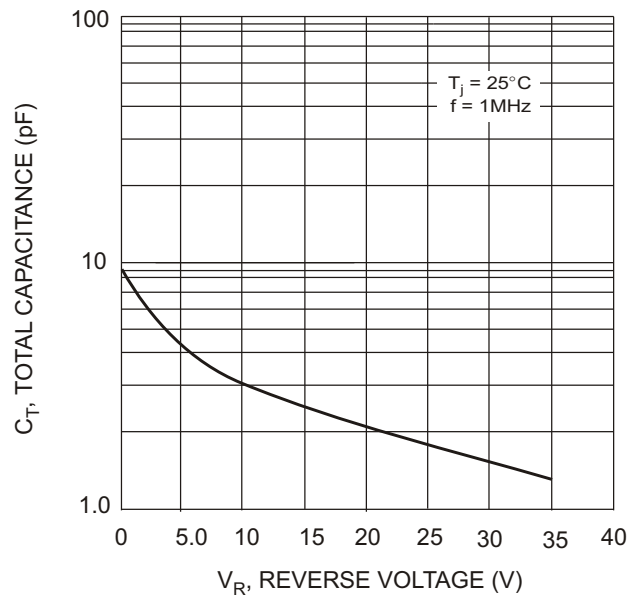


Fig. 4 Total Capacitance vs. Reverse Voltage