# SDM10K45

## SURFACE MOUNT SCHOTTKY BARRIER DIODE

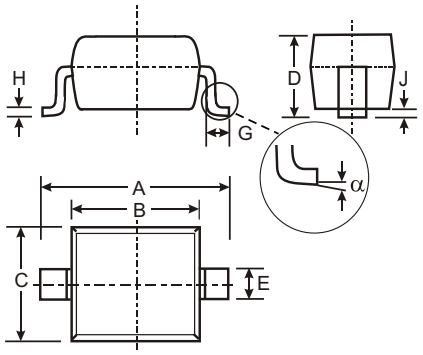
NEW PRODUCT

## 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 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 < 8.3ms | $I_{FSM}$ | 1.0 | A |
| Power Dissipation (Note 1) | $P_d$ | 200 | mW |
| Thermal Resistance Junction to Ambient Air (Note 1) | $R_{JA}$ | 500 | C/W |
| Operating and Storage Temperature Range | $T_j$ , $T_{STG}$ | -40 to +125 | C |

## Electrical Characteristics @ $T_A$ = 25 C unless otherwise specified

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

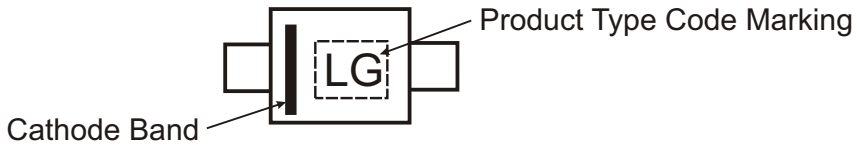
## Ordering Information (Note 3)

| 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.

NEW PRODUCT

## Marking Information



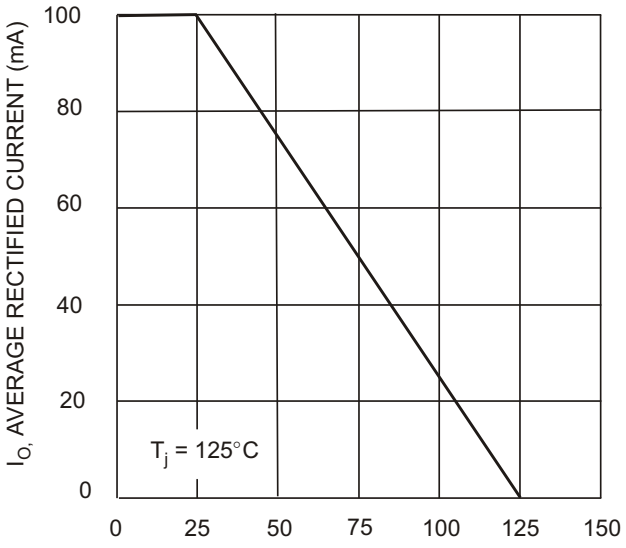




Fig. 1 Forward Current Derating Curve

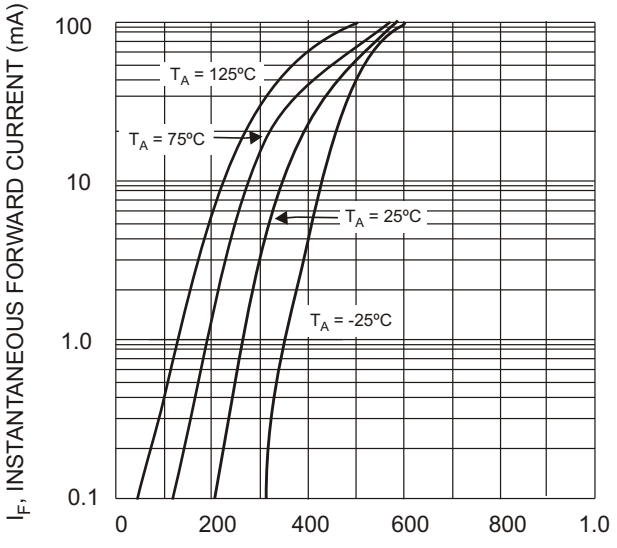



Fig. 2 Typical Forward Characteristics

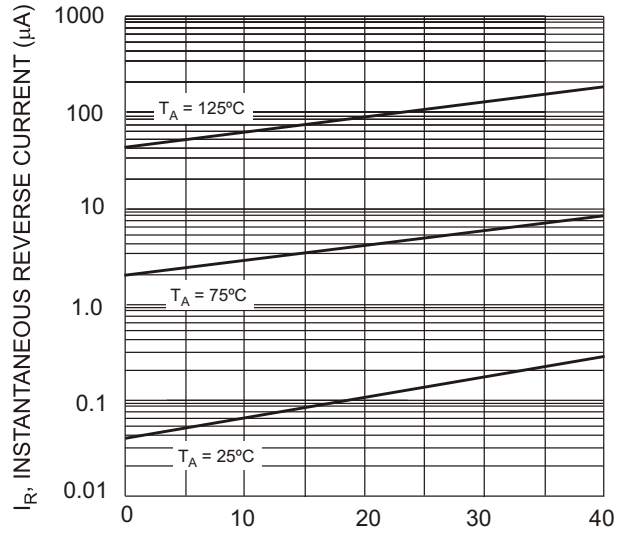



Fig. 3 Typical Reverse Characteristics

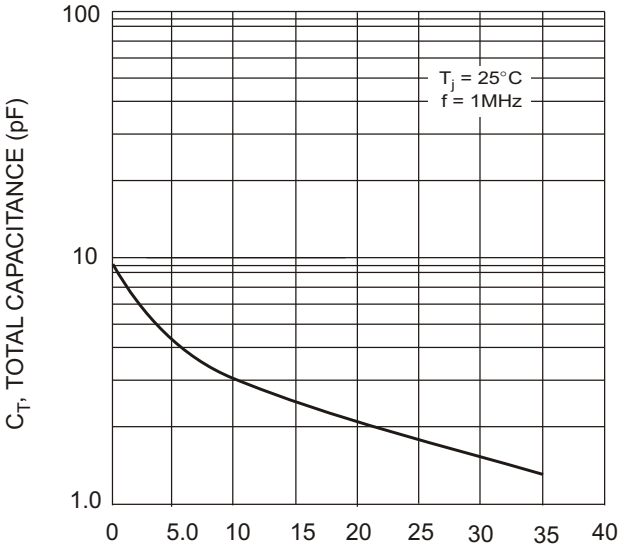



Fig. 4 Total Capacitance vs. Reverse Voltage