# SDM10U45LP

## SURFACE MOUNT SCHOTTKY BARRIER DIODE

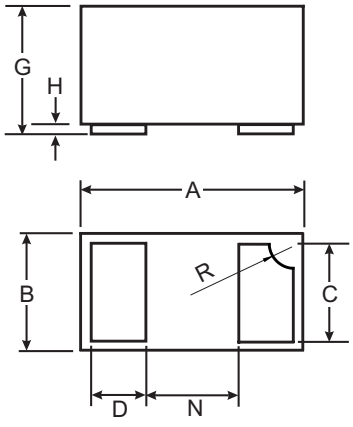
NEW PRODUCT

## Features

- Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Low Capacitance
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

## Mechanical Data

- Case: DFN1006-2
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections: Cathode Dot
- Terminals: Finish — NiPdAu annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Code: LJ, Dot Denotes Cathode Side
- Ordering Information: See Last Page
- Weight: 0.001 grams




| DFN1006-2 | | | |
|---|---|---|---|
| **Dim** | **Min** | **Max** | **Typ** |
| **A** | 0.95 | 1.075 | 1.00 |
| **B** | 0.55 | 0.675 | 0.60 |
| **C** | 0.45 | 0.55 | 0.50 |
| **D** | 0.20 | 0.30 | 0.25 |
| **G** | 0.47 | 0.53 | 0.50 |
| **H** | 0 | 0.05 | 0.03 |
| **N** | — | — | 0.40 |
| **R** | 0.05 | 0.15 | 0.10 |
| **All Dimensions in mm** | | | |

## Maximum Ratings @ $T_A$ = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Maximum Peak Reverse Voltage | $V_{RM}$ | 45 | V |
| Reverse Voltage | $V_R$ | 40 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 28 | V |
| Average Forward Current | $I_O$ | 100 | mA |
| Maximum (Peak) Forward Current | $I_{FM}$ | 300 | mA |
| Non-Repetitive Peak Forward Surge Current @ t ≤ 10ms | $I_{FSM}$ | 1 | A |
| Operating and Storage Temperature Range | $T_j$, $T_{STG}$ | -40 to +125 | °C |

## Thermal Characteristics @ $T_A$ = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Power Dissipation | $P_d$ | 250 | mW |
| Thermal Resistance, Ambient Air | $R_{\theta JA}$ | 400 | °C/W |

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

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Conditions |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage (Note 3) | $V_{(BR)R}$ | 30 | — | — | V | $I_R$ = 100μA |
| Forward Voltage Drop | $V_F$ | — | 280<br>360<br>470<br>580 | —<br>—<br>550<br>800 | mV | $I_F$ = 1.0mA<br>$I_F$ = 15mA<br>$I_F$ = 50mA<br>$I_F$ = 100mA |
| Reverse Current (Note 3) | $I_R$ | — | — | 1.0 | μA | $V_R$ = 25V |
| Total Capacitance | $C_T$ | — | 7 | 15 | pF | $V_R$ = 10V, f = 1.0 MHz |

Note: 1. No purposefully added lead.
2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
3. Short duration pulse test used so as to minimize self-heating effect.

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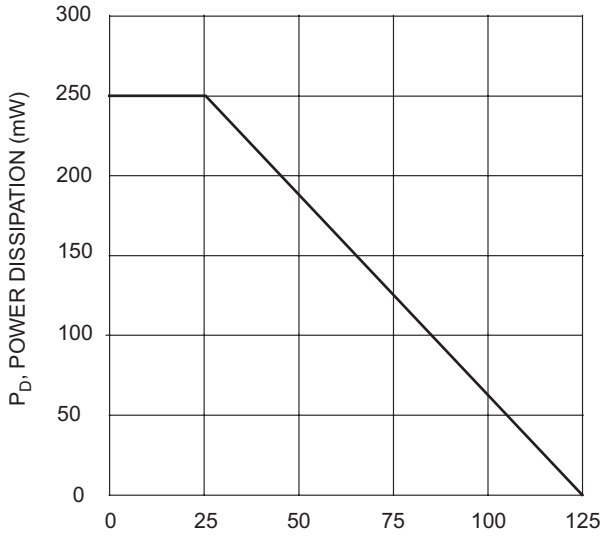


Fig. 1 Power Derating Curve

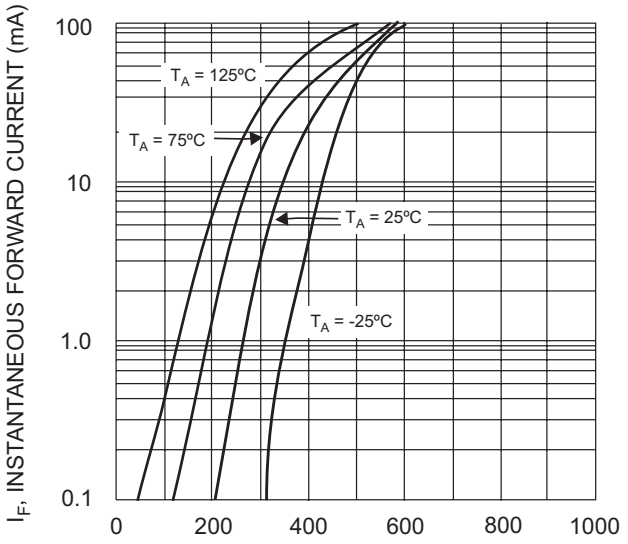


Fig. 2 Typical Forward Characteristics

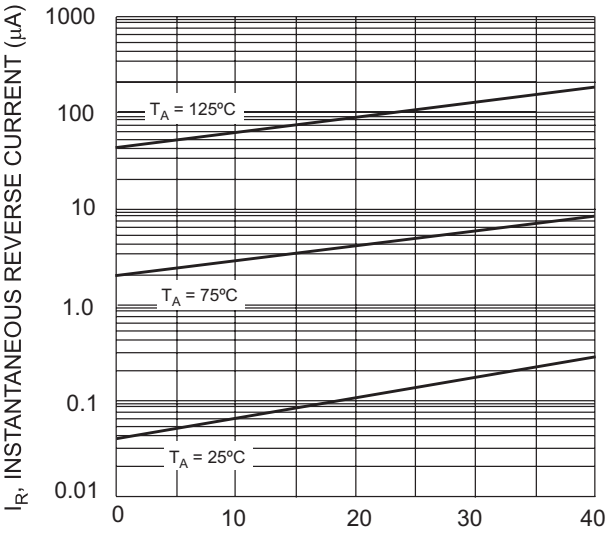


Fig. 3 Typical Reverse Characteristics

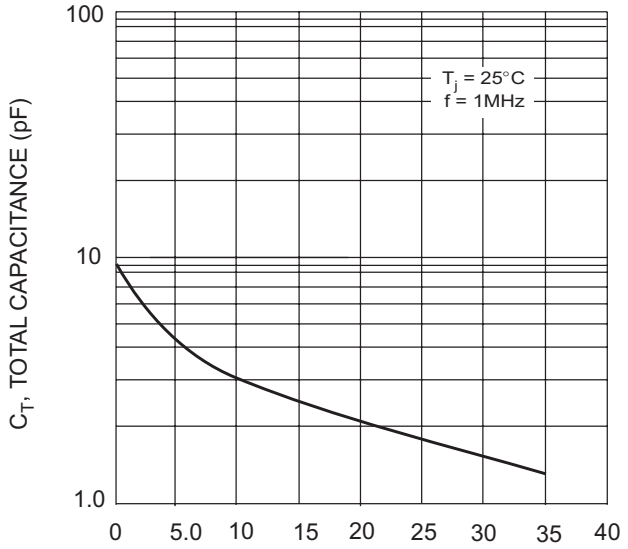


Fig. 4 Total Capacitance vs. Reverse Voltage

## Ordering Information (Note 4)

| Device | Packaging | Shipping |
|---|---|---|
| SDM10U45LP-7 | DFN1006-2 | 3000/Tape & Reel |

Note: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

## Marking Information


LJ = Product Type Marking Code, Dot Denotes Cathode Side

NEW PRODUCT

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