

## Features

- Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Ideal for Low Logic Level Applications
- Low Capacitance
- **Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 2 and 3)**

## Mechanical Data

- Case: SOD-323
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Leads: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: Cathode Band
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.004 grams (approximate)



Top View

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

| Characteristic   | Symbol       | Value | Unit |
|--|--------------|-------|------|
| Peak Repetitive Reverse Voltage  | $V_{RRM}$    | 40    | V    |
| Working Peak Reverse Voltage   | $V_{RWM}$    |       |      |
| DC Blocking Voltage  | $V_R$        |       |      |
| RMS Reverse Voltage  | $V_{R(RMS)}$ | 28    | V    |
| Maximum (Peak) Forward Current   | $I_{FM}$     | 30    | mA   |
| Non-Repetitive Peak Forward Surge Current @8.3ms<br>Single half sine-wave superimposed on rated load<br>(JEDEC method) | $I_{FSM}$    | 200   | mA   |

## Thermal Characteristics

| Characteristic                              | Symbol          | Value       | Unit                      |
|---|-----------------|-------------|---------------------------|
| Power Dissipation                           | $P_D$           | 160         | mW                        |
| Thermal Resistance, Junction to Ambient Air | $R_{\theta JA}$ | 625         | $^\circ\text{C}/\text{W}$ |
| 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 1) | $V_{(BR)R}$ | 40  | —    | —   | V             | $I_R = 10\mu\text{A}$                 |
| Forward Voltage Drop               | $V_F$       | —   | 290  | 370 | mV            | $I_F = 1\text{mA}$                    |
| Leakage Current (Note 1)           | $I_R$       | —   | 0.20 | 0.5 | $\mu\text{A}$ | $V_R = 30\text{V}$                    |
| Total Capacitance                  | $C_T$       | —   | 2    | —   | pF            | $V_R = 1\text{V}$ $f = 1.0\text{MHz}$ |

- Notes:
1. Short duration pulse test used to minimize self-heating effect.
  2. No purposefully added lead. Halogen and Antimony Free.
  3. Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Products manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or  $\text{Sb}_2\text{O}_3$  Fire Retardants.

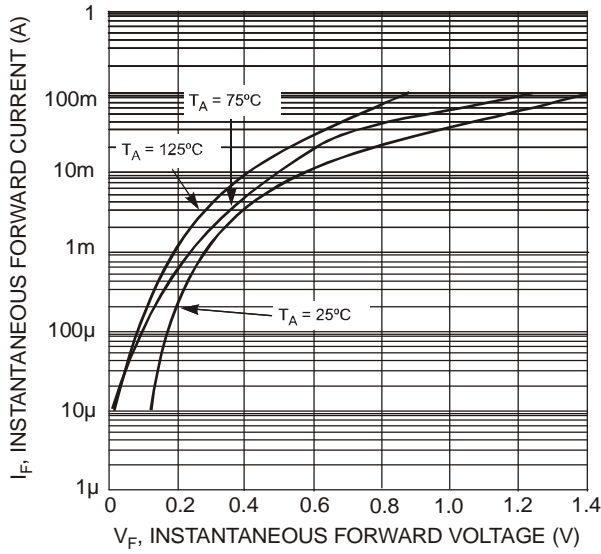


Fig. 1 Typical Forward Characteristics

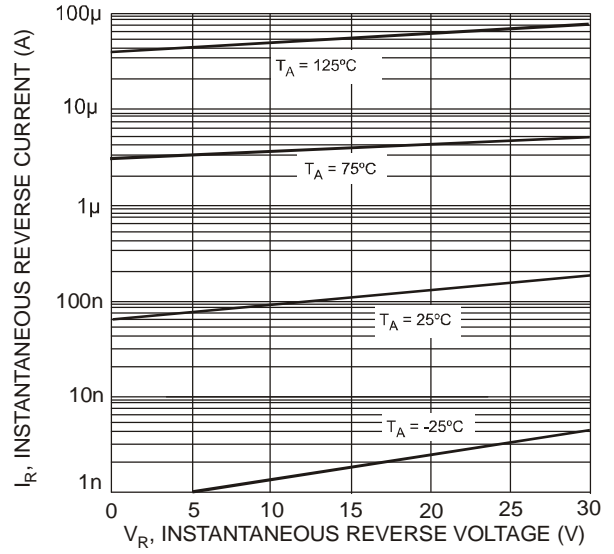


Fig. 2 Typical Reverse Characteristics

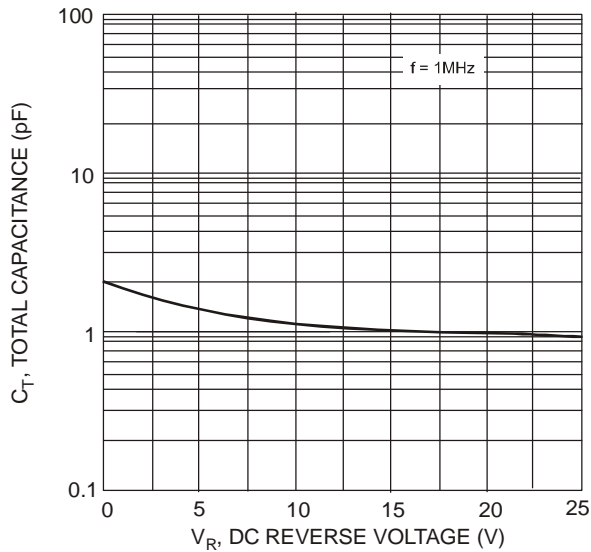


Fig. 3 Total Capacitance vs. Reverse Voltage

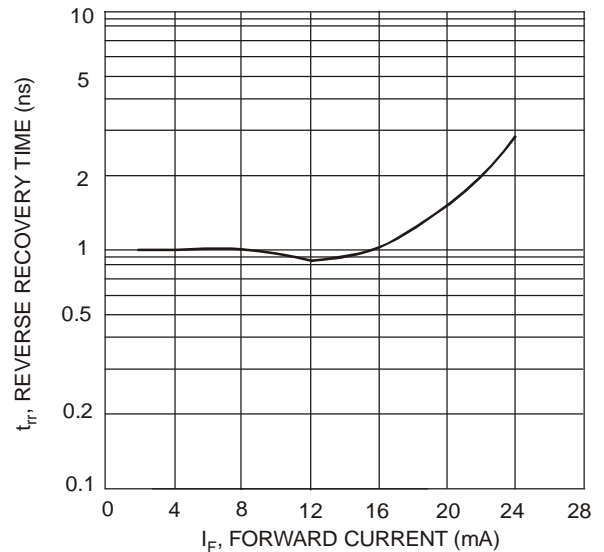


Fig. 4 Typical Reverse Recovery Time Characteristics

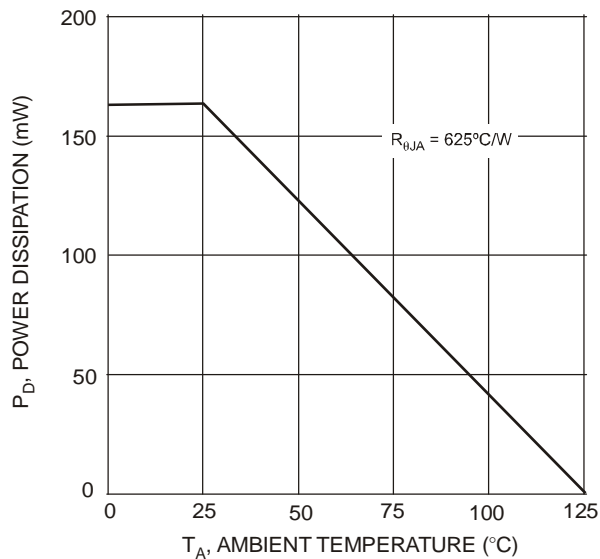


Fig. 5 Power Derating Curve

### Ordering Information (Note 4)

| Device        | Packaging | Shipping         |
|---------------|-----------|------------------|
| SDMK0340L-7-F | SOD-323   | 3000/Tape & Reel |

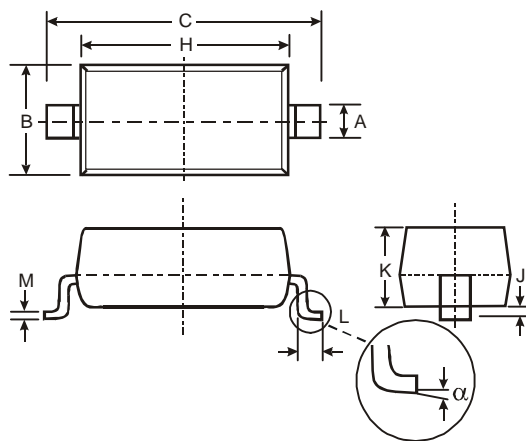
Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

### Marking Information



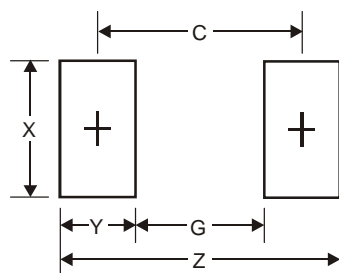
SR = Product Type Marking Code

### Package Outline Dimensions



| SOD-323              |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 0.25 | 0.35 |
| B                    | 1.20 | 1.40 |
| C                    | 2.30 | 2.70 |
| H                    | 1.60 | 1.80 |
| J                    | 0.00 | 0.10 |
| K                    | 1.0  | 1.1  |
| L                    | 0.20 | 0.40 |
| M                    | 0.10 | 0.15 |
| $\alpha$             | 0°   | 8°   |
| All Dimensions in mm |      |      |

### Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z          | 3.75          |
| G          | 1.05          |
| X          | 0.65          |
| Y          | 1.35          |
| C          | 2.40          |

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