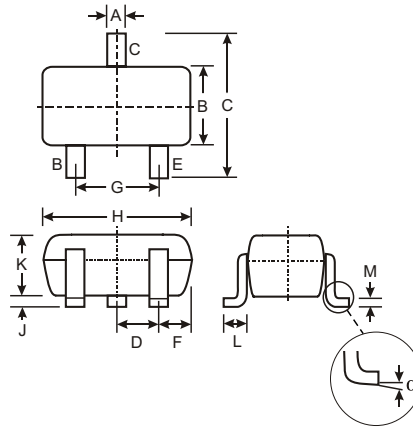


Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Also Available in Lead Free Version

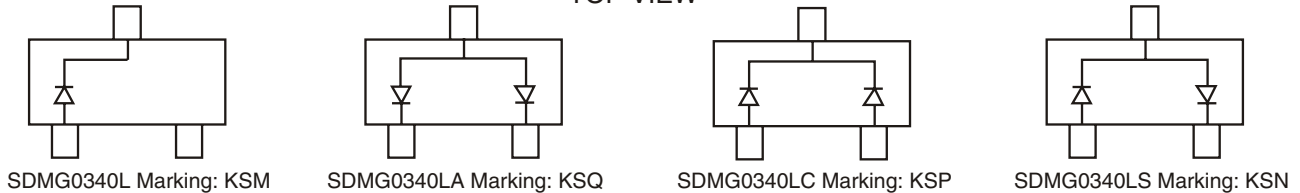
Mechanical Data

- Case: SOT-323, Molded Plastic
- Case Material - UL Flammability Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please See Ordering Information, Note 4, on Page 3
- Polarity: See Diagrams Below
- Marking: Date Code and Marking Code (See Diagrams & Page 3)
- Weight: 0.006 grams (approx.)



| SOT-323 | | |
|-----------------------------|--------------|------|
| Dim | Min | Max |
| A | 0.25 | 0.40 |
| B | 1.15 | 1.35 |
| C | 2.00 | 2.20 |
| D | 0.65 Nominal | |
| E | 0.30 | 0.40 |
| G | 1.20 | 1.40 |
| H | 1.80 | 2.20 |
| J | 0.0 | 0.10 |
| K | 0.90 | 1.00 |
| L | 0.25 | 0.40 |
| M | 0.10 | 0.18 |
| α | 0° | 8° |
| All Dimensions in mm | | |

TOP VIEW



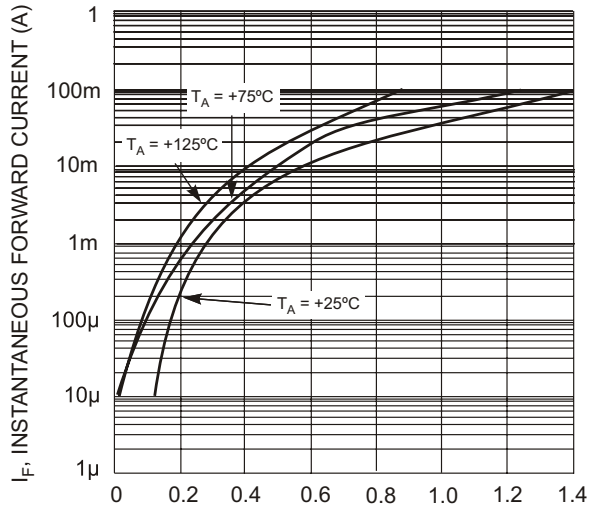
Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|--|---------------------------------|-------------|---------------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 40 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 28 | V |
| Forward Continuous Current (Note 1) | I_{FM} | 30 | mA |
| Non-Repetitive Peak Forward Surge Current @ $t = 8.3\text{ms}$ | I_{FSM} | 200 | mA |
| Power Dissipation (Note 1) | P_d | 200 | mW |
| Thermal Resistance Junction to Ambient Air (Note 1) | $R_{\theta JA}$ | 625 | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range | T_j | -40 to +125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -40 to +125 | $^\circ\text{C}$ |

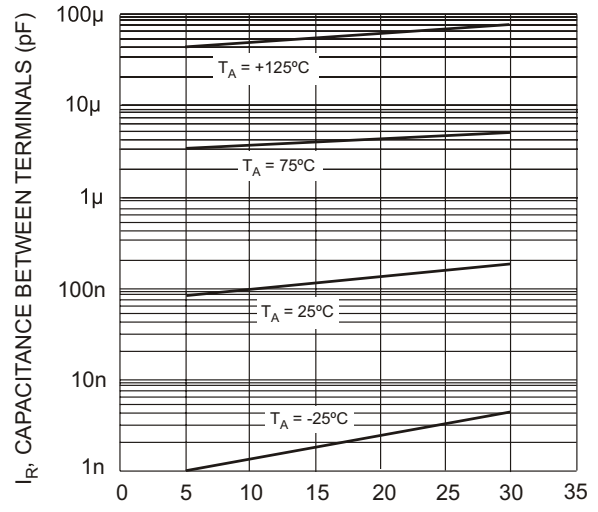
Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|------------------------------------|-------------|-----|-----|------|------|--------------------------------------|
| Reverse Breakdown Voltage (Note 2) | $V_{(BR)R}$ | 40 | — | — | V | $I_R = 10\mu\text{A}$ |
| Forward Voltage (Note 2) | V_F | — | 295 | 370 | mV | $I_F = 1.0\text{mA}$ |
| Leakage Current (Note 2) | I_R | — | 150 | 1000 | nA | $V_R = 10\text{V}$ |
| Total Capacitance | C_T | — | 2.0 | — | pF | $V_R = 1\text{V}, f = 1.0\text{MHz}$ |

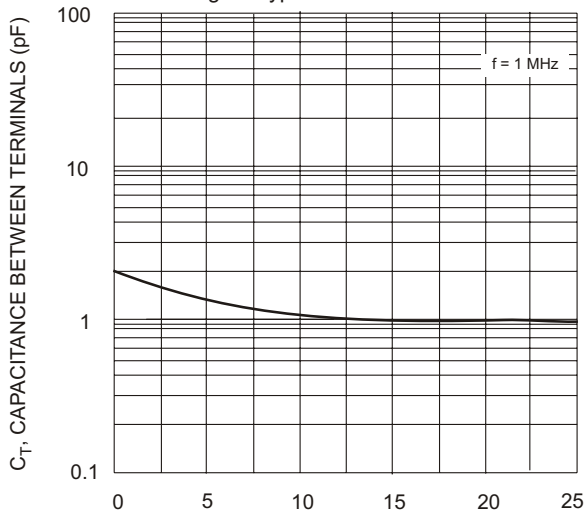
- Notes:
1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. Short duration test pulse used to minimize self-heating effect.



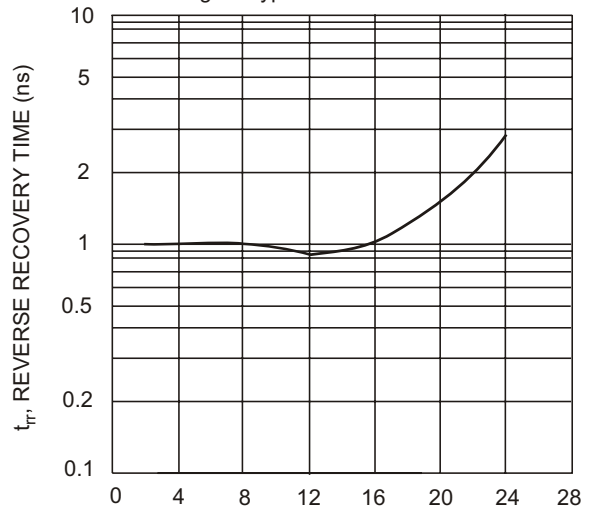
V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 1 Typical Forward Characteristics



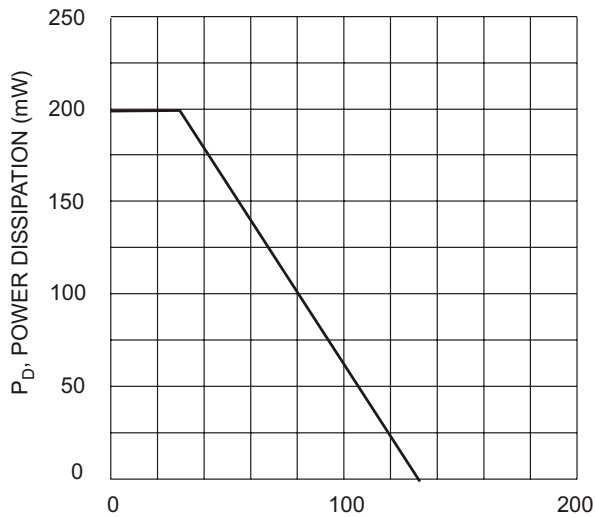
V_R , INSTANTANEOUS REVERSE VOLTAGE (V)
Fig. 2 Typical Reverse Characteristics



V_R , REVERSE VOLTAGE (V)
Fig. 3 Typical Capacitance Between Terminals Characteristics



I_F , FORWARD CURRENT (mA)
Fig. 4 Typical Reverse Recovery Time Characteristics



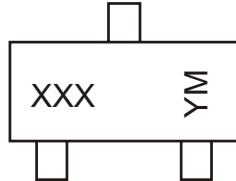
T_A , AMBIENT TEMPERATURE (°C)
Fig. 5 Power Derating Curve, Total Package

Ordering Information (Note 3)

| Device | Packaging | Shipping |
|--------------|-----------|------------------|
| SDMG0340L-7 | SOT-323 | 3000/Tape & Reel |
| SDMG0340LA-7 | SOT-323 | 3000/Tape & Reel |
| SDMG0340LC-7 | SOT-323 | 3000/Tape & Reel |
| SDMG0340LS-7 | SOT-323 | 3000/Tape & Reel |

- Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 4. For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to part number above.
 Example: SDMG0340LS-7-F.

Marking Information



XXX = Product Type Marking Code (See Page 1)
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

Date Code Key

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|------|------|------|------|------|------|
| Code | M | N | P | R | S | T | U | V | W |

| Month | Jan | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |