

## Features

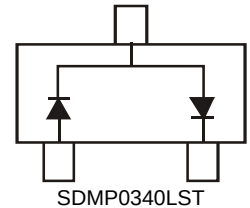
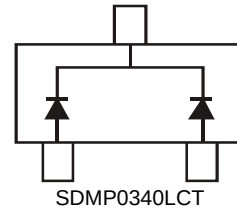
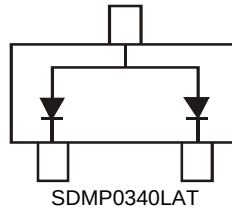
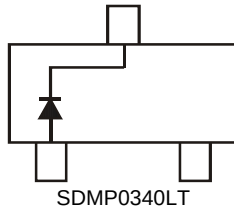
- Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Ideal for Low Logic Level Applications
- Low Capacitance
- **Lead Free/RoHS Compliant (Note 3)**
- **"Green" Device (Note 4 and 5)**

## Mechanical Data

- Case: SOT-523
- Case Material: Molded Plastic. UL Flammability Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagrams Below
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.002 grams (approximate)



Top View



## Maximum Ratings @T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic                                                                                       | Symbol                                                 | Value | Unit |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage               | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 40    | V    |
| RMS Reverse Voltage                                                                                  | V <sub>R(RMS)</sub>                                    | 28    | V    |
| Forward Continuous Current (Note 1)                                                                  | I <sub>FM</sub>                                        | 30    | mA   |
| Non-Repetitive Peak Forward Surge Current @8.3ms<br>Single half sine-wave superimposed on rated load | I <sub>FSM</sub>                                       | 200   | mA   |

## Thermal Characteristics

| Characteristic                                   | Symbol                            | Value       | Unit |
|--------------------------------------------------|-----------------------------------|-------------|------|
| Power Dissipation (Note 1)                       | P <sub>D</sub>                    | 150         | mW   |
| Thermal Resistance, Junction to Ambient (Note 1) | R <sub>θJA</sub>                  | 833         | °C/W |
| Operating and Storage Temperature Range          | T <sub>J</sub> , T <sub>STG</sub> | -40 to +125 | °C   |

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic                     | Symbol             | Min | Typ | Max | Unit | Test Condition                   |
|------------------------------------|--------------------|-----|-----|-----|------|----------------------------------|
| Reverse Breakdown Voltage (Note 2) | V <sub>(BR)R</sub> | 40  | —   | —   | V    | I <sub>R</sub> = 10μA            |
| Forward Voltage Drop               | V <sub>F</sub>     | —   | 290 | 370 | mV   | I <sub>F</sub> = 1mA             |
| Leakage Current (Note 2)           | I <sub>R</sub>     | —   | —   | 1.0 | μA   | V <sub>R</sub> = 10V             |
| Total Capacitance                  | C <sub>T</sub>     | —   | 2   | —   | pF   | V <sub>R</sub> = 1V, f = 1.0 MHz |

- Notes:
1. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. Short duration pulse test used to minimize self-heating effect.
  3. No purposefully added lead.
  4. Diodes Inc.'s "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).
  5. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

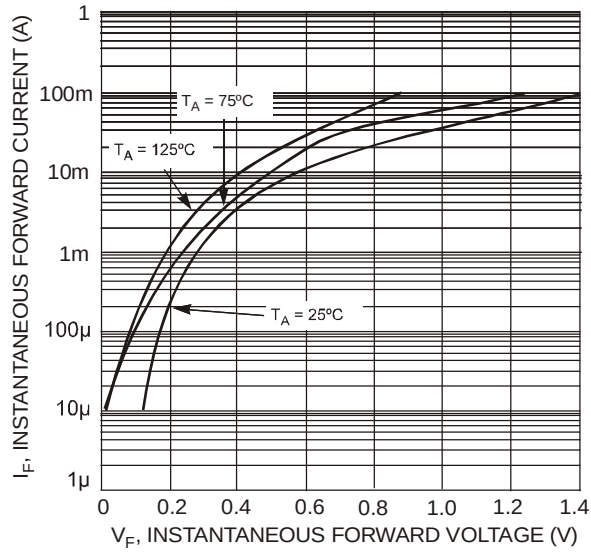


Fig. 1 Typical Forward Characteristics

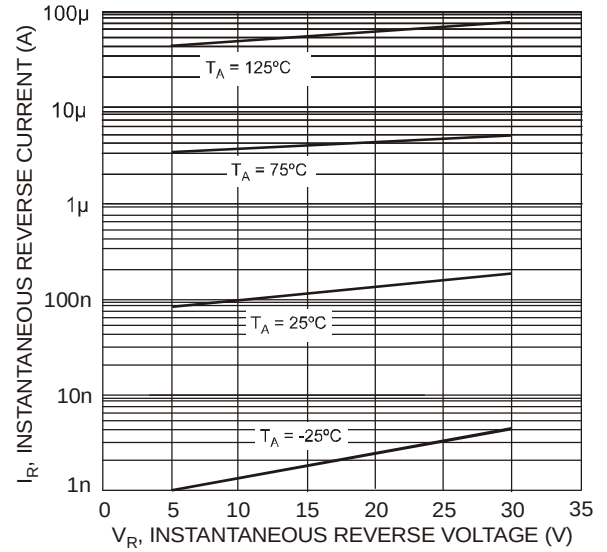


Fig. 2 Typical Reverse Characteristics

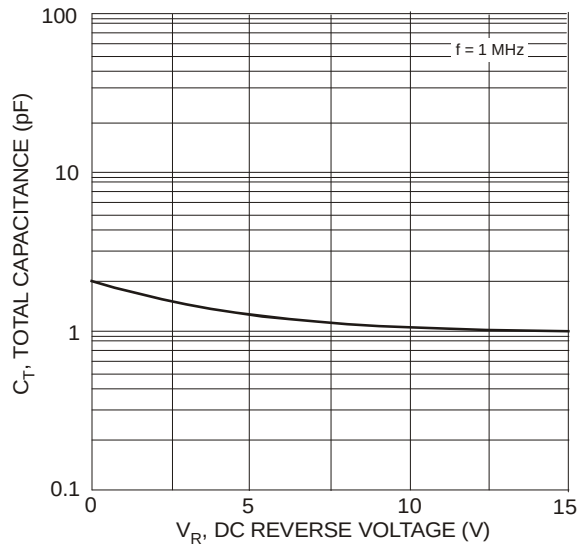


Fig. 3 Total Capacitance vs. Reverse Voltage

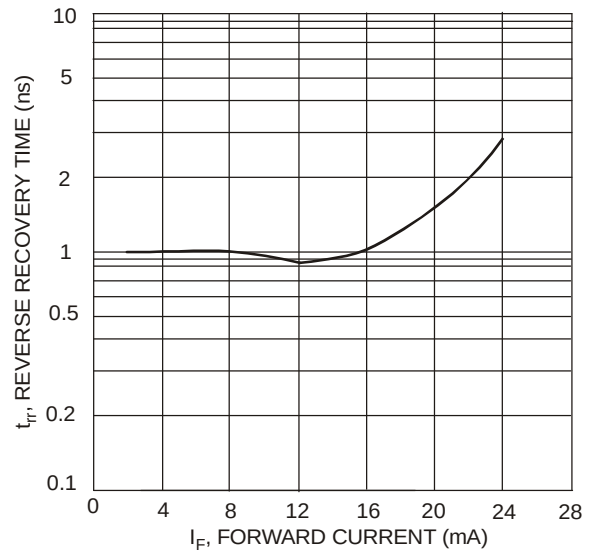


Fig. 4 Typical Reverse Recovery Time Characteristics

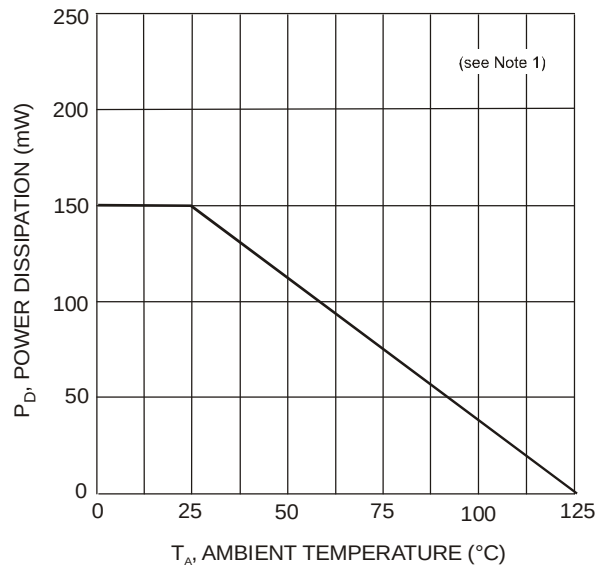


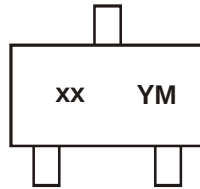
Fig. 5 Power Derating Curve

## Ordering Information (Note 6)

| Device          | Packaging | Shipping         |
|-----------------|-----------|------------------|
| SDMP0340LT-7-F  | SOT-523   | 3000/Tape & Reel |
| SDMP0340LST-7-F | SOT-523   | 3000/Tape & Reel |
| SDMP0340LCT-7-F | SOT-523   | 3000/Tape & Reel |
| SDMP0340LAT-7-F | SOT-523   | 3000/Tape & Reel |

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



xx = Product Type Marking Code

SM = SDMP0340LT

SQ = SDMP0340LAT

SP = SDMP0340LCT

SN = SDMP0340LST

YM = Date Code Marking

Y = Year (ex: N = 2002)

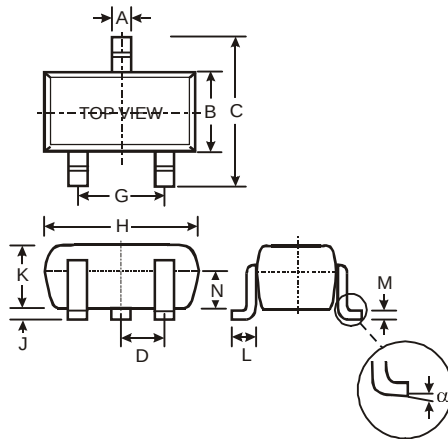
M = Month (ex: 9 = September)

### Date Code Key

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Code | M    | N    | P    | R    | S    | T    | U    | V    | W    | X    | Y    | Z    | A    | B    | C    |

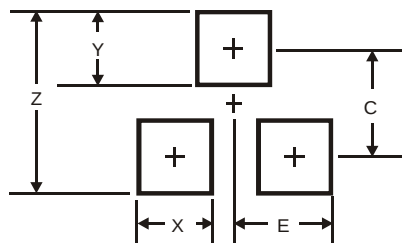
| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | O   | N   | D   |

## Package Outline Dimensions



| SOT-523              |      |      |      |
|----------------------|------|------|------|
| Dim                  | Min  | Max  | Typ  |
| A                    | 0.15 | 0.30 | 0.22 |
| B                    | 0.75 | 0.85 | 0.80 |
| C                    | 1.45 | 1.75 | 1.60 |
| D                    | —    | —    | 0.50 |
| G                    | 0.90 | 1.10 | 1.00 |
| H                    | 1.50 | 1.70 | 1.60 |
| J                    | 0.00 | 0.10 | 0.05 |
| K                    | 0.60 | 0.80 | 0.75 |
| L                    | 0.10 | 0.30 | 0.22 |
| M                    | 0.10 | 0.20 | 0.12 |
| N                    | 0.45 | 0.65 | 0.50 |
| α                    | 0°   | 8°   | —    |
| All Dimensions in mm |      |      |      |

## Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z          | 1.8           |
| X          | 0.4           |
| Y          | 0.51          |
| C          | 1.3           |
| E          | 0.7           |

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