



A Product Line of Diodes Incorporated



ZLLS350

40V LOW LEAKAGE SCHOTTKY DIODE

Description

Packaged in the SOD523 package offering an ideal low $V_{\text{F}}/I_{\text{R}}$ performance combined with a low package height making the device suitable for various converter, charger and LED driver circuits.

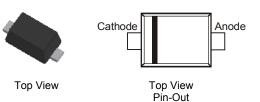
Mechanical Data

- Case: SOD523
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Finish Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.001 grams (approximate)

Features

- Low V_F
- 380mA continuous current rating
- Low profile SOD523 package
- Totally Lead-Free & Fully RoHS compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

SOD523



Ordering Information (Note 4)

| Part Number | Case | Packaging |
|-------------|--------|------------------|
| ZLLS350TA | SOD523 | 3000/Tape & Reel |

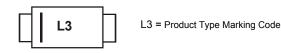
Notes: 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.

2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.

3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

4. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information



ZLLS350 Document Number: DS33225 Rev. 6 - 2





Maximum Ratings @T_A = 25°C unless otherwise specified

| Characteristic | | Symbol | Value | Unit |
|--|---------------------------|------------------|-------------|------|
| DC Blocking Voltage | | V _{RM} | 40 | V |
| Continuous Forward current | | IF | 380 | mA |
| Average Peak Forward Current; duty cycle = 50% | | I _{FAV} | 650 | mA |
| Non-Repetitive Forward Current | @ t < 100µs @ t < 10ms | I _{FSM} | 6.0 1.3 | А |
| Power Dissipation at T_A = +25°C (Note 5) | | PD | 357 | mW |
| Power Dissipation at $T_A = +25^{\circ}C$ (Note 6) | | PD | 413 | mW |
| Operating and storage temperature range | | T _{STG} | -55 to +150 | °C |
| Junction Temperature | | T. | +150 | °C |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit | |
|---|------------------|-------|------|--|
| Thermal Resistance Junction to Ambient (Note 5) | R _{0JA} | 350 | °C/W | |
| Thermal Resistance Junction to Ambient (Note 6) | R _{0JA} | 303 | C/VV | |

Electrical Characteristics @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Min | Тур | Max | Unit | Test Condition |
|-------------------------------|--------------------|-----|------|------|------|--------------------------------------|
| Reverse Breakdown Voltage | V _{(BR)R} | 40 | 53 | — | V | I _R = 100 μA |
| Forward Voltage Drop (Note 7) | | _ | 395 | 450 | mV | I _F = 30mA |
| | | _ | 430 | 520 | | I _F = 50mA |
| | VF | _ | 490 | 635 | | I _F = 100mA |
| | | _ | 650 | 1000 | | I _F = 275mA |
| Leakage Current | IR | _ | 0.15 | 4 | μA | V _R = 30V |
| Total Capacitance | CT | _ | 2.5 | 6 | — | f = 1MHz; V _R = 30V |
| Reverse Recovery Time | | _ | | | | Switch from $I_F = 100 \text{mA}$ to |
| | t _{rr} | | — 1 | 1 | 1 — | nS |
| | | | | | | Measured at I _R = 10mA |

Notes: 5. For a single device surface mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of 1oz copper in still air conditions

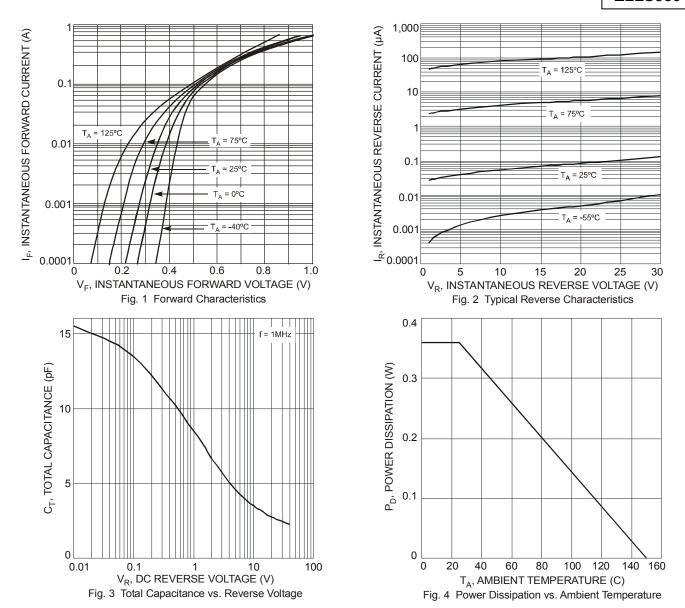
6. As above measured @ t < 5 seconds

7. Measured under pulsed conditions. Pulse width \leq 300µs; duty cycle \leq 2%



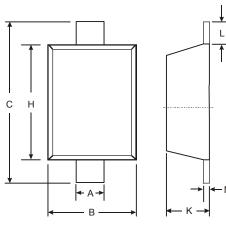
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Package Outline Dimensions

Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for latest version.



| SOD523 | | | |
|---------|----------------------|------|--|
| Dim | Min | Max | |
| Α | 0.25 | 0.35 | |
| В | 0.70 | 0.90 | |
| С | 1.50 | 1.70 | |
| Н | 1.10 | 1.30 | |
| K | 0.55 | 0.65 | |
| L | 0.10 | 0.30 | |
| М | 0.10 | 0.12 | |
| All Dim | All Dimensions in mm | | |

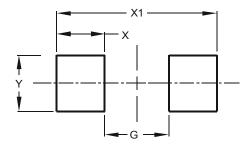
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Suggested Pad Layout

Please see AP02001 at http://www.diodes.com/datasheets/ap02001.pdf for the latest version.



| Dimensions | Value (in mm) |
|------------|---------------|
| G | 0.80 |
| Х | 0.60 |
| X1 | 2.00 |
| Y | 0.70 |

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