



**ZLLS350**

**40V LOW LEAKAGE SCHOTTKY DIODE**

**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**

**Description**

Packaged in the SOD523 package offering an ideal low  $V_F/I_R$  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)

SOD523



Top View



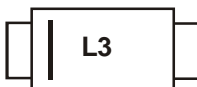
Top View  
Pin-Out

**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](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/datasheets/ap02007.pdf>.

**Marking Information**



L3 = Product Type Marking Code

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

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
DC Blocking Voltage	V <sub>RM</sub>	40	V
Continuous Forward current	I <sub>F</sub>	380	mA
Average Peak Forward Current; duty cycle = 50%	I <sub>FAV</sub>	650	mA
Non-Repetitive Forward Current	I <sub>FSM</sub>	6.0	A
@ t < 100µs		1.3	
@ t < 10ms			
Power Dissipation at T <sub>A</sub> = 25°C (Note 5)	P <sub>D</sub>	357	mW
Power Dissipation at T <sub>A</sub> = 25°C (Note 6)	P <sub>D</sub>	413	mW
Operating and storage temperature range	T <sub>STG</sub>	-55 to +150	°C
Junction Temperature	T <sub>J</sub>	150	°C

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal Resistance Junction to Ambient (Note 5)	R <sub>θJA</sub>	350	°C/W
Thermal Resistance Junction to Ambient (Note 6)	R <sub>θJA</sub>	303	

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V <sub>(BR)R</sub>	40	53	-	V	I <sub>R</sub> = 100 µA
Forward Voltage Drop (Note 7)	V <sub>F</sub>	-	395	450	V	I <sub>F</sub> = 30mA
		-	430	520		I <sub>F</sub> = 50mA
		-	490	635		I <sub>F</sub> = 100mA
		-	650	1000		I <sub>F</sub> = 275mA
Leakage Current	I <sub>R</sub>	-	0.15	4	µA	V <sub>R</sub> = 30V
Total Capacitance	C <sub>T</sub>		2.5	6		f = 1MHz; V <sub>R</sub> = 30V
Reverse Recovery Time	t <sub>rr</sub>		1		nS	Switch from I <sub>F</sub> = 100mA to I <sub>R</sub> = 100mA. Measured at I <sub>R</sub> = 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 at t < 5 seconds  
7. Measured under pulsed conditions. Pulse width ≤ 300µs; duty cycle ≤ 2%

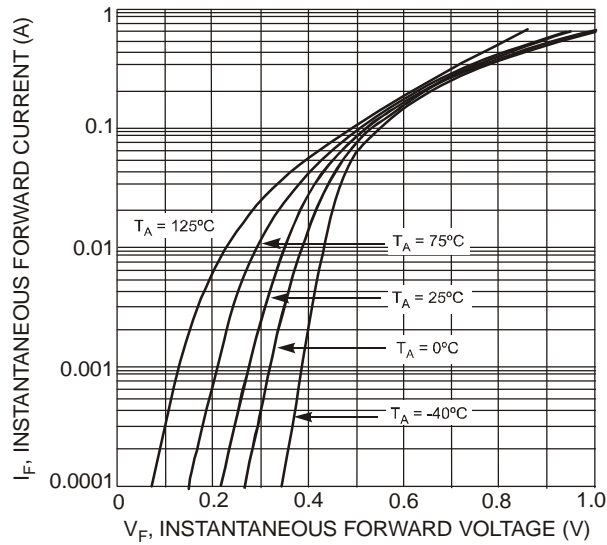


Fig. 1 Forward Characteristics

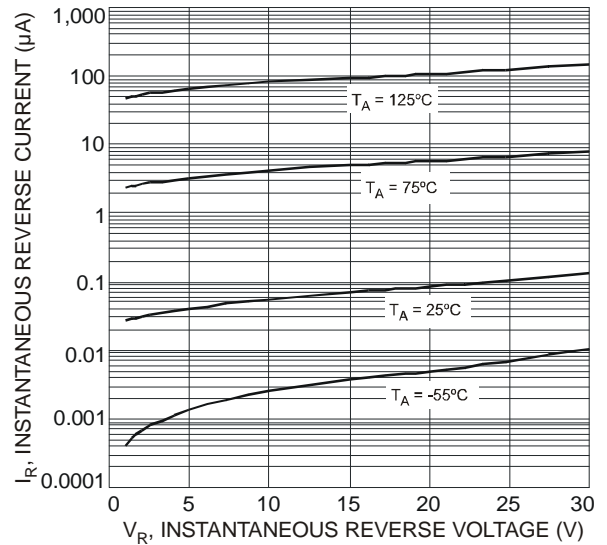


Fig. 2 Typical Reverse Characteristics

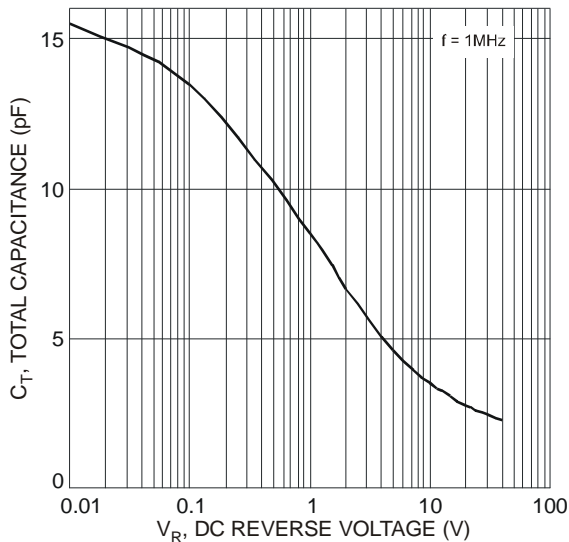


Fig. 3 Total Capacitance vs. Reverse Voltage

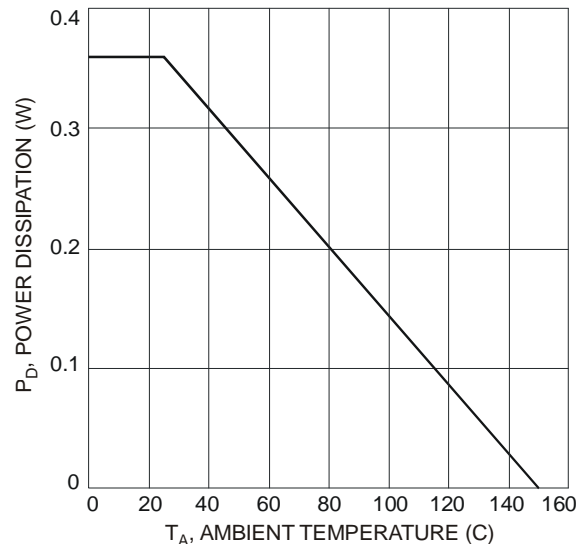
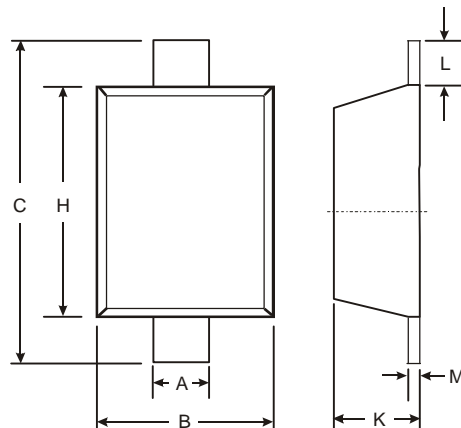


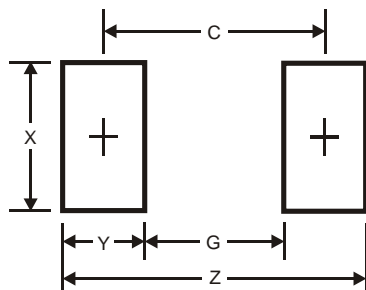
Fig. 4 Power Dissipation vs. Ambient Temperature

## Package Outline Dimensions



SOD523		
Dim	Min	Max
A	0.25	0.35
B	0.70	0.90
C	1.50	1.70
H	1.10	1.30
K	0.55	0.65
L	0.10	0.30
M	0.10	0.12
All Dimensions in mm		

## Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.3
G	1.1
X	0.8
Y	0.6
C	1.7

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