





ZLLS350

### **40V LOW LEAKAGE SCHOTTKY DIODE**

### **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)

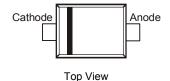
### **Features**

- Low V<sub>F</sub>
- 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



Top View



Pin-Out

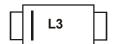
## Ordering Information (Note 4)

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.
- 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**



L3 = Product Type Marking Code





**ZLLS350** 

## **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	$V_{RM}$	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 @ t < 100µs @ t < 10ms	I COM	6.0 1.3	Α
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	TJ	+150	°C

## **Thermal Characteristics**

Characteristic	Symbol	Value	Unit	
Thermal Resistance Junction to Ambient (Note 5)	$R_{ heta JA}$	350	°C/W	
Thermal Resistance Junction to Ambient (Note 6)	$R_{ heta JA}$	303		

## Electrical Characteristics @TA = 25°C unless otherwise specified

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage	V <sub>(BR)R</sub>	40	53	1	V	I <sub>R</sub> = 100 μA
		_	395	450	mV	I <sub>F</sub> = 30mA
Fanyard Valtage Dran (Note 7)	VF	_	430	520		I <sub>F</sub> = 50mA
Forward Voltage Drop (Note 7)	VF	_	490	635		I <sub>F</sub> = 100mA
		_	650	1000		I <sub>F</sub> = 275mA
Leakage Current	$I_R$	_	0.15	4	μA	V <sub>R</sub> = 30V
Total Capacitance	C <sub>T</sub>	_	2.5	6	_	$f = 1MHz; V_R = 30V$
		_	1	_	nS	Switch from I <sub>F</sub> = 100mA to
Reverse Recovery Time	t <sub>rr</sub>					I <sub>R</sub> = 100mA.
						Measured at I <sub>R</sub> = 10mA

Notes:

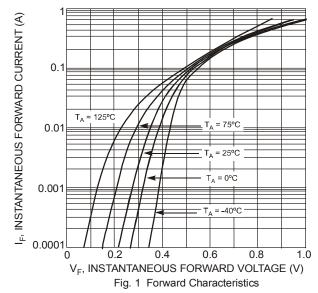
<sup>5.</sup> For a single device surface mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of 1oz copper in still air conditions

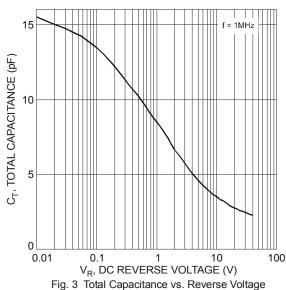
<sup>6.</sup> As above measured @ t < 5 seconds

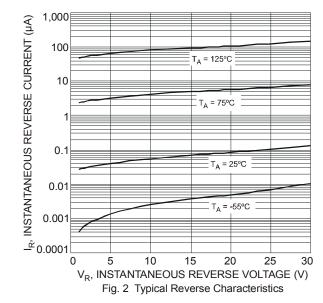
<sup>7.</sup> Measured under pulsed conditions. Pulse width ≤ 300µs; duty cycle ≤ 2%



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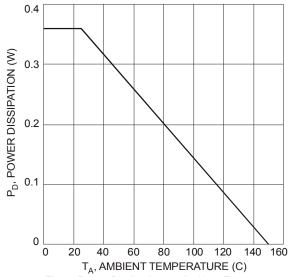
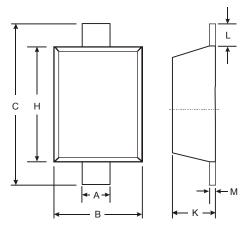


Fig. 4 Power Dissipation vs. Ambient Temperature

# **Package Outline Dimensions**

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

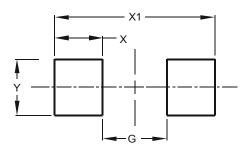


SOD523				
Dim	Min	Max		
Α	0.25	0.35		
В	0.70	0.90		
С	1.50	1.70		
Н	1.10	1.30		
K	0.55	0.65		
٦	0.10	0.30		
М	0.10	0.12		
All Dimensions in mm				



## **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
Υ	0.70

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