

ULTRA LOW LEAKAGE SURFACE MOUNT FAST SWITCHING DIODE

Features

- Ultra-Small Surface Mount Package
- Fast Switching Speed, Fast Reverse Recovery Time
- Ultra-Low Reverse Leakage Current (~ 5nA @ V_R = 5V)
- Very Low Capacitance (<1pF @ V_R=0V)
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

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 (3)
- Weight: 0.0014 grams (Approximate)

SOD523



Top View

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
DLLFSD01T-7	Standard	SOD523	3,000/Tape & Reel

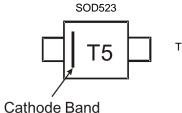
Notes: 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.

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



T5 = Product Type Marking Code



Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V _{RM}	85	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} Vrwm Vr	80	V
RMS Reverse Voltage	V _{R(RMS)}	57	V
Forward Continuous Current	I _{FM}	300	mA
Average Rectified Output Current	lo	100	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0µs	I _{FSM}	2.0	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	PD	150	mW
Thermal Resistance Junction to Ambient Air (Note 5)	R _{0JA}	833	°C/W
Operating and Storage Temperature Range	T_J , T_STG	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

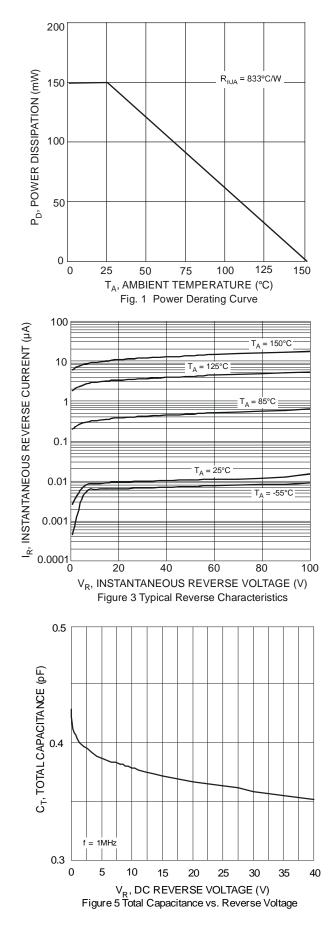
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	80			V	I _R = 100μA
Forward Voltage	V _F		0.62 0.74 0.94	0.7 0.82 1.20	V	$I_{F} = 1.0mA$ $I_{F} = 10mA$ $I_{F} = 100mA$
Leakage Current (Note 6)	I _R		5	10.0 0.4 0.1 0.6 0.2 0.8	nΑ μΑ μΑ μΑ μΑ	$ \begin{array}{l} V_{\rm R} = 5V \\ V_{\rm R} = 5V, \ T_{\rm J} = +85^{\circ}{\rm C} \\ V_{\rm R} = 30V \\ V_{\rm R} = 30V, \ T_{\rm J} = +85^{\circ}{\rm C} \\ V_{\rm R} = 80V \\ V_{\rm R} = 80V, \ T_{\rm J} = +85^{\circ}{\rm C} \end{array} $
Total Capacitance	CT	_	0.5	2.5	pF	$V_{R} = 0, f = 1.0MHz$
Reverse Recovery Time	t _{rr}	_		4.0 4.0	ns ns	$ I_F = 10mA, \ V_R = 6V \\ I_F = I_R = 10mA, \\ I_m = 0.1 \ x \ I_R, \ R_L = 100\Omega $

Notes:

Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com.
Short duration pulse test used to minimize self-heating effect.



DLLFSD01T



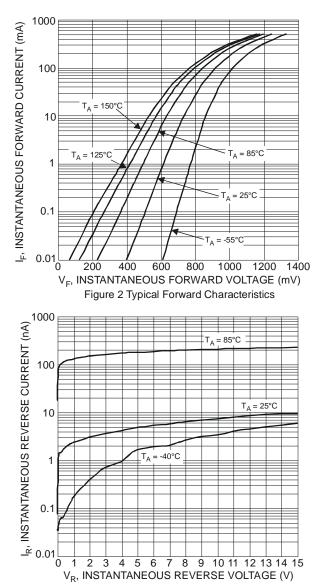
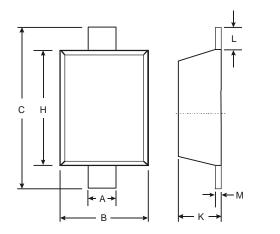


Figure 4 Typical Reverse Characteristics



Package Outline Dimensions

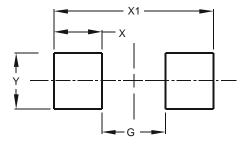
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



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 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
Y	0.70



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