



DHVSD521T5

HIGH VOLTAGE SWITCHING DIODE

Features

- Fast Switching Speed: max. 50ns
- High Reverse Breakdown Voltage: 300V
- Ultra-Small Plastic SMD Package
- Cutting-Edge Process Technology Used
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please <u>contact us</u> or your local Diodes representative. <u>https://www.diodes.com/quality/product-definitions/</u>
- An automotive-compliant part is available under separate datasheet (DHVSD521T5Q).

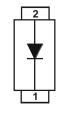
Mechanical Data

- Package: SOD523
- Package Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Bar
- 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



Device Schematic

Ordering Information (Note 4)

Orderable Part Number	Package	Ordershie Part Number Packing		king
Orderable Fait Nulliber		Quantity	Carrier	
DHVSD521T5-7	SOD523	3,000	Tape & Reel (Note 5)	
DHVSD521T5-13	SOD523	10,000	Tape & Reel (Note 5)	

Notes: 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.

2. See https://www.diodes.com/quality/lead-free/ 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 https://www.diodes.com/design/support/packaging/diodes-packaging/.

5. Dispensed in every other cavity of the tape.

Marking Information



J9 = Product Type Marking Code A bar "-" above the letter 'J' Marking Code denotes Assembly & Test Site Bar Denotes Cathode Side



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

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V _{RRM}	300	V
Working Peak Reverse Voltage DC Blocking Voltage	VRWM	300	V
Forward Current (Note 6)	lF	250	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0µs	IFSM	4.5	A

Thermal Characteristics

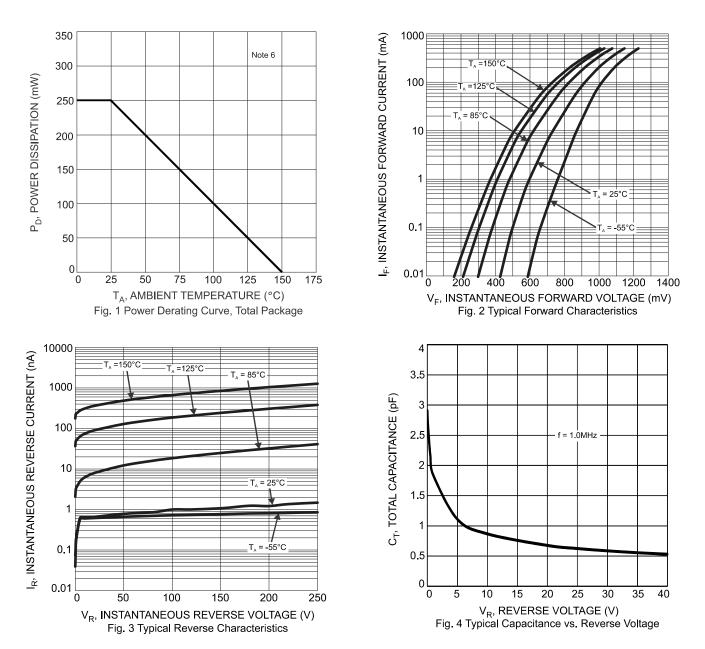
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	PD	250	mW
Thermal Resistance Junction to Ambient Air (Note 6)	Reja	500	°C/W
Operating and Storage Temperature Range	TJ, TSTG	-55 to +150	°C

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

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	V _{(BR)R}	300		V	I _R = 100μA
Forward Voltage	VF	_	1.1	V	IF = 100mA
Reverse Current (Note 7)	IR		50 150 35	nA nA µA	V _R = 5V V _R = 250V V _R = 250V, T _J = +150°C
Total Capacitance	CT	—	5	pF	$V_{R} = 0, f = 1.0MHz$
Reverse Recovery Time	trr	—	50	ns	$I_{F} = I_{R} = 10 \text{mA},$ $I_{rr} = 0.1 \times I_{R}, R_{L} = 100\Omega$

Notes: 6. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com. 7. Short duration pulse test used to minimize self-heating effect.



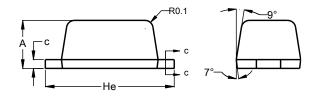


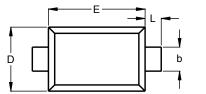


Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOD523



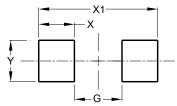


SOD523			
Dim	Min	Max	
Α	0.55	0.65	
b	0.26	0.34	
c	0.11	0.17	
D	0.75	0.85	
Е	1.15	1.25	
He	1.55	1.65	
L	0.10	0.30	
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOD523



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



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