

Features

- Low Leakage Current: $\leq 100\text{nA}$
- Fast Switching Speed: $\leq 50\text{ns}$
- High Reverse Breakdown Voltage: $\geq 350\text{V}$
- Ideal for Battery-Powered, Portable Applications
- Extremely Low Reverse Leakage Current at High Temperature
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3 & 4)**
- **The DHVSD3004S1Q is suitable for automotive applications requiring specific change control; this part is AEC-Q101 qualified, PPAP capable, and manufactured in IATF 16949 certified facilities.**

<https://www.diodes.com/quality/product-definitions/>

Mechanical Data

- Package: SOD123
- Package Material: Molded Plastic.
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Solderable per MIL-STD-202, Method 208; Lead-Free Plating (Matte Tin Finish Annealed over Alloy 42 Leadframe) (E3)
- Polarity: Cathode Band
- Weight: 0.01 grams (Approximate)

SOD123



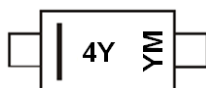
Top View

Ordering Information (Note 4)

Orderable Part Number	Package	Packing	
		Quantity	Carrier
DHVSD3004S1Q-7	SOD123	3,000	Tape & Reel

- 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 $<900\text{ppm}$ bromine, $<900\text{ppm}$ chlorine ($<1500\text{ppm}$ total Br + Cl) and $<1000\text{ppm}$ antimony compounds.
 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



4Y = Product Type Marking Code
 YM = Date Code Marking
 A bar '-' above Year D/C denotes Assembly & Test Site
 Y = Year (ex: K = 2023)
 M = Month (ex: 9 = September)

Date Code Key

Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Code	K	L	M	N	P	R	S	T	U	V	W	X

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	350	V
Working Peak Reverse Voltage DC Blocking Voltage	V _{RWM} V _R	300	V
Forward Continuous Current	I _{FM}	225	mA
Repetitive Peak Forward Current	I _{FRM}	625	mA
Non-Repetitive Peak Forward Surge Current	I _{FSM}	4.0 1.0 0.5	A
	@ t = 1.0μs		
	@ t = 10ms		
	@ t = 1.0s		

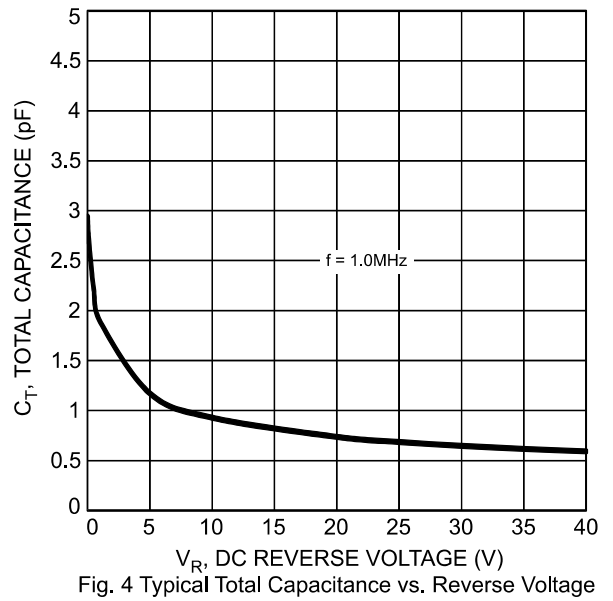
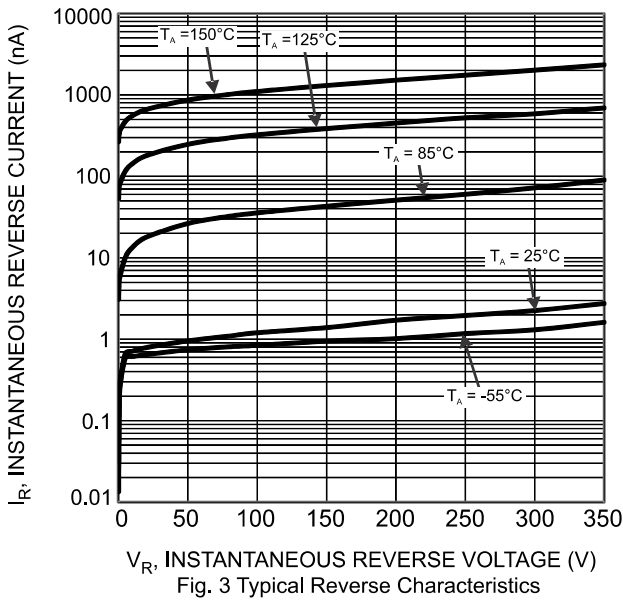
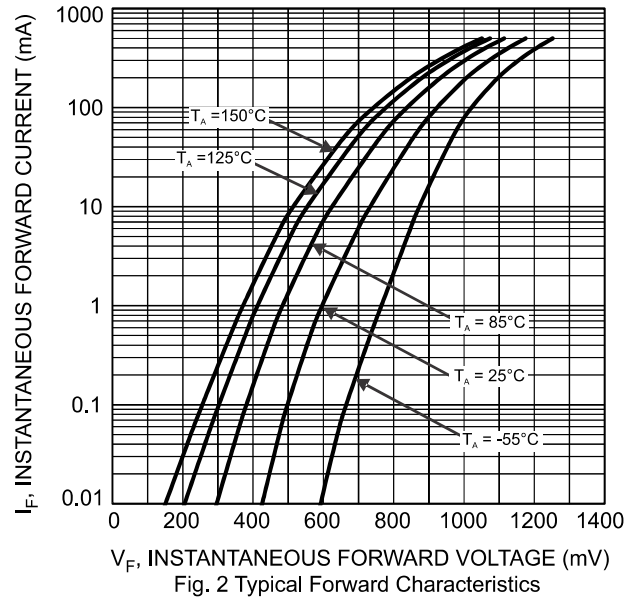
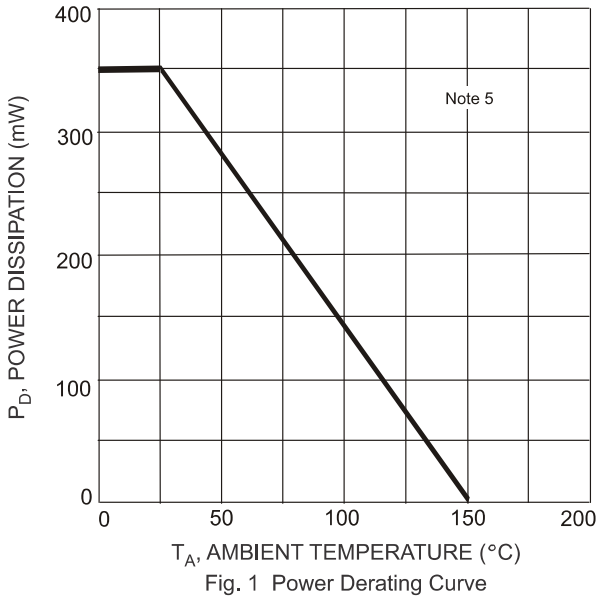
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	350	mW
Thermal Resistance Junction to Ambient Air (Note 5)	R _{θJA}	357	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	350	—	—	V	I _R = 150μA
Forward Voltage	V _{FM}	—	—	0.87 0.998 1.15	V	I _F = 20mA I _F = 100mA I _F = 200mA
Leakage Current (Note 6)	I _{RM}	—	—	100 35	nA μA	V _R = 240V, T _J = 25°C V _R = 240V, T _J = 150°C
Total Capacitance	C _T	—	—	5.0	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{rr}	—	—	50	ns	I _F = I _R = 10mA, I _{tr} = 0.1 x I _R , R _L = 100Ω

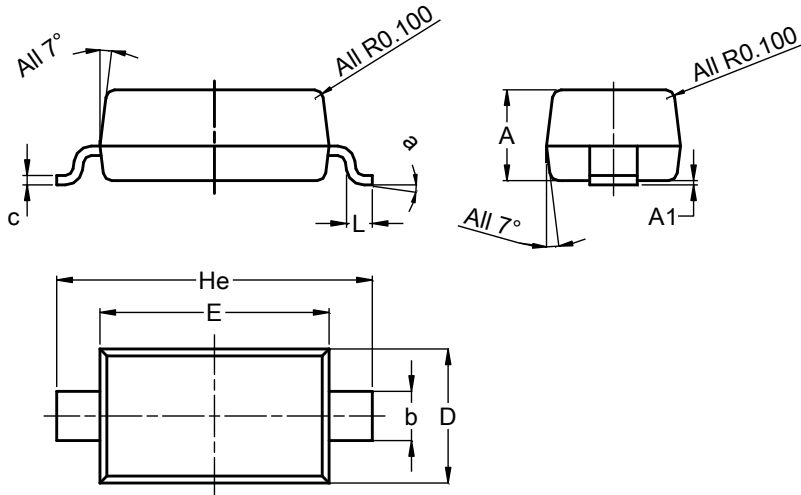
Notes: 5. Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper pad layout.
6. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

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

SOD123

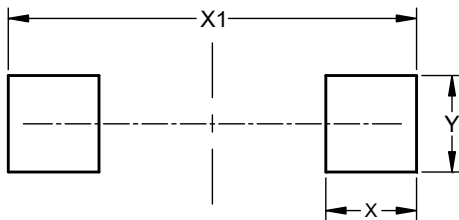


SOD123			
Dim	Min	Max	Typ
A	1.00	1.35	1.05
A1	0.00	0.10	0.05
b	0.52	0.62	0.57
c	0.10	0.15	0.11
D	1.40	1.70	1.55
E	2.55	2.85	2.65
He	3.55	3.85	3.65
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

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

SOD123



Dimensions	Value (in mm)
X	0.900
X1	4.050
Y	0.950

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