


## Features

- Small, Low Profile Surface Mount Package
- Very Sharp Breakdown Characteristics
- Ideally Suited for Automated Assembly Processes
- Very Low Leakage Current
- **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**
- **PPAP Capable (Note 4)**

## 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: 0.002 grams (Approximate)



Top View

## Ordering Information (Notes 4 & 5)

Part Number	Qualification	Case	Packaging
DDZ9692TQ-7 (Note 6)	Automotive	SOD523	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 <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to <https://www.diodes.com/quality/>.
  5. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.
  6. Dispensed in every other cavity of the tape.

## Marking Information



HL = Product Type Marking Code

**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Forward Voltage @ I <sub>F</sub> = 10mA	V <sub>F</sub>	0.9	V

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 7)	P <sub>D</sub>	250	mW
Thermal Resistance, Junction to Ambient Air (Note 7)	R <sub>θJA</sub>	500	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

Notes: 7. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Type Number	Zener Voltage Range				Maximum Reverse Leakage Current (Note 8)	
	V <sub>Z</sub> @ I <sub>ZT</sub>			I <sub>ZT</sub>	I <sub>R</sub> @ V <sub>R</sub>	
	Nom (V)	Min (V)	Max (V)	μA	μA	V
DDZ9692TQ	6.8	6.46	7.14	50	0.1	5.1

Notes: 8. Short duration pulse test used to minimize self-heating effect.

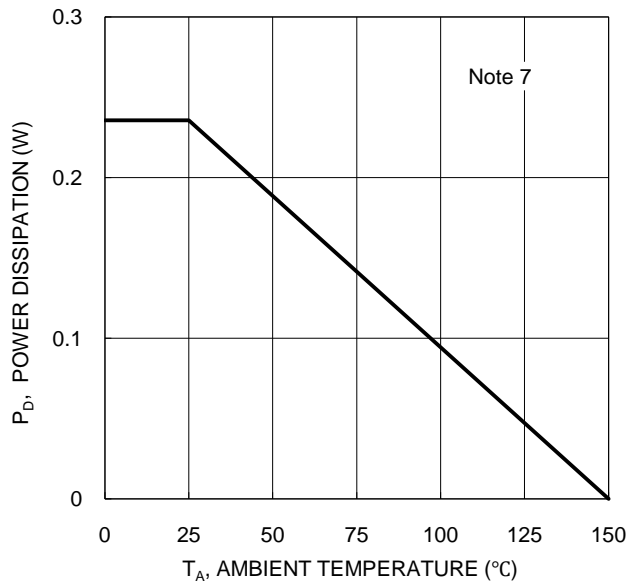


Figure 1. Power Dissipation Derating

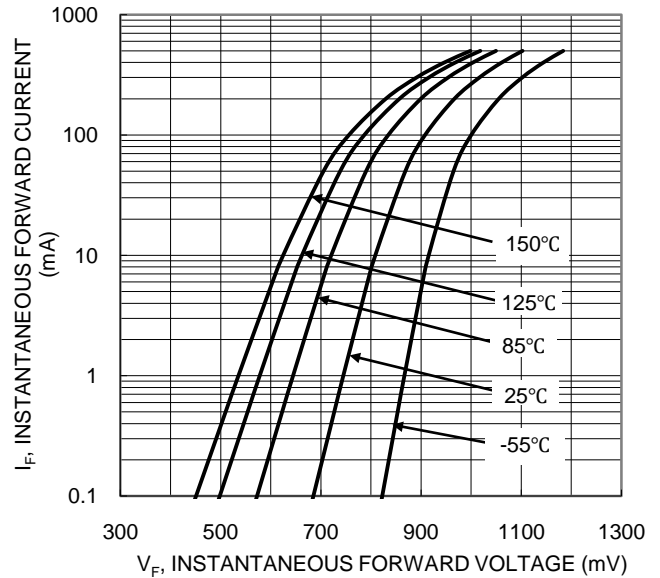


Figure 2. Typical Forward Characteristics

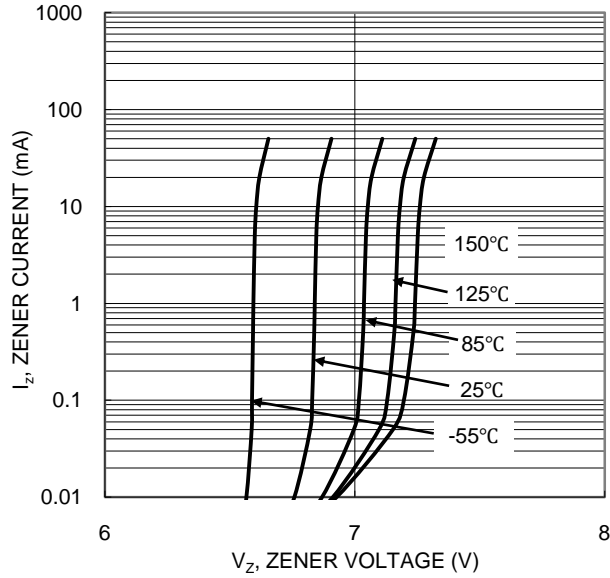


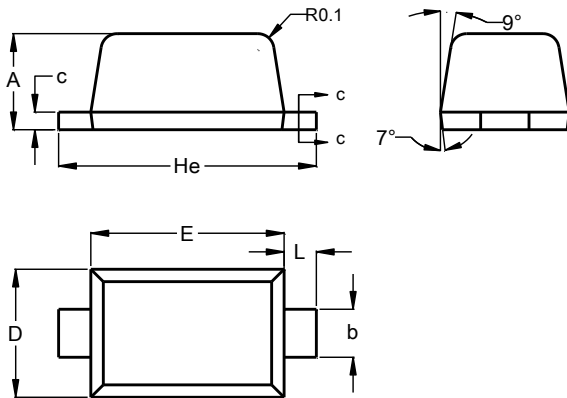
Figure 3. Typical Reverse Characteristics

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### Package Outline Dimensions

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

#### SOD523

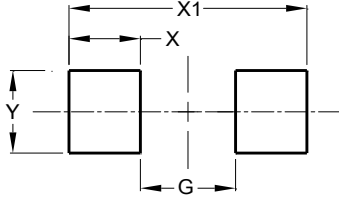


SOD523		
Dim	Min	Max
A	0.55	0.65
b	0.26	0.34
c	0.11	0.17
D	0.75	0.85
E	1.15	1.25
He	1.55	1.65
L	0.10	0.30
All Dimensions in mm		

## Suggested Pad Layout

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

### SOD523



Dimensions	Value (in mm)
<b>G</b>	0.80
<b>X</b>	0.60
<b>X1</b>	2.00
<b>Y</b>	0.70

**NEW PRODUCT**

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