Features

- Ideal for ESD Protection
- Low Capacitance (8pF Typical)
- Small Package Size
- **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
- Terminals: Matte Tin Finish Annealed Over Alloy 42 Leadframe (Lead-Free Plating). Solderable per MIL-STD-202, Method 208 e3
- Polarity: See Diagram
- Weight: 0.001 grams (Approximate)

SOD523

Top View

Device Schematic

Ordering Information (Note 4)

Part Number	Case	Packaging
T5V0LCS5-7	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

EU = Product Type Marking Code

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

Characteristic	Symbol	Value	Unit	Conditions
ESD Protection – Contact Discharge	$V_{ESD\_CONTACT}$	-15, +25	kV	Standard IEC 61000-4-2
ESD Protection – Air Discharge	V_{ESD_AIR}	-15, +25	kV	Standard IEC 61000-4-2
ESD Protection – Human Body Model	V_{ESD_HBM}	±8	kV	MIL-STD-883
ESD Protection – Machine Model	V_{ESD_MM}	±400	V	MIL-STD-883

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	200	mW
Thermal Resistance, Junction to Ambient Air (Note 5)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

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

Type Number	Operating Voltage @ I_{ZT} = 1.0mA (Note 6) V_{RWM} (Volts)			Breakdown Voltage Range @ I_{ZT} = 5.0mA (Note 6) V_{BR} (Volts)			Maximum Zener Impedance f = 1kHz Z_{ZK} @ I_{ZK} = 0.5mA	Typical Total Capacitance f = 1MHz C_T @ V_R = 5V	Maximum Reverse Current (Note 6) I_R @ V_R = 2.5V
	Min	Typ	Max	Min	Typ	Max	Ω	pF	μA
T5V0LCS5	3.00	—	—	5.45	5.60	5.75	150	8	1.0

Notes: 5. 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.
6. Short duration pulse test used to minimize self-heating effect.

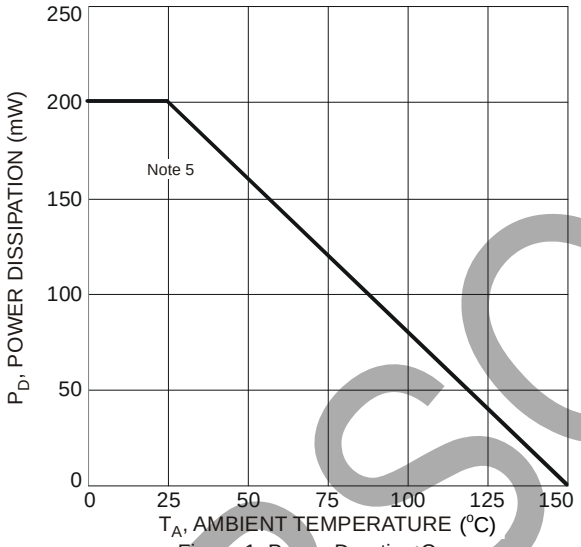


Figure 1 Power Derating Curve

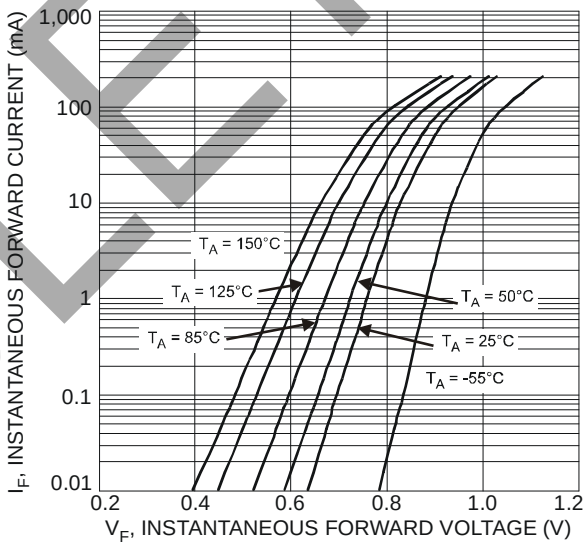


Figure 2 Typical Forward Characteristics

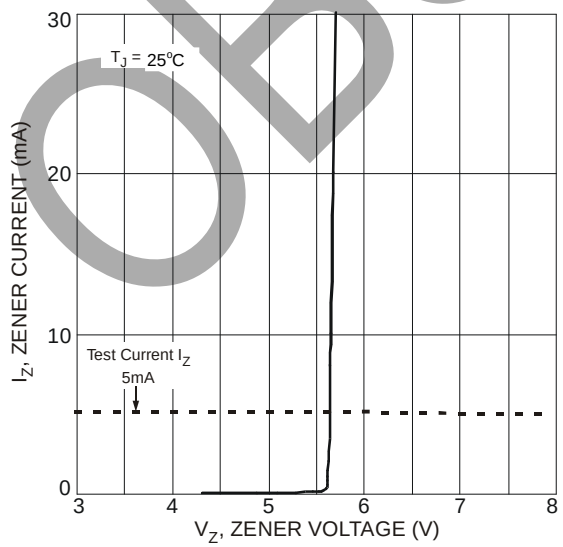


Figure 3 Typical Zener Breakdown Characteristics

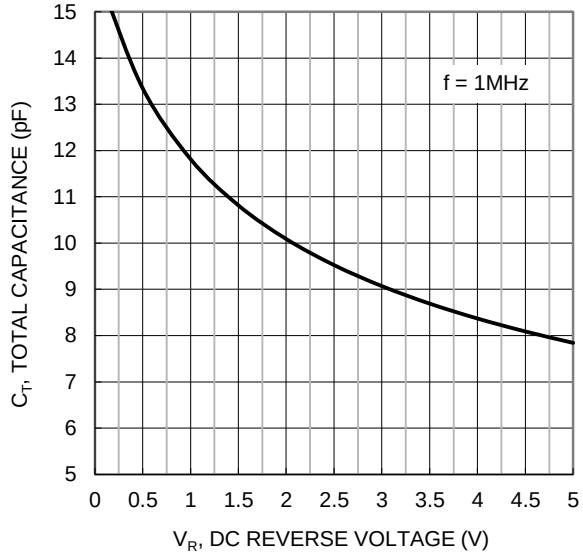
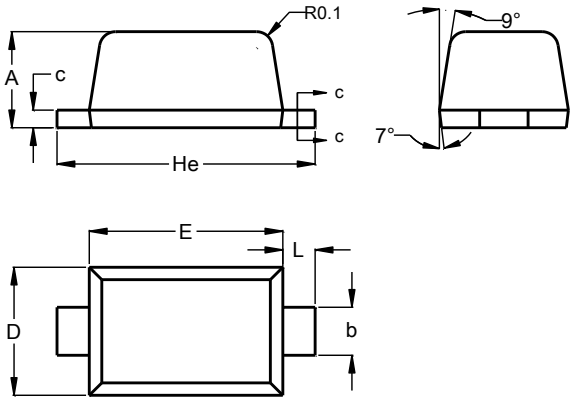


Figure 4 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

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

SOD523

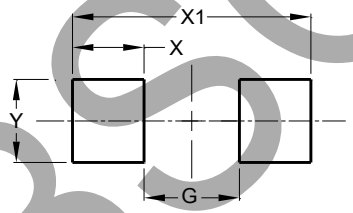


SOD523		
Dim	**Min**	**Max**
A	0.55	0.65
b	0.26	0.34
c	0.11	0.17
D	0.75	0.85
E	1.15	1.25
He	1.55	1.65
L	0.10	0.30
All Dimensions in mm		

Suggested Pad Layout

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

SOD523



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

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