

Features

- Low operating voltage: $\pm 5V$
- Ultra low capacitance: 15pF typical
- Ultra low leakage: nA level
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 - - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30kV$
 - Contact discharge: $\pm 30kV$
 - - IEC61000-4-5 (Lightning) 8A (8/20 μs)
- These are Pb-Free Devices
- Response Time is Typically $< 1\text{ ns}$

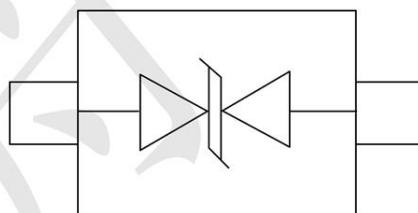
Mechanical Characteristics

- Package: SOD523 (0603)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty :3000/7Inch Tape & Reel

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals

Dimensions and Pin Configuration



SOD523

Marking: B5x Or 5Cx

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	70	W
Peak Pulse Current (8/20μs)	Ipp	8	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	6	6.8	9	V	IT = 1mA
Reverse Leakage Current	IR			0.07	uA	VRWM = 5V
Clamping Voltage	VC		7		V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC		8.6	10	V	Ipp=8A(8x 20us pulse)
Junction Capacitance	CJ		15		pF	VR = 0V, f = 1MHz

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig1. 8/20 μs Pulse Waveform

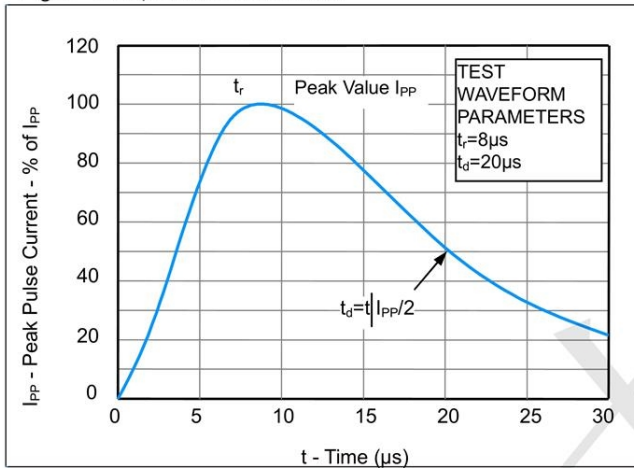


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

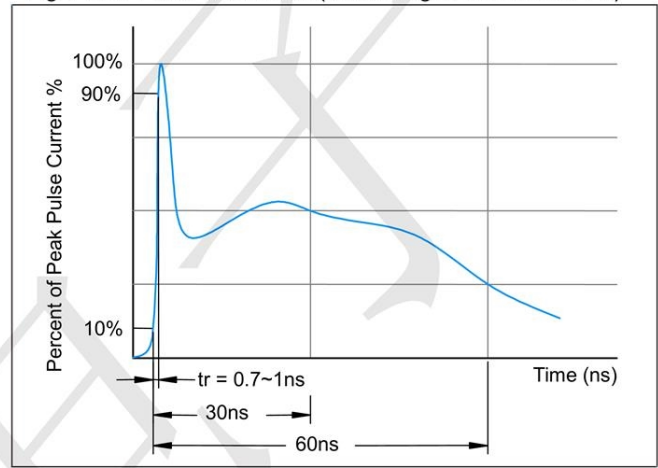
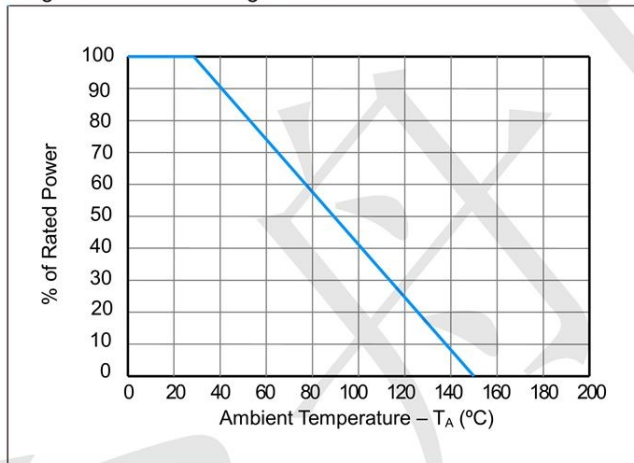
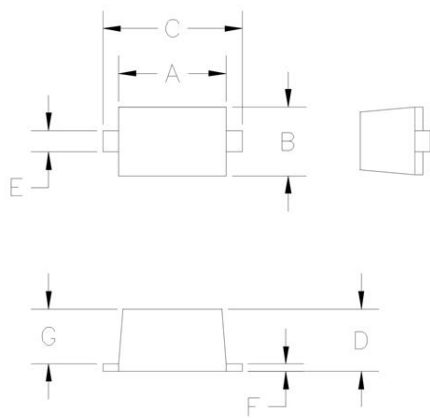


Fig3. Power Derating Curve



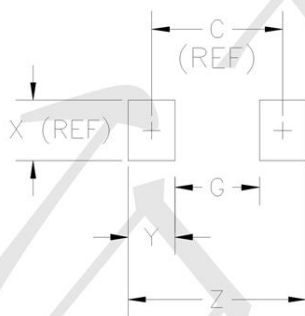
SOD523 (0603) Package Outline Drawing



DIM ^N	INCHES		MM [1]		NOTE
	MIN	MAX	MIN	MAX	
A	.043	.051	1.10	1.30	—
B	.028	.035	0.70	0.90	—
C	.059	.067	1.50	1.70	—
D	.020	.028	0.50	0.70	—
E	.010	.014	0.25	0.35	—
F	.004	.008	0.10	0.20	—
G	.020	.028	0.50	0.70	—

[1] CONTROLLING DIMENSION: MILLIMETERS

Suggested Land Pattern



DIM ^N	INCHES		MM [1]		NOTE
	MIN	MAX	MIN	MAX	
C	—	.067	—	1.70	REF
G	—	.043	—	1.10	—
X	—	.031	—	0.80	REF
Y	—	.024	—	0.60	—
Z	—	.091	—	2.30	—

[1] CONTROLLING DIMENSION: MILLIMETERS

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