

Features

- Low operating voltage: 5V
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- -IEC61000-4-5 (Lightning) 20A (8/20 μs)
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

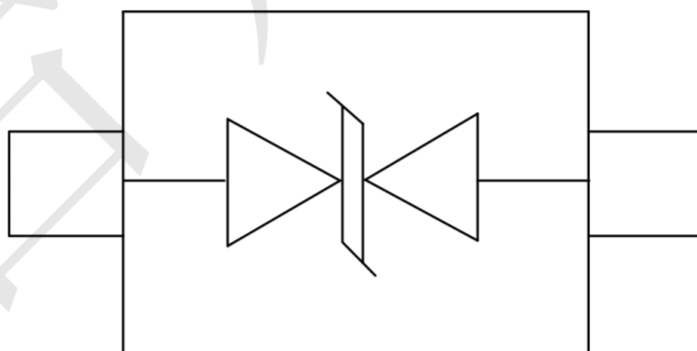
Mechanical Characteristics

- Package: SOD523(0603)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

Applications

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

Dimensions and Pin Configuration



SOD523

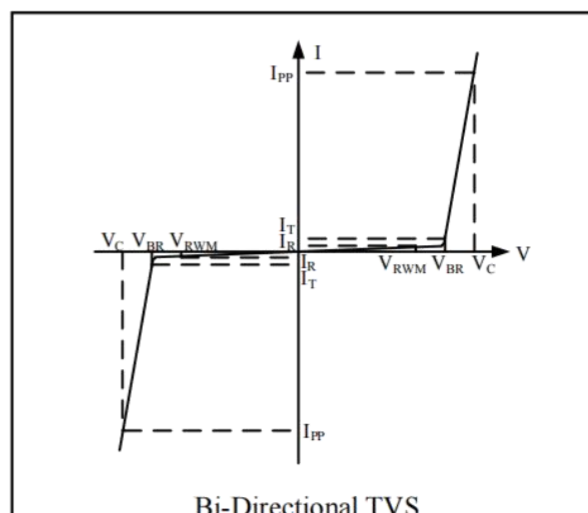
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	260	W
Peak Pulse Current (8/20μs)	Ipp	20	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±30 ±30	KV
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	5.5	6.5	8.5	V	IT= 1mA
Reverse Leakage Current	IR	--	--	0.1	uA	VRWM=5V
Clamping Voltage	VC	--	8.5	--	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC	--	10	13	V	Ipp=20A(8x 20us pulse)
Junction Capacitance	CJ	--	--	100	pF	VR = 0V, f = 1MHz

Symbol	Parameter
VRWM	Nominal Reverse Working Voltage
IR	Reverse Leakage Current @ VRWM
VBR	Reverse Breakdown Voltage @ IT
IT	Test Current for Reverse Breakdown
VC	Clamping Voltage @ Ipp
Ipp	Maximum Peak Pulse Current
CESD	Parasitic Capacitance
VR	Reverse Voltage
f	Small Signal Frequency



Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

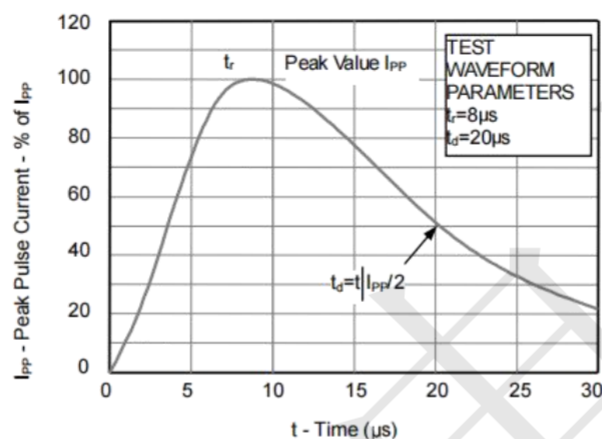


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

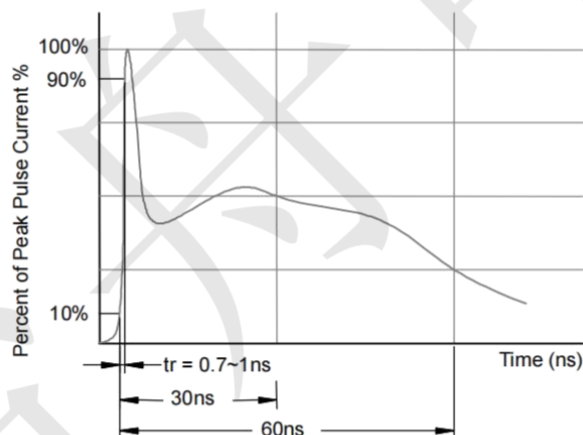
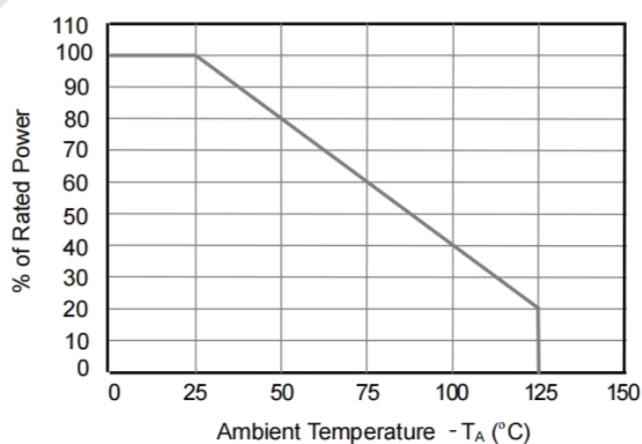
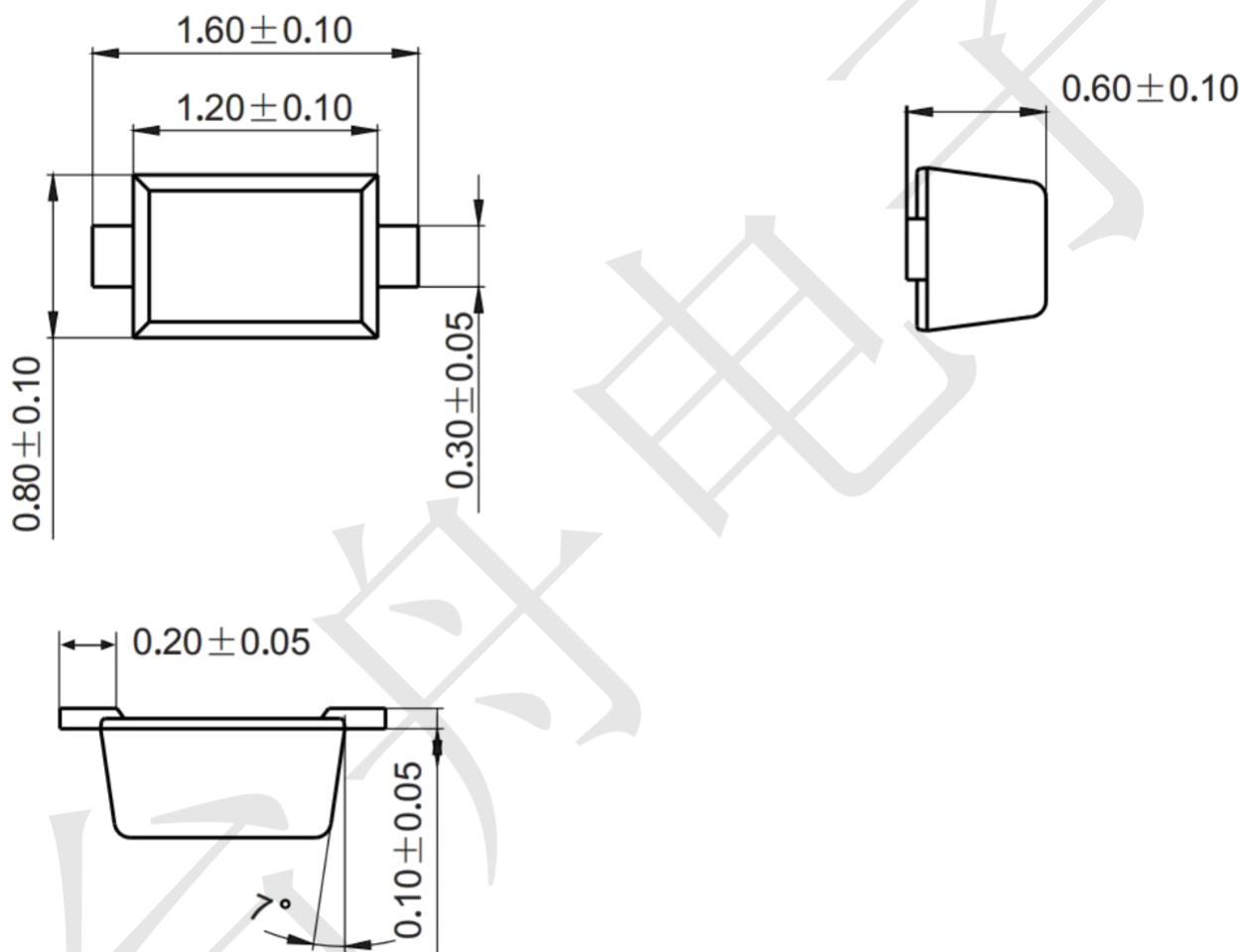


Fig3. Power Derating Curve



Package Outline Dimensions (unit: mm)

SOD523 (0603)



Mounting Pad Layout (unit: mm)

