

Features

- Low operating voltage: 48V
- Ultra low capacitance: 7pF (Typ)
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 20\text{kV}$
Contact discharge: $\pm 15\text{kV}$
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically $< 1\text{ ns}$

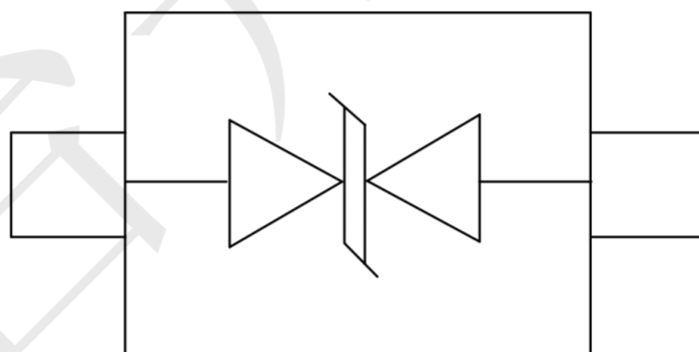
Mechanical Characteristics

- Package: SOD523(0603)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- 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

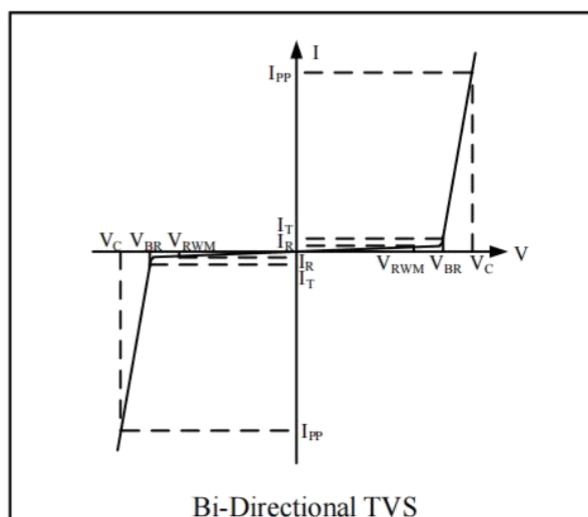
Absolute Maximum Ratings($T_{amb}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μ s)	Ppk	300	W
IEC 61000-4-2 Spec Current at 60 ns (A)	Ipp	4	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	± 20 ± 15	KV
Operating Temperature Range	TJ	-55 to +125	$^{\circ}C$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}C$

Electrical Characteristics ($T_A=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM	--	--	48	V	
Breakdown Voltage	VBR	53.5	--	--	V	$I_T = 1mA$
Reverse Leakage Current	IR	--	--	0.08	μA	$VRWM=48V$
Clamping Voltage	VC	--	64	--	V	$I_{pp}=1A(8 \times 20\mu s \text{ pulse})$
Clamping Voltage	VC	--	70	80	V	$I_{pp}=4A(8 \times 20\mu s \text{ pulse})$
Junction Capacitance	CJ	--	7	--	pF	$VR = 0V, f = 1MHz$

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current for Reverse Breakdown
V_C	Clamping Voltage @ I_{pp}
I_{pp}	Maximum Peak Pulse Current
C_{ESD}	Parasitic Capacitance
V_R	Reverse Voltage
f	Small Signal Frequency



Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

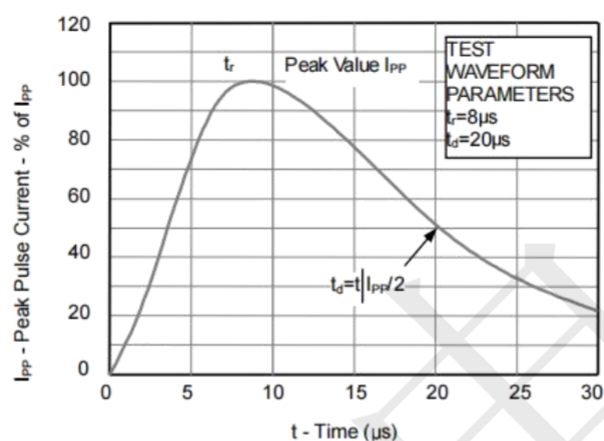


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

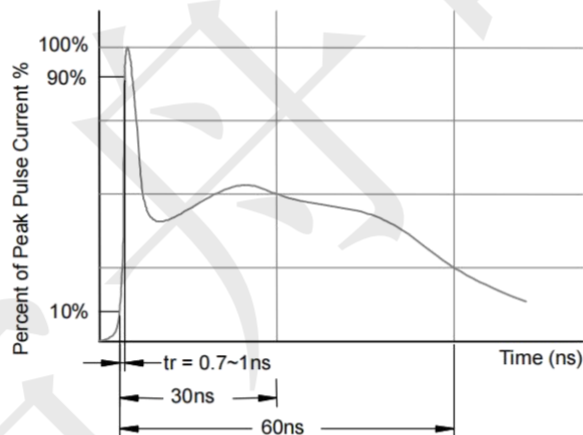
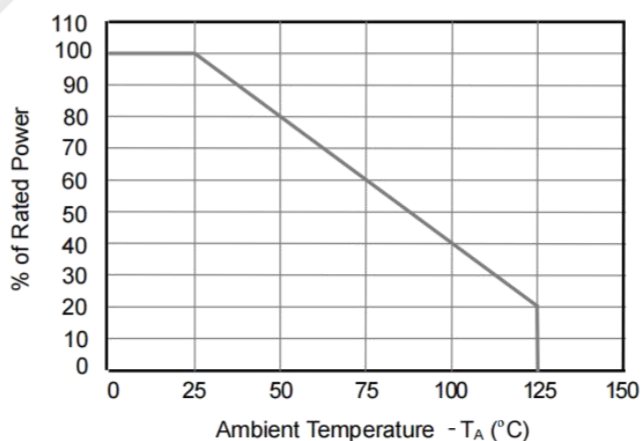
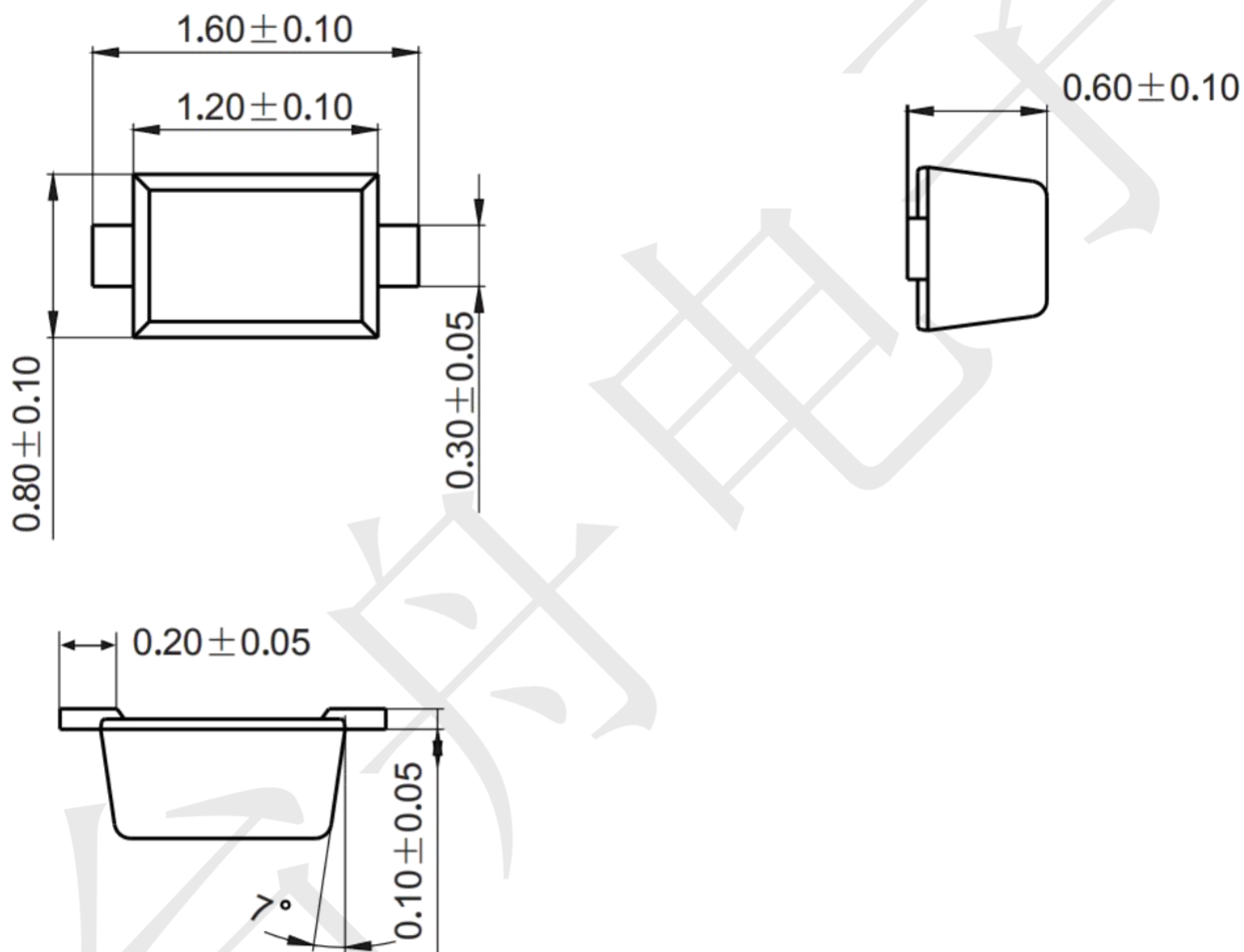


Fig3. Power Derating Curve



Package Outline Dimensions (unit: mm)

SOD523 (0603)



Mounting Pad Layout (unit: mm)

