

Features

- Low operating voltage: 24V
- Ultra low capacitance: 0.3pF(Typ)
- 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) 5.5A (8/20 μs)
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

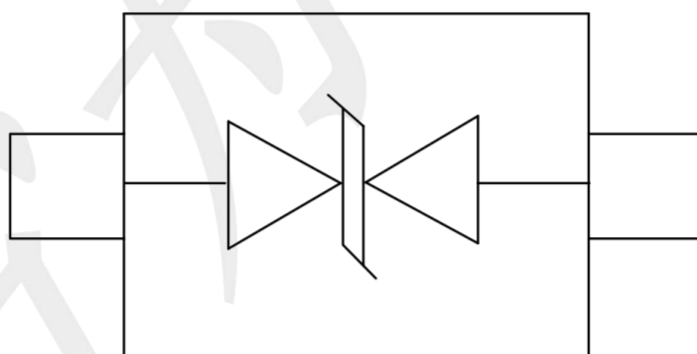
Mechanical Characteristics

- 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
- USB power and data line

Dimensions and Pin Configuration



SOD523

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

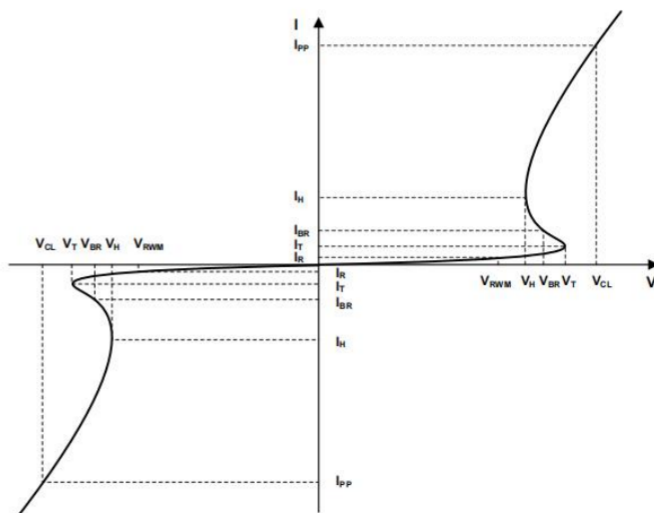
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P _{pk}	55	W
Peak Pulse Current (8/20μs)	I _{pp}	5.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±30 ±30	KV
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}	--	--	24	V	
Breakdown Voltage	V _{BR}	26	--	--	V	I _T = 1mA
Reverse Leakage Current	I _R	--	--	200	nA	V _{RWM} = 24V
Clamping Voltage	V _C	--	--	45	V	I _{pp} = 1A (8x 20us pulse)
Clamping Voltage	V _C	--	--	60	V	I _{pp} = 5.5A (8x 20us pulse)
Junction Capacitance	C _J	--	0.3	0.4	pF	V _R = 0V, f = 1MHz

Electrical Characteristics

Symbol	Parameter
V _{BR}	Reverse Breakdown Voltage
I _{BR}	Reverse Breakdown Current
V _{RWM}	Reverse Stand-off Voltage
I _R	Reverse Leakage Current
V _H	Holding Voltage
I _H	Holding Current
V _T	Trigger Voltage
I _T	Trigger Current
I _{PP}	Peak Pulse Current
V _{CL}	Clamping Voltage



Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

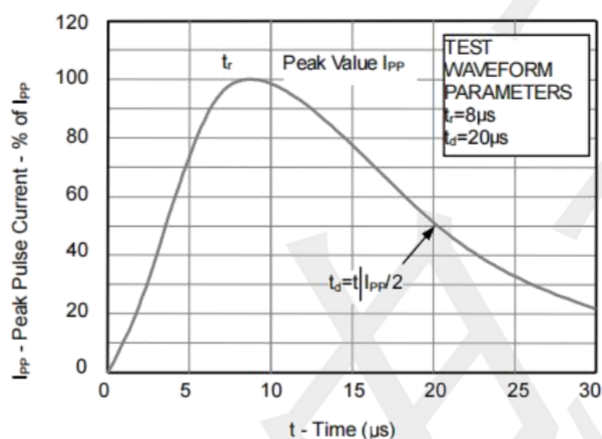


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

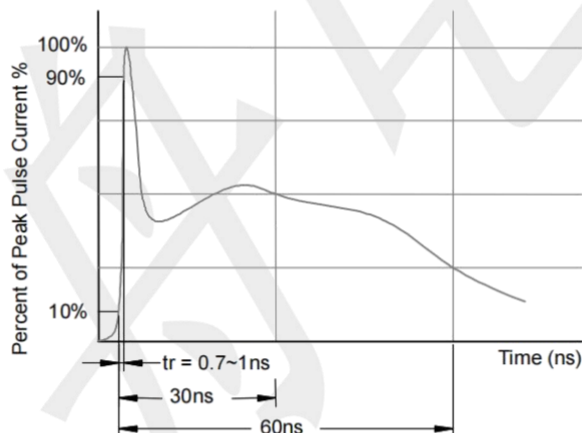
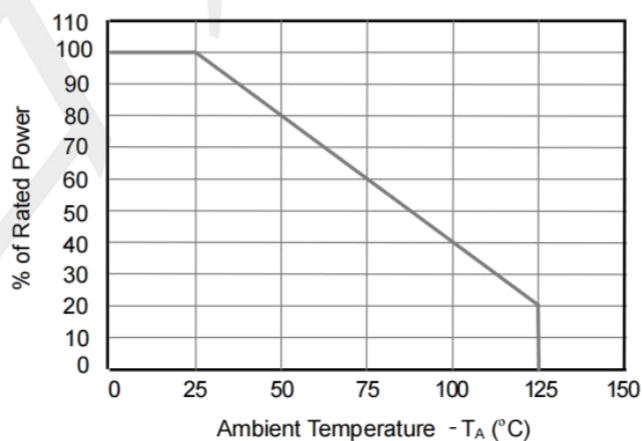
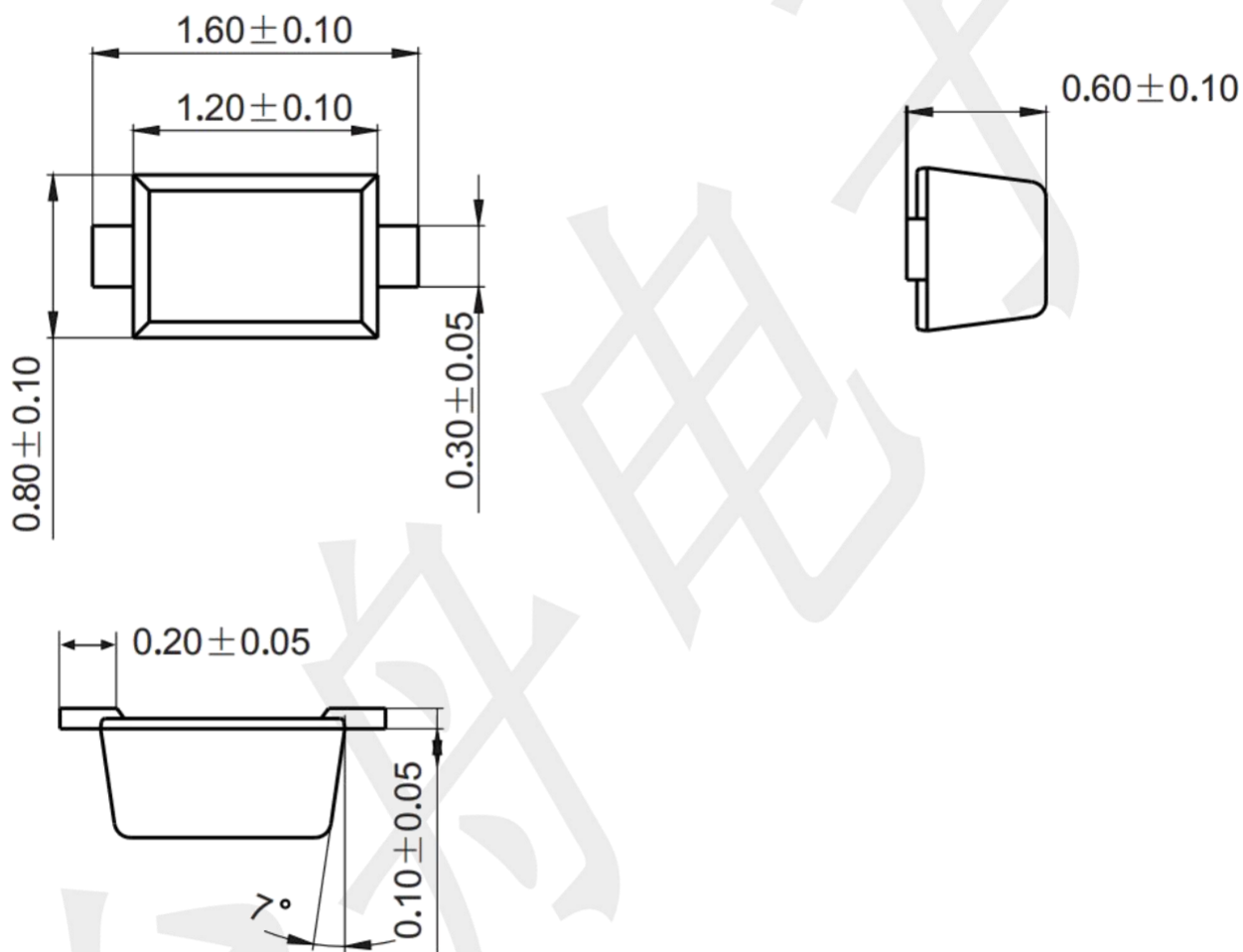


Fig3. Power Derating Curve



Package Outline Dimensions (unit: mm)

SOD523 (0603)



Mounting Pad Layout (unit: mm)

