

Features

- Low operating voltage: 20V
- 1000W peak pulse power (8/20 μ s)
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
Air discharge: ± 30 kV
Contact discharge: ± 30 kV
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- -IEC61000-4-5 (Lightning) 30A (8/20 μ s)
- 2-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

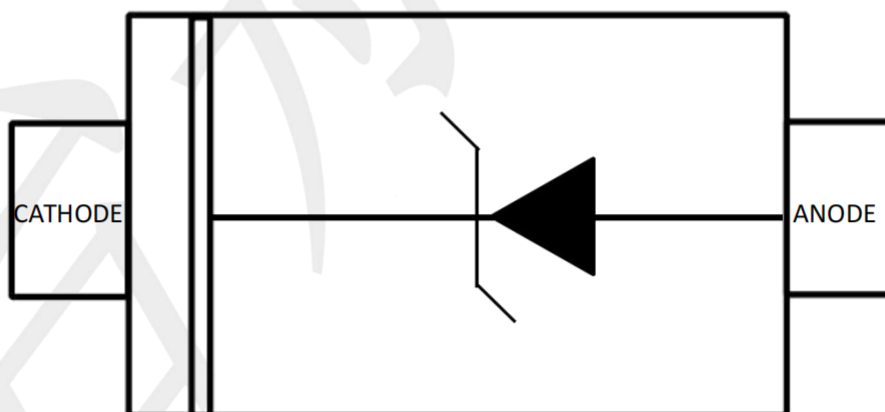
Mechanical Characteristics

- Package: SOD-123
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

Applications

- Power Management
- Industrial Application
- Power Supply Protection
- Portable Instrumentation
- Peripherals

Dimensions and Pin Configuration



TPESD20U20AW-LC

1-Line Uni-directional TVS Diode

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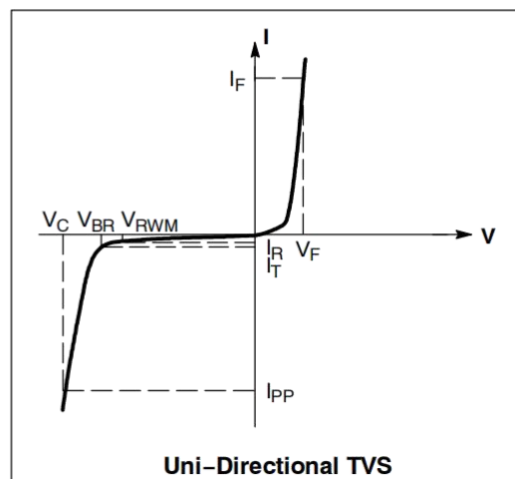
Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	1000	W
Peak Pulse Current (8/20μs)	Ipp	30	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±30 ±30	KV
Operating Temperature Range	TOP	-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	--	--	20	V	
Breakdown Voltage	VBR	22	--	25	V	IT= 1mA
Forward Voltage	VF	--	--	1.2	V	IT= 10mA
Reverse Leakage Current	IR	--	--	1	uA	VRWM=20V
Clamping Voltage	VC	--	24	--	V	Ipp=5A(8x 20us pulse)
Clamping Voltage	VC	--	30	--	V	Ipp=30A(8x 20us pulse)
Junction Capacitance	CJ	--	550	--	pF	VR = 0V, f = 1MHz

Symbol	Parameter
Ipp	Maximum Reverse Peak Pulse Current
VC	Clamping Voltage @ Ipp
VRWM	Working Peak Reverse Voltage
IR	Maximum Reverse Leakage Current @ VRWM
VBR	Breakdown Voltage @ IT
IT	Test Current
IF	Forward Current
VF	Forward Voltage @ IF
Ppk	Peak Power Dissipation
C	Capacitance @ VR = 0 and f = 1.0 MHz



Typical Performance Characteristics (TA=25°C unless otherwise Specified)

Fig1. 8/20μs Pulse Waveform

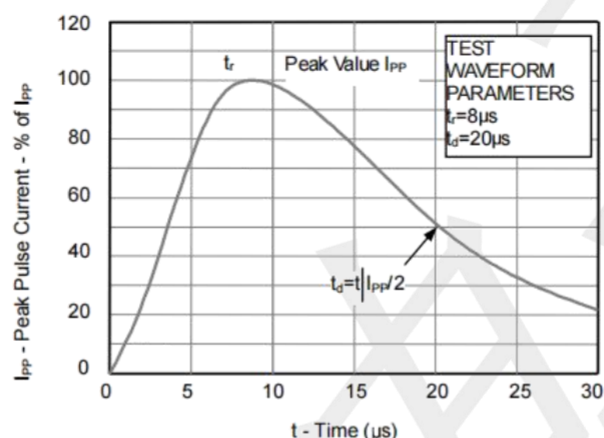


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

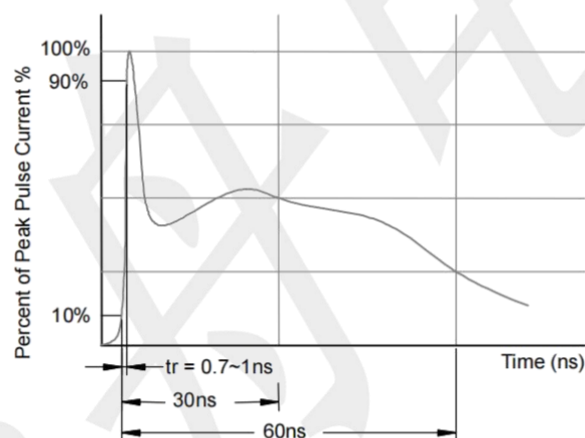
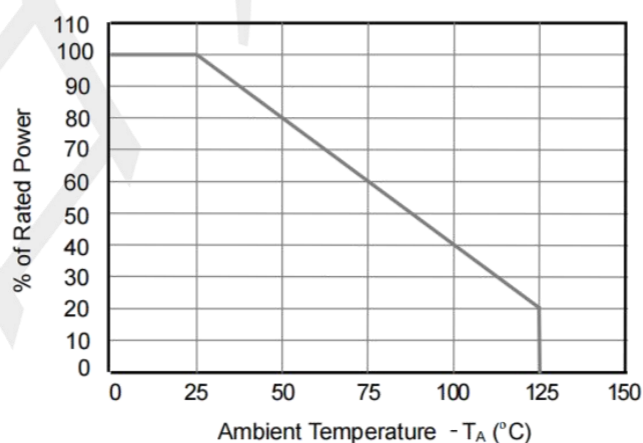
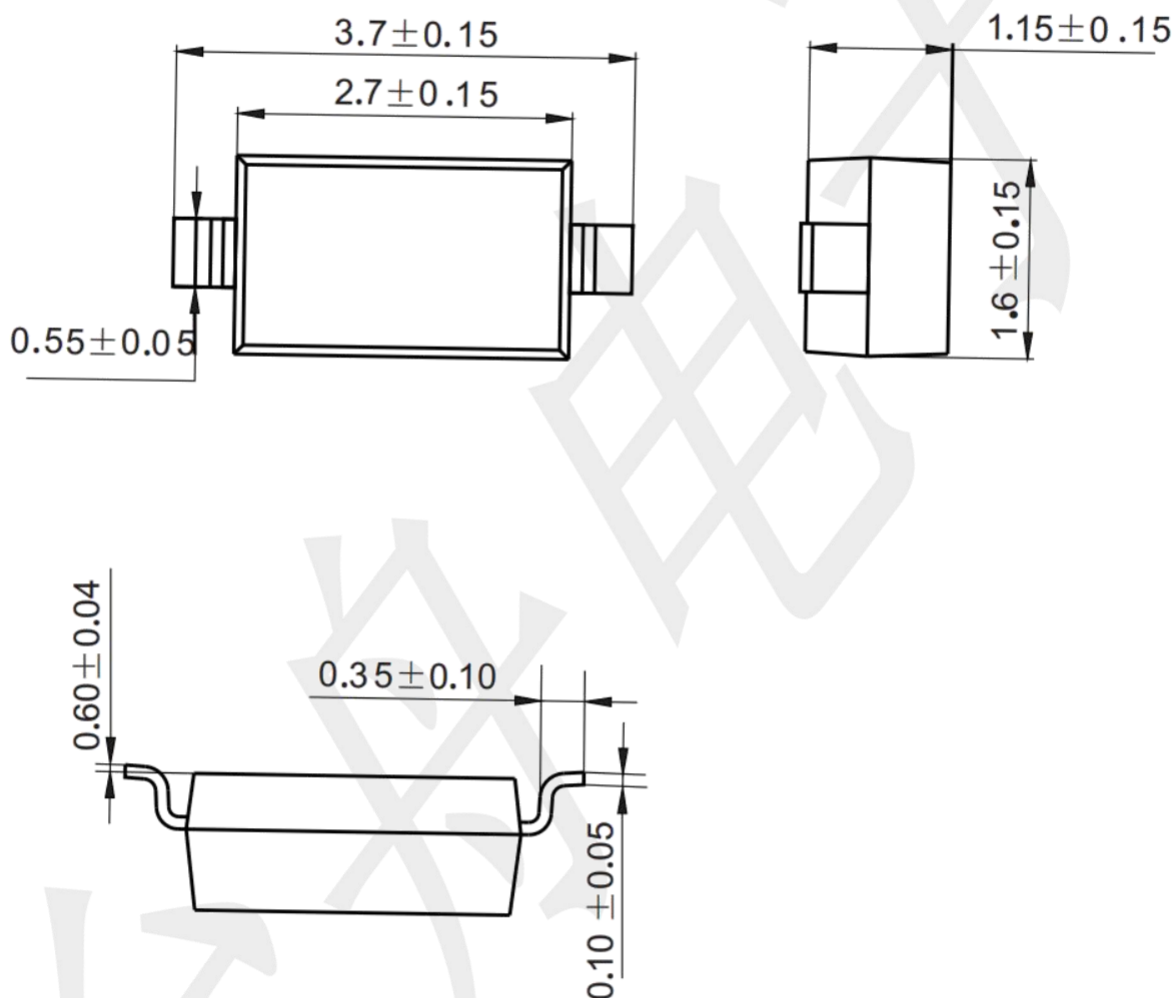


Fig3. Power Derating Curve



Package Outline Dimensions (unit: mm)

SOD-123



Mounting Pad Layout (unit: mm)

