

2 -Line Uni-directional TVS Diode

Features

- Low operating voltage: 15V
- Peak Pulse Power (8/20 μ s):450W
- 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)
- 3-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

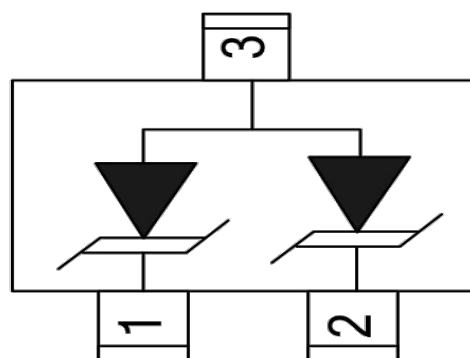
Mechanical Characteristics

- Package: SOT-23
- 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



SOT-23

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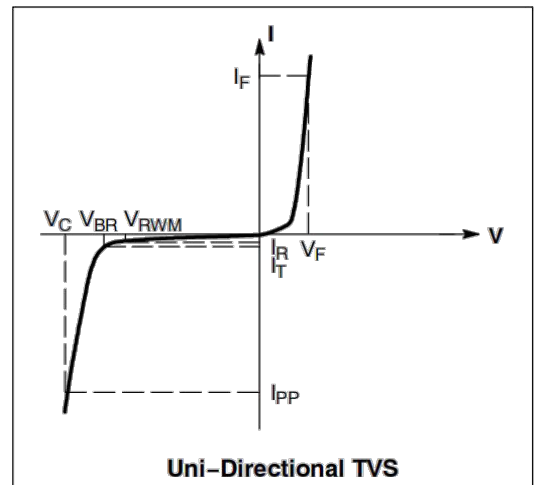
Absolute Maximum Ratings($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	450	W
Peak Pulse Current (8/20 μs)	Ipp	15	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	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM	--	--	15	V	
Breakdown Voltage	VBR	16.5	18	20	V	$I_T = 1\text{mA}$
Reverse Leakage Current	IR	--	--	1	μA	VRWM=15V
Forward Voltage	VF	--	0.7	1.2	V	$I_F = 1\text{mA}$
Clamping Voltage	VC	--	--	20	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC	--	25	30	V	Ipp=15A(8x 20us pulse)
Junction Capacitance	CJ	--	--	75	pF	VR = 0V, f = 1MHz, Pin1 to Pin2
Junction Capacitance	CJ	--	--	150	pF	VR = 0V, f = 1MHz, Pin1,2 to Pin3

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



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Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

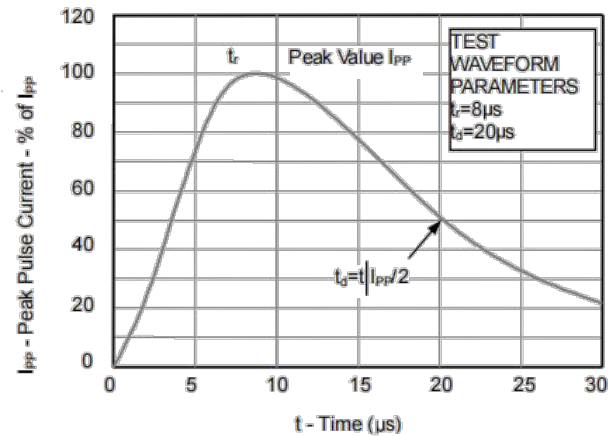


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

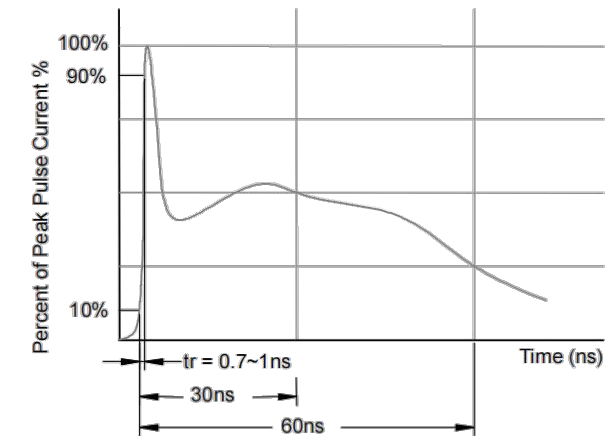
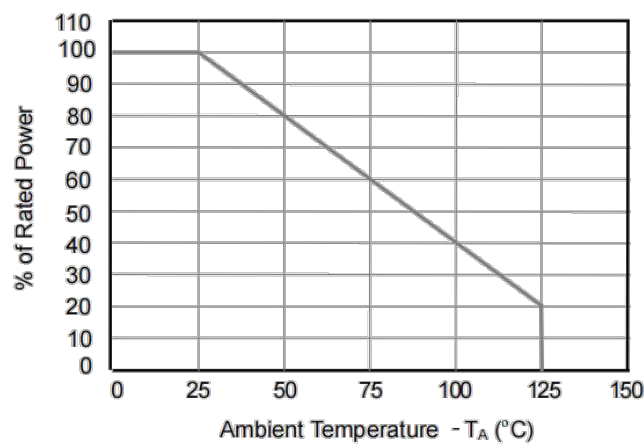


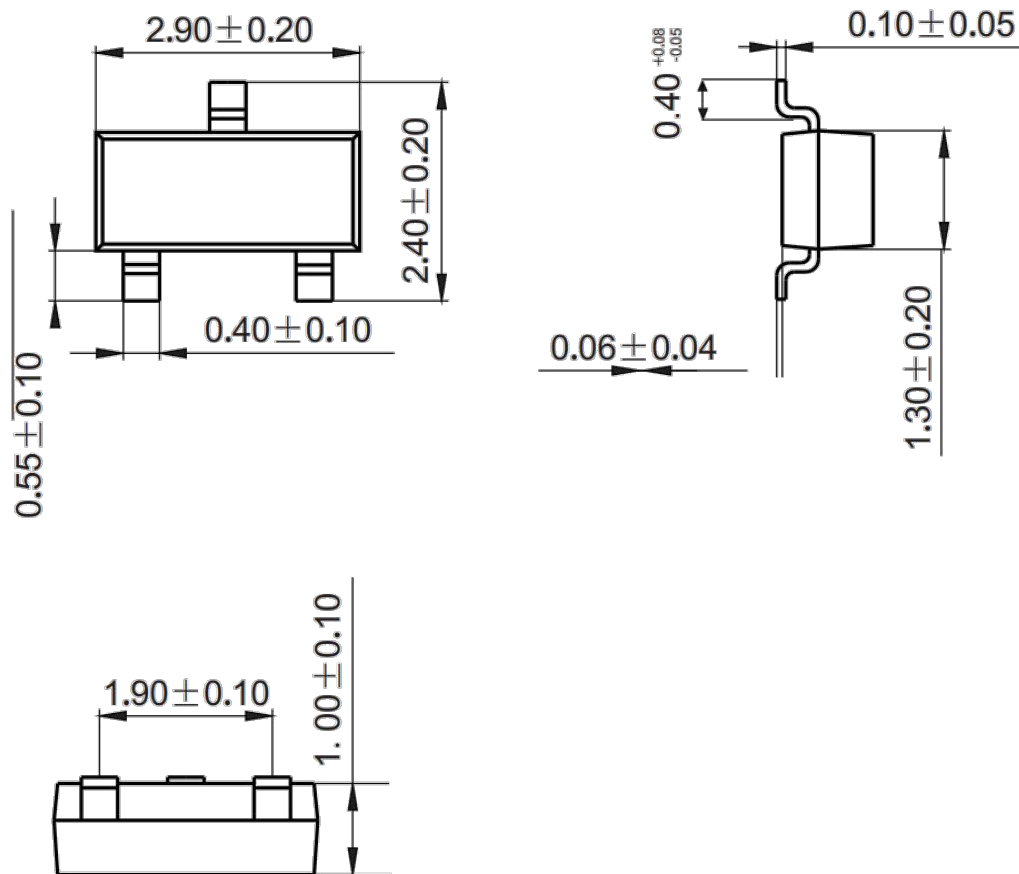
Fig3. Power Derating Curve



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Package Outline Dimensions (unit: mm)

SOT-23



Mounting Pad Layout (unit: mm)

