

## Features

- Low operating voltage: 12V
- Peak Pulse Power (8/20 $\mu$ s):800W
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm$ 30kV  
Contact discharge:  $\pm$ 30kV
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- 3-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

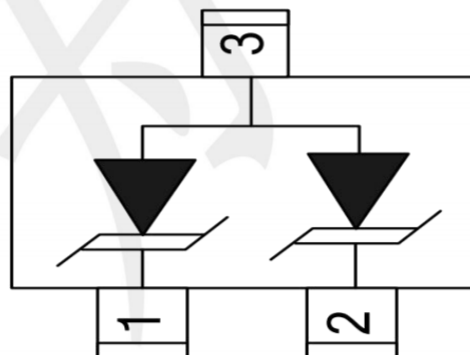
## Mechanical Characteristics

- 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**

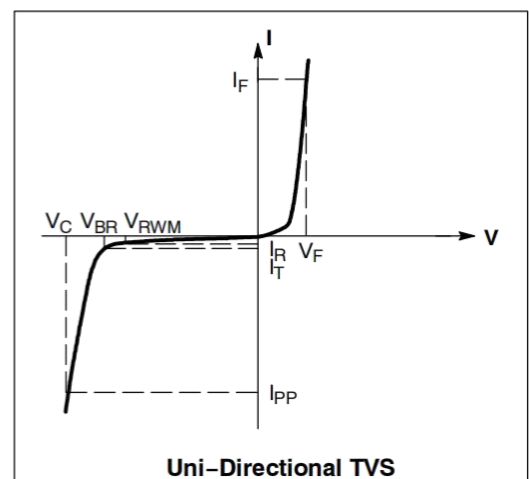
### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P <sub>pk</sub>	800	W
Peak Pulse Current (8/20μs)	I <sub>pp</sub>	30	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±30 ±30	KV
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>	--	--	12	V	
Breakdown Voltage	V <sub>BR</sub>	13	14	--	V	I <sub>T</sub> = 1mA
Reverse Leakage Current	I <sub>R</sub>	--	--	0.8	μA	V <sub>RWM</sub> = 12V
Forward Voltage	V <sub>F</sub>	--	0.7	1.2	V	I <sub>F</sub> = 1mA
Clamping Voltage	V <sub>C</sub>	--	15	17	V	I <sub>pp</sub> = 1A (8x 20us pulse)
Clamping Voltage	V <sub>C</sub>	--	25	27	V	I <sub>pp</sub> = 30A (8x 20us pulse)
Junction Capacitance	C <sub>J</sub>	--	70	--	pF	V <sub>R</sub> = 0V, f = 1MHz, Pin1 to Pin2
Junction Capacitance	C <sub>J</sub>	--	140	--	pF	V <sub>R</sub> = 0V, f = 1MHz, Pin1,2 to Pin3

Symbol	Parameter
I <sub>pp</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>pp</sub>
V <sub>RWM</sub>	Working Peak Reverse Voltage
I <sub>R</sub>	Maximum Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>
P <sub>pk</sub>	Peak Power Dissipation
C	Capacitance @ V <sub>R</sub> = 0 and f = 1.0 MHz



## Characteristic Curves

Fig1. 8/20 $\mu$ s Pulse Waveform

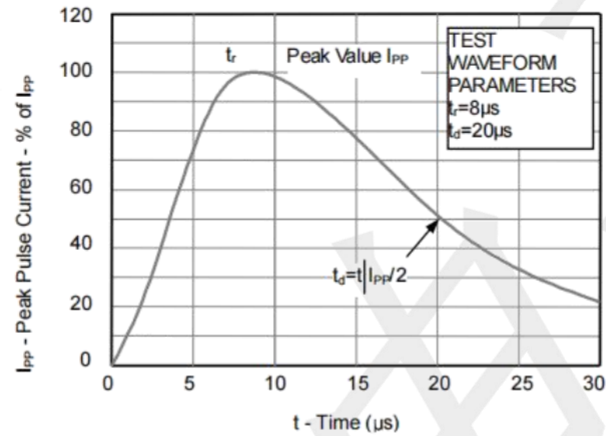


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

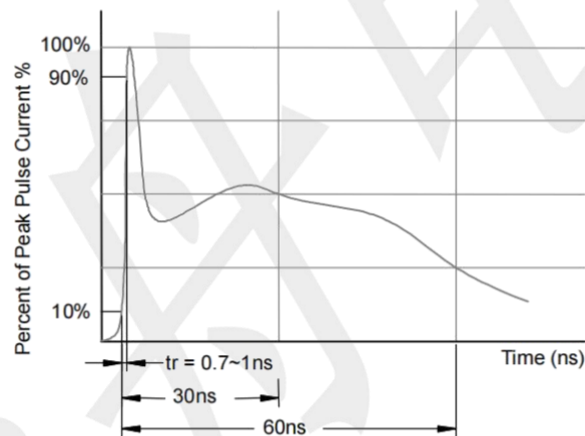
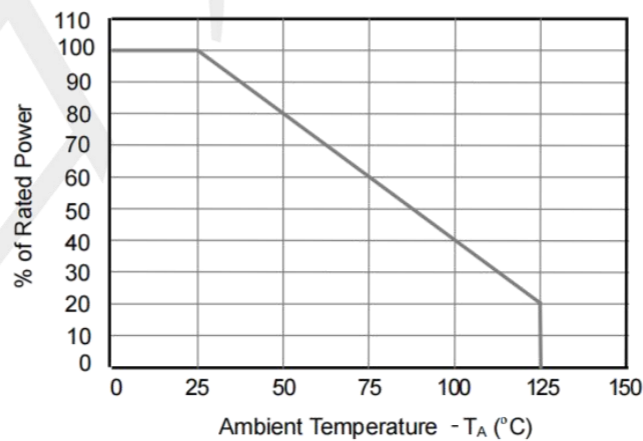
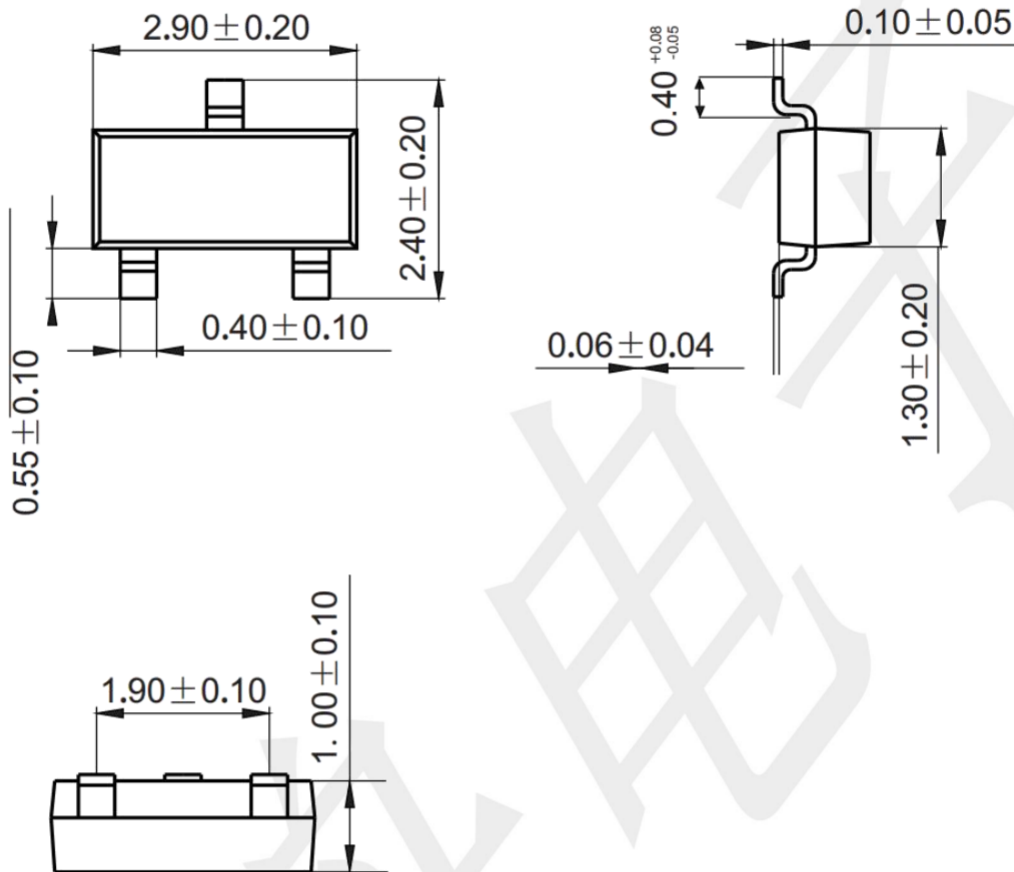


Fig3. Power Derating Curve



**Package Outline Dimensions (unit: mm)**

SOT-23



**Mounting Pad Layout (unit: mm)**

