

Features

- Low operating voltage: 3.3V
- Ultra low capacitance: 0.6pF
- 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)
- -IEC61000-4-5(Lightning):4A(8/20 μs)
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

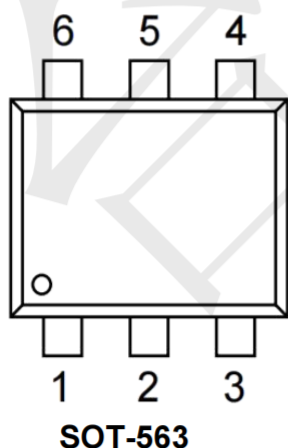
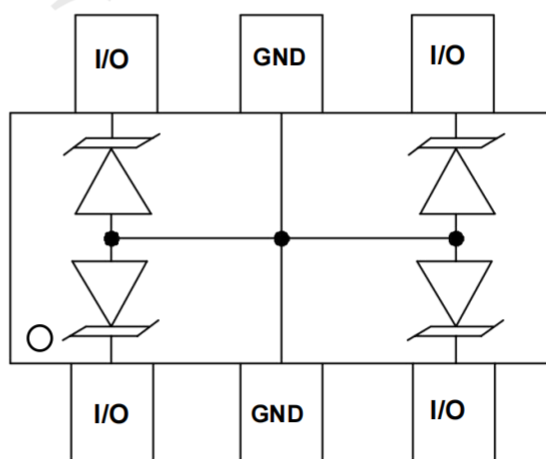
Mechanical Characteristics

- Package: SOT-563
- 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
- Notebooks and Handhelds
- Portable Instrumentation
- Industrial Controls

Dimensions and Pin Configuration



Circuit and Pin Schematic

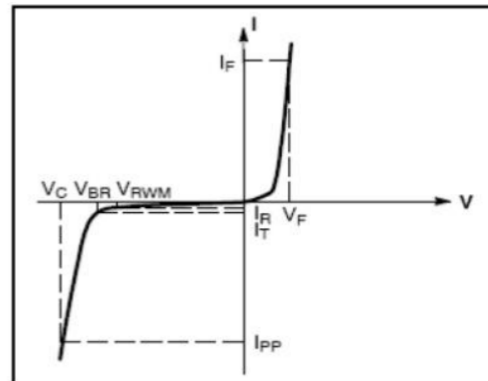
Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	60	W
Peak Pulse Current (8/20μs)	Ipp	4	A
ESD per IEC 61000-4-2 (Air)	VESD	±20	KV
ESD per IEC 61000-4-2 (Contact)		±15	
Operating Temperature Range	TJ	-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	--	--	3.3	V	Any I/O pin to ground
Breakdown Voltage	VBR	4.2	--	--	V	IT= 1mA,Any I/O pin to ground
Reverse Leakage Current	IR	--	--	0.1	uA	VRWM=3.3V,Any I/O pin to ground
Forward Voltage	VF	0.5	0.8	1.2	V	IF = 10mA
Clamping Voltage	VC	--	--	10	V	Ipp=1A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	--	14	V	Ipp=4A(8x 20us pulse), Any I/O pin to ground
Junction Capacitance	C _{I/O-GND}	--	0.45	0.6	pF	VR=0V,f=1MHz, Any I/O to GND
	C _{I/O- I/O}	--	0.22	0.3	pF	VR=0V,f=1MHz, between I/O pins

Symbol	Parameter
VC	Clamping Voltage @ IPP
IPP	Peak Pulse Current
VBR	Breakdown Voltage @ IT
IT	Test Current
IR	Reverse Leakage Current @ VRWM
VRWM	Reverse Standoff Voltage
VF	Forward Voltage@ IF
IF	Forward Current



V-I characteristics for a uni-directional TVS

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

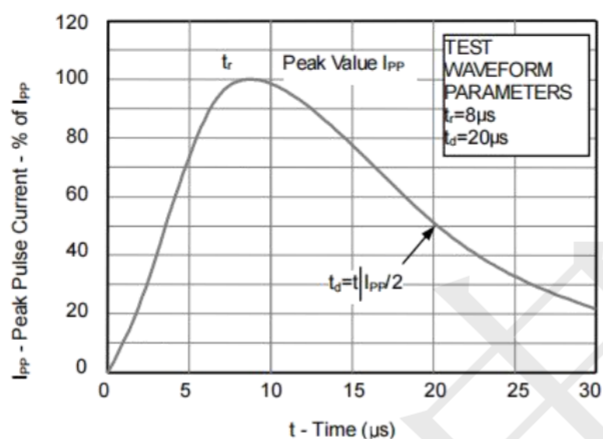


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

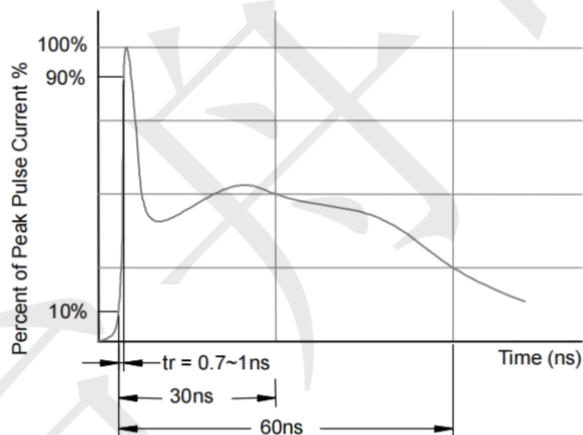
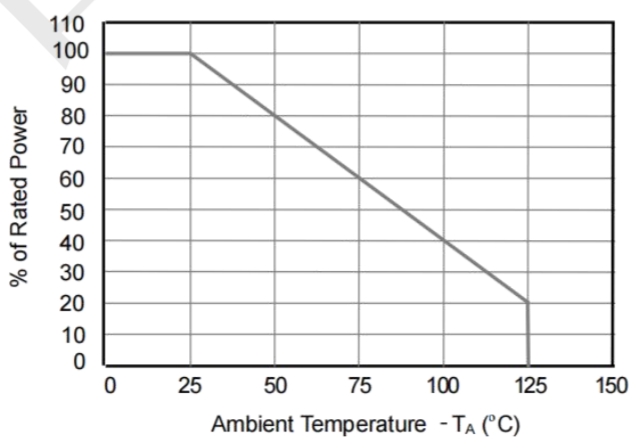
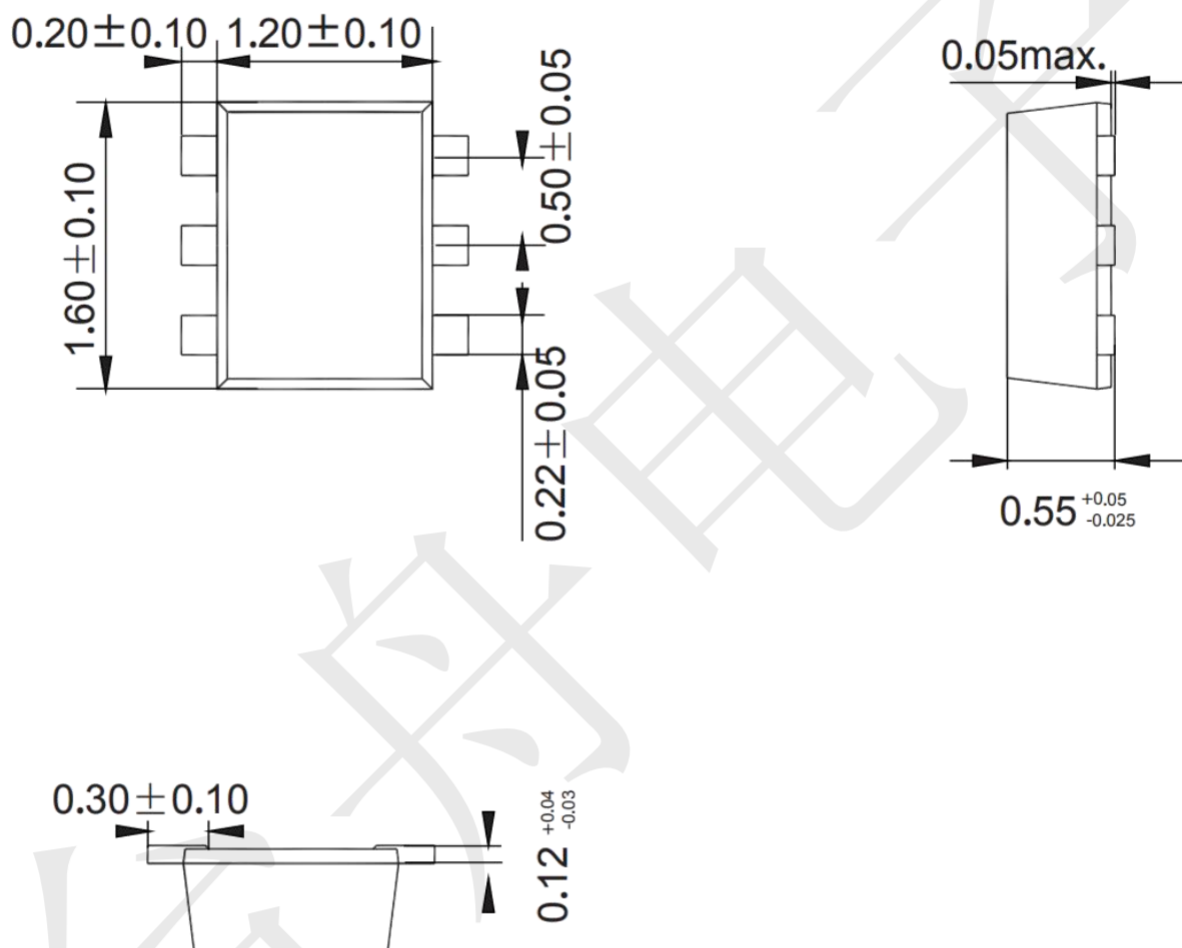


Fig3. Power Derating Curve



Package information (unit: mm)

SOT-563



Mounting Pad Layout (unit: mm)

