

Features

- Low operating voltage: 5V
- Ultra low capacitance: 0.5pF typical (I/O to GND)
- 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):3.0A(8/20 μs)
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

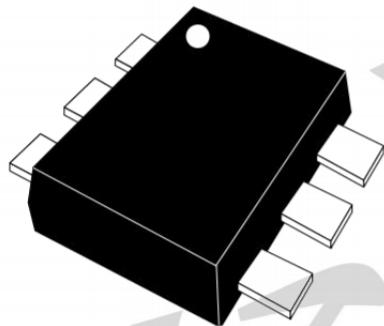
Mechanical Characteristics

- Package: SOT-563
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- - IEC 61000-4-2 (ESD) immunity test

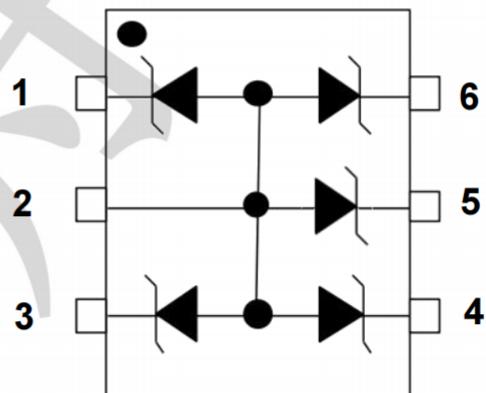
Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Set-top boxes
- Notebooks and Handhelds

Dimensions SOT-563



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	40	W
Peak Pulse Current (8/20μs)	Ipp	3.0	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±20 ±15	kV
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	--	--	5	V	Any I/O pin to ground
Breakdown Voltage	VBR	--	6.5	--	V	IT= 1mA, Any I/O pin to ground
Reverse Leakage Current	IR	--	0.1	--	uA	VRWM=5V, Any I/O pin to ground
Clamping Voltage	VC	--	--	10	V	Ipp=1A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	--	12	V	Ipp=3A(8x 20us pulse) , Any I/O pin to ground
Forward Voltage	VF	--	--	1	V	IF = 10 mA
Junction Capacitance	Cvo-GND	--	0.5	--	pF	VR=0V,f=1MHz, Any I/O to GND
	Ci/o- I/o	--	0.3	0.6	pF	VR=0V,f=1MHz, between I/O pins

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

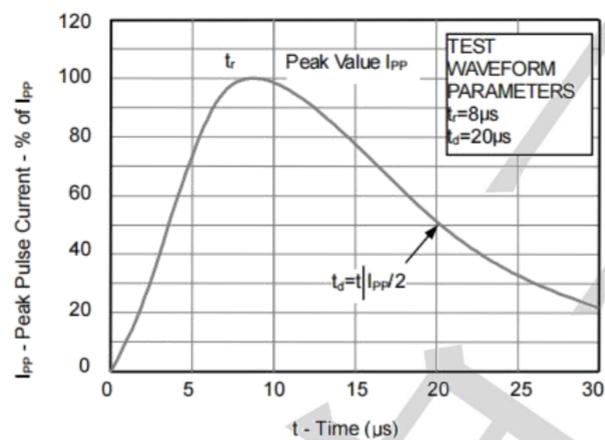


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

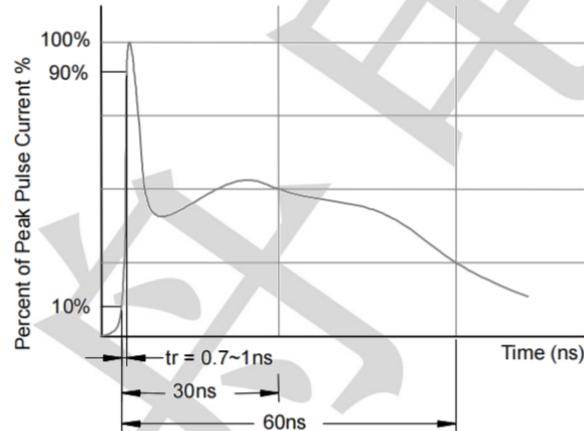
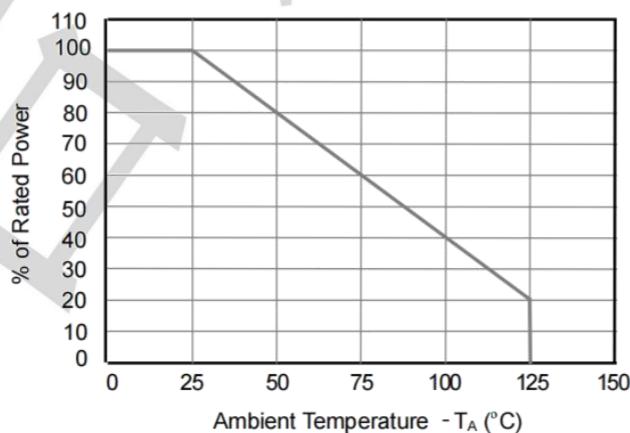
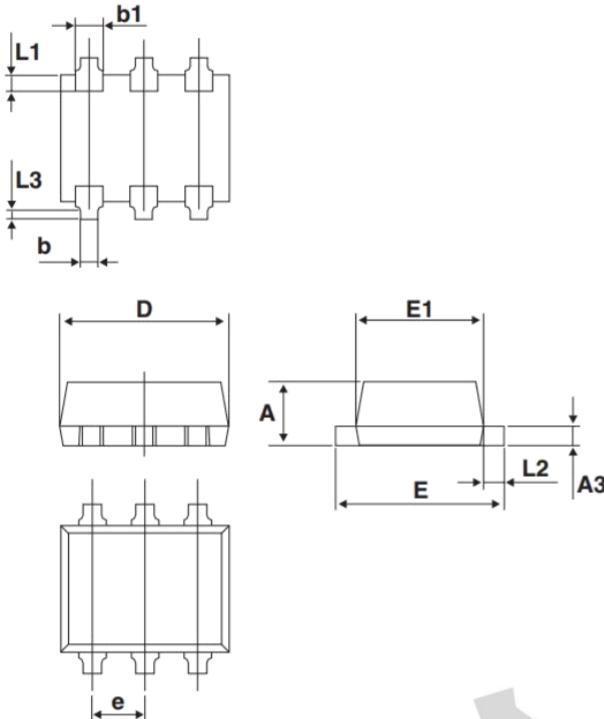


Fig3. Power Derating Curve



Package Outline & Dimensions

SOT-563



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.45		0.60	0.018		0.024
A3	0.08		0.18	0.003		0.007
b	0.17		0.34	0.007		0.013
b1	0.19	0.27	0.34	0.007	0.011	0.013
D	1.50		1.70	0.059		0.067
E	1.50		1.70	0.059		0.067
E1	1.10		1.30	0.043		0.051
e		0.50				0.020
L1		0.19				0.007
L2	0.10		0.30	0.004		0.012
L3		0.10				0.004

FOOT PRINT (millimeters)

