Ultra low capacitance ESD Protection for Ethernetports

Features

- Ultra low capacitance: 0.6pF typical
- Ultra low leakage: nA level
- Low operating voltage: 5.5V
- Bi-directional TVS Diode Array
- Low clamping voltage
- Complies with following standards:

– IEC 61000-4-2 (ESD) immunity test
Air discharge: ±20kV
Contact discharge: ±15kV
– IEC 61000-4-5 Surge 2.8 A (8/20us)
– IEC61000-4-4 (EFT) 40A (5/50ns)

- ROHS Compliant

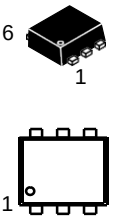
Mechanical Characteristics

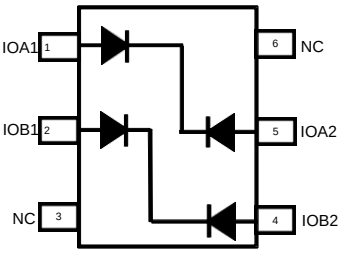
- Package: SOT-563
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Shipping Qty : 4000pcs/7Inch Tape & Reel

Applications

- Glucose Meter
- Tablets
- GPS
- Portable Media Players

Dimensions and Pin Configuration





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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	50	W
ESD per IEC61000-4-2 (Air) ESD per IEC61000-4-2 (Contact)	V_{ESD}	±20 ±15	kV
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{stg}	-55 to +150	℃

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			±5.5	V	
Breakdown Voltage	V_{BR}	6.8		9.5	V	I_T=1mA
Leakage Current	I_{Leak}		0.01	0.1	nA	V_{IO} =5V
Dynamic resistance	R_{DYN}			0.9	Ω	any I/O pin to GND
Clamping Voltage（I/O-GND）	V_C			9	V	I_{PP}=1A,Tp=8/20μs
Clamping Voltage(Vcc-GND)	V_C		14.5		V	I_{PP}=2.8A,Tp=8/20μs
Junction Capacitance	C_J		0.6	0.9	pF	V_R=0V, f=1MHz,

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

Fig1. 8/20μs Pulse Waveform

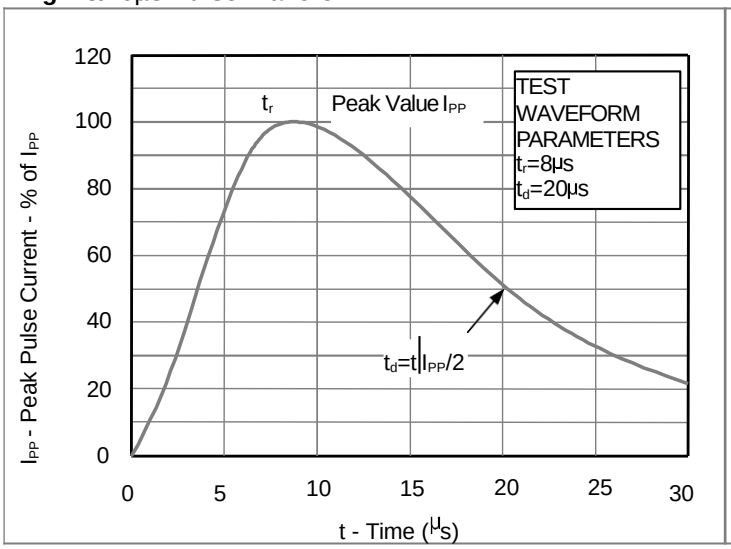


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

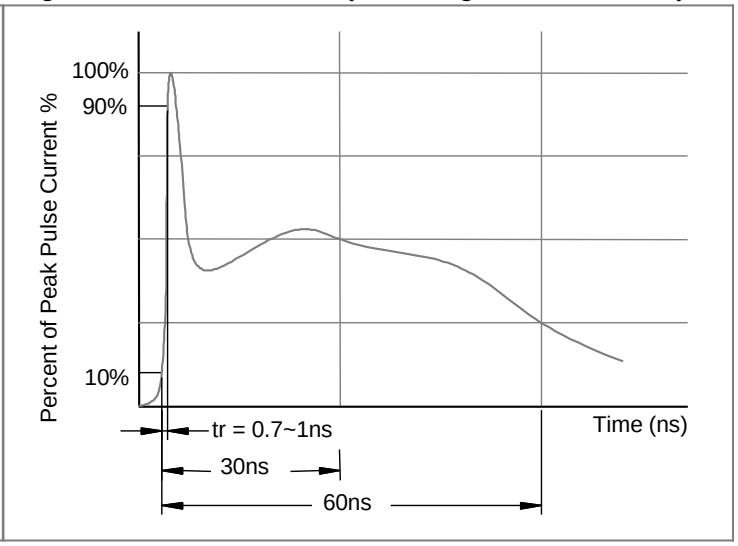
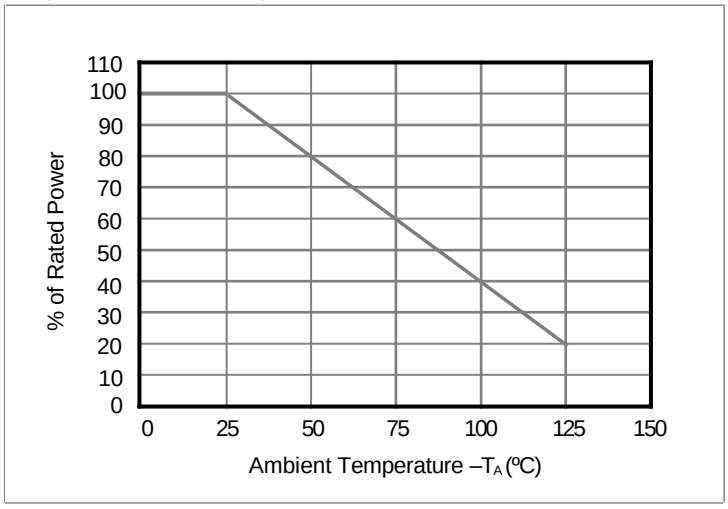
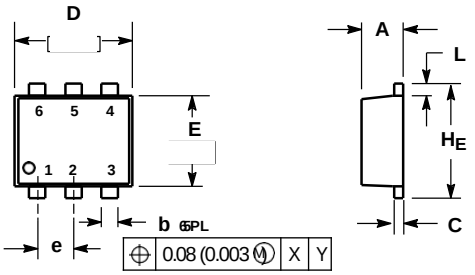


Fig3. Power Derating Curve



Outline Drawing : SOT-563



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.50	0.55	0.60	0.020	0.021	0.023
b	0.17	0.22	0.27	0.007	0.009	0 011
C	0.08	0.12	0.18	0.003	0.005	0.007
D	1.50	1.60	1.70	0.059	0.062	0.066
E	1.10	1.20	1.30	0.043	0.047	0.051
e	0.5 BSC			0.02 BSC		
L	0.10	0.20	0.30	0.004	0.008	0.012
H_E	1.50	1.60	1.70	0.059	0.062	0.066

Land Pattern : SOT-563