

Features

- Low operating voltage: 2.8V
- Ultra low capacitance: 3pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- -IEC61000-4-5(Lightning):30A(8/20 μs)
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

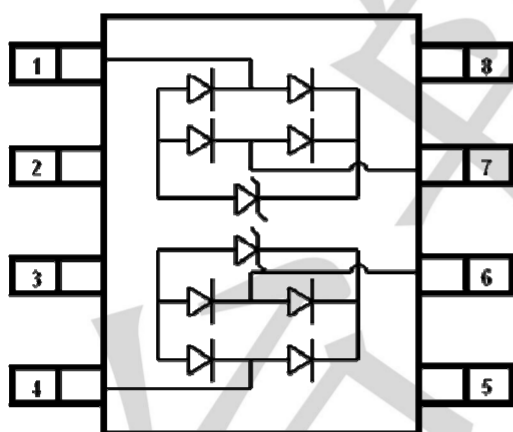
Mechanical Characteristics

- Package: SOP-8
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- - IEC 61000-4-2 (ESD) immunity test

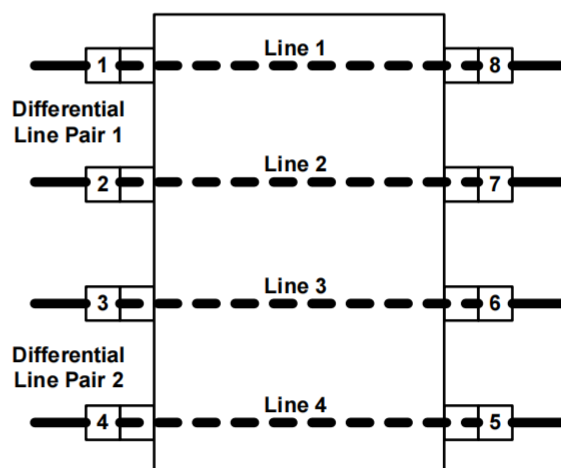
Applications

- WAN/LAN Device
- 10/100/1000 Ethernet
- Power Over Ethernet (POE)
- Switching Systems
- Computers
- Instruments
- Differential Inputs

Dimensions and Pin Configuration



Circuit Board Layout Example



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	500	W
Peak Pulse Current (8/20μs)Any I/O pin to ground	Ipp	30	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	°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	--	--	2.8	V	Any I/O pin to ground
Breakdown Voltage	VBR	3	--	--	V	IT= 1mA,Any I/O pin to ground
Reverse Leakage Current	IR	--	--	0.1	uA	VRWM=2.8V,Any I/O pin to ground
Forward voltage	VF	--	0.7	1.2	V	IF=10mA
Clamping Voltage	VC	--	--	10	V	Ipp=1A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	--	12	V	Ipp=10A(8x 20us pulse), Any I/O pin to ground
Clamping Voltage	VC	--	--	18	V	Ipp=30A(8x 20us pulse), Any I/O pin to ground
Junction Capacitance	C _{I/O- I/O}	--	2	--	pF	VR=0V,f=1MHz, between I/O pins

Characteristic Curves

Fig1. 8/20 μ s Pulse Waveform

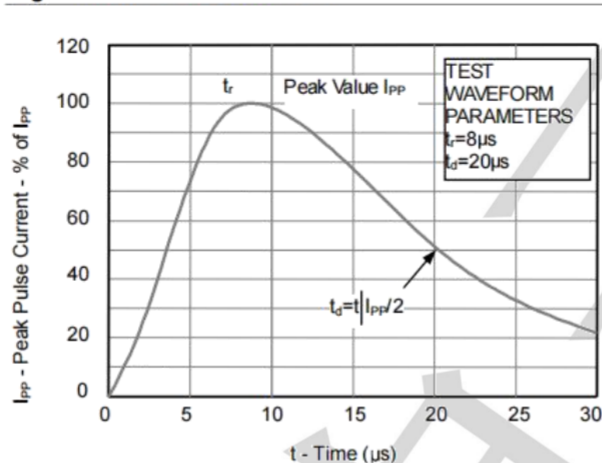


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

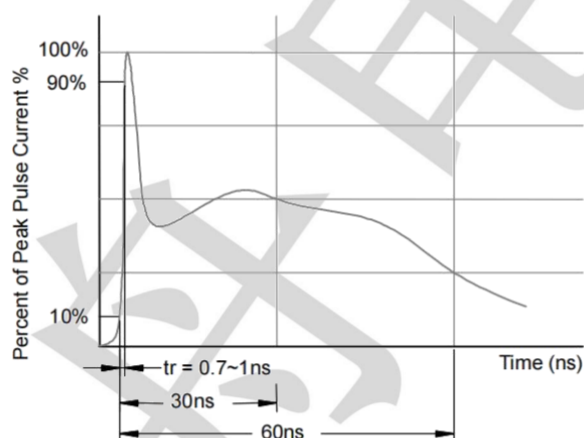
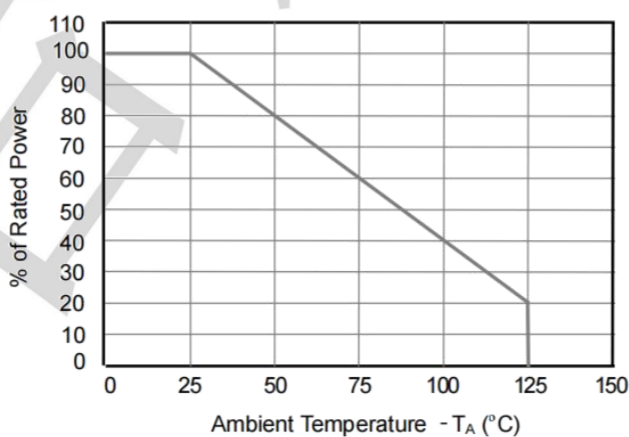
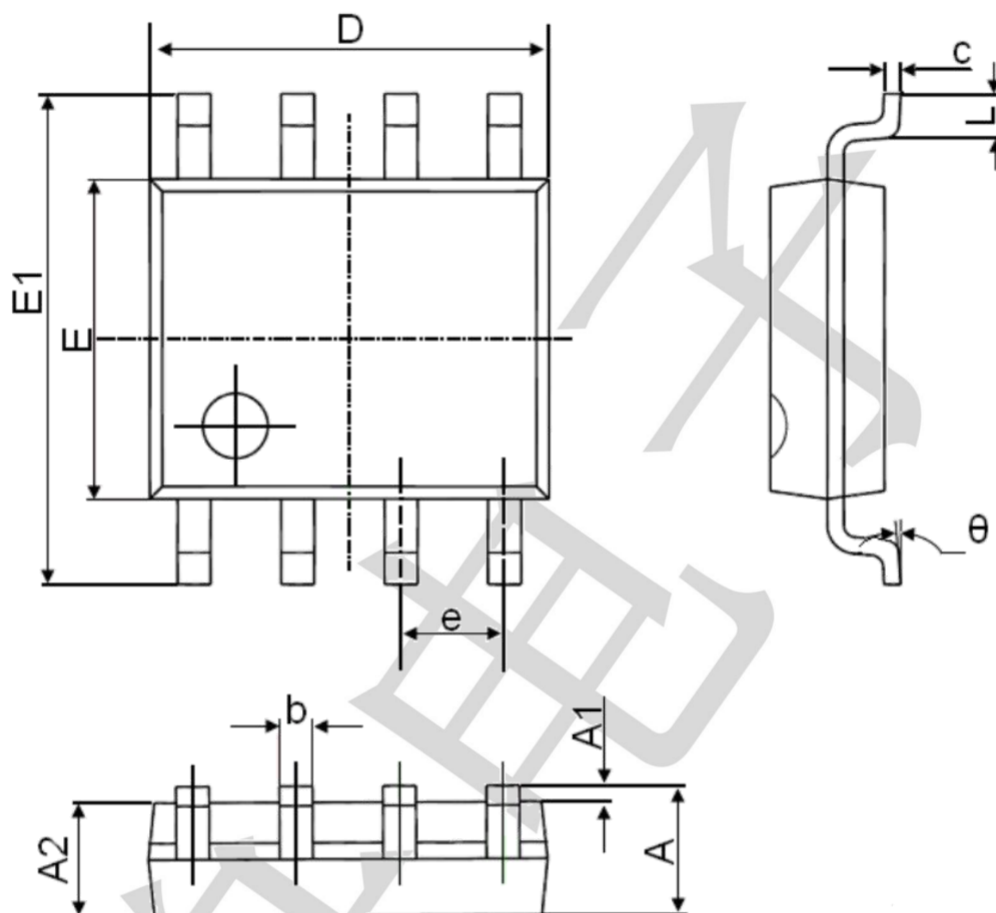


Fig3. Power Derating Curve



Package information (Unit: mm)

SOP-8



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°