

Features

- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- Complies with following standards:
 - 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) 25A (8/20 μs)
- RoHS Compliant

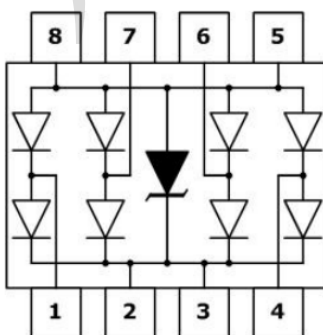
Mechanical Characteristics

- Package: SOP-8
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Shipping Qty : 2500pcs/13Inch Tape & Reel

Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

Dimensions and Pin Configuration



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)	I _{PP}	25	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	T _J	-40 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			3.3	V	
Punch-Through Voltage	V _{PT}	3.5			V	I _{PT} = 2μA
Reverse Leakage Current	I _R			1.0	μA	V _{RWM} = 3.3V
Clamping Voltage	V _C			13	V	I _{PP} = 7A (8 x 20μs pulse)
Clamping Voltage	V _C			20	V	I _{PP} = 25 A (8 x 20μs pulse)
Junction Capacitance	C _J			7	pF	V _R = 0V, f = 1MHz I/O to GND
			3	5	pF	V _R = 0V, f = 1MHz I/O to IO

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig1. 8/20 μs Pulse Waveform

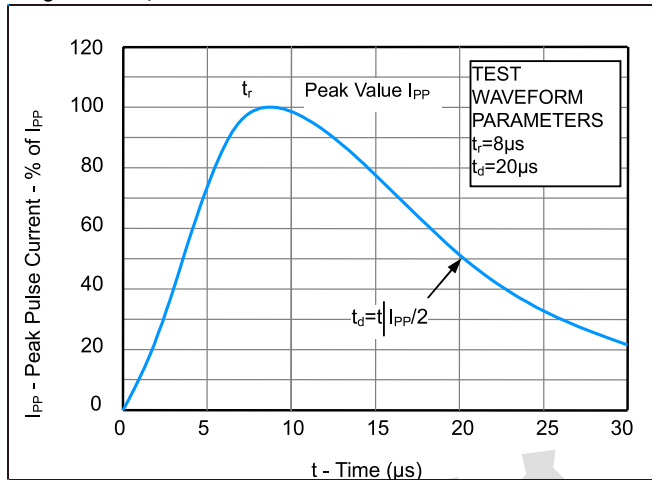


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

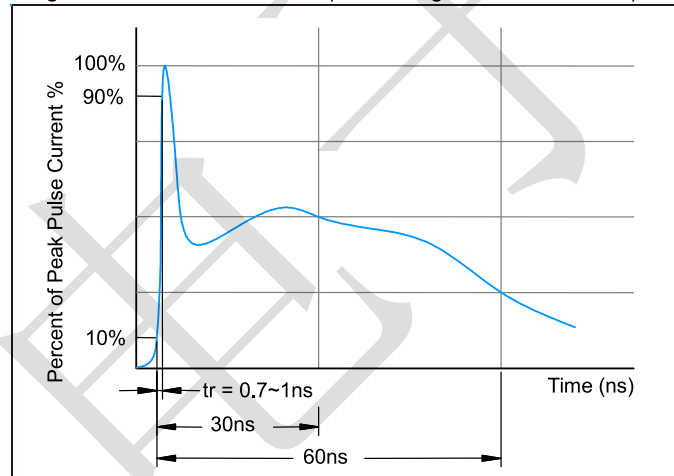
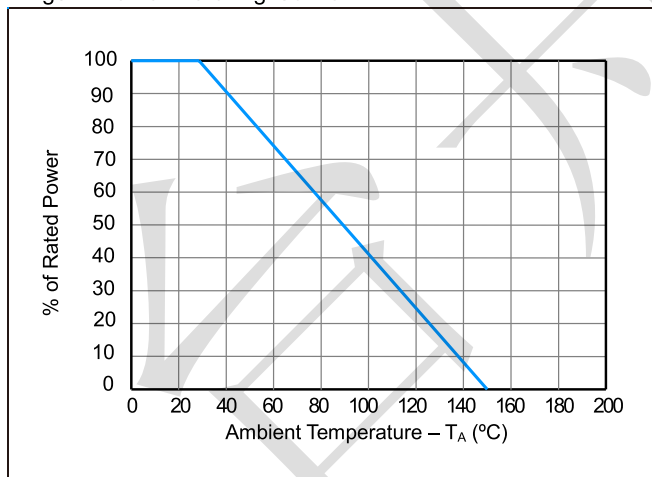
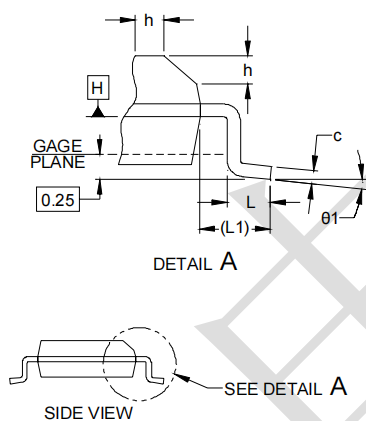
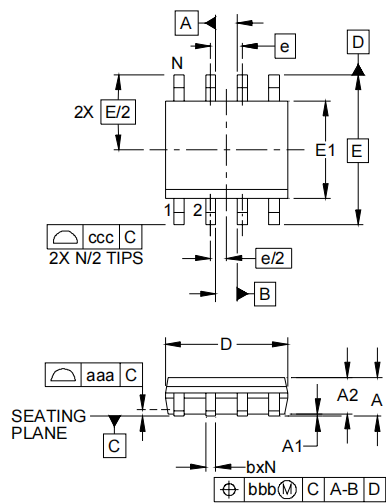


Fig3. Power Derating Curve



SOP-8 Package Outline Drawing



DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.053	-	.069	1.35	-	1.75
A1	.004	-	.010	0.10	-	0.25
A2	.049	-	.065	1.25	-	1.65
b	.012	-	.020	0.31	-	0.51
c	.007	-	.010	0.17	-	0.25
D	.189	.193	.197	4.80	4.90	5.00
E	.150	.154	.157	3.80	3.90	4.00
E1						
e		.236 BSC			6.00 BSC	
e/2		.050 BSC			1.27 BSC	
h	.010	-	.020	0.25	-	0.50
L	.016	.028	.041	0.40	0.72	1.04
L1		(.041)			(1.04)	
N		8			8	
01	0°	-	8°	0°	-	8°
aaa		.004			0.10	
bbb		.010			0.25	
ccc		.008			0.20	

Suggested Land Pattern

