

Features

- Ultra low leakage: nA level
- Operating voltage: 2.8V
- 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) 30A (8/20 μs)
- RoHS Compliant

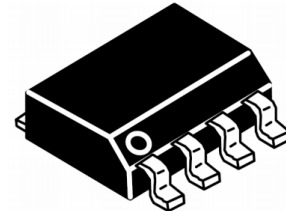
Applications

- Base Station
- Analog Inputs
- Switch Systems
- 10/100/1000 Ethernet
- WAN/LAN Equipment
- Desktops, Servers, and Notebooks
- Low Voltage Interfaces

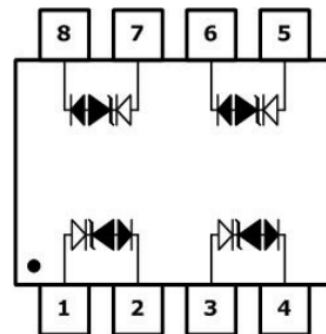
Mechanical Characteristics

- Package: SOP-08
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 2500pcs
- Reel Size: 7 inch
- Device Marking: 2.8-4

Dimensions SOP-08



Pin Configuration



Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

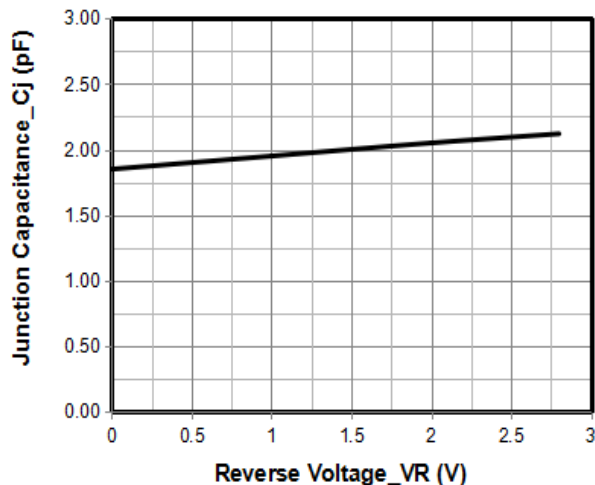
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	600	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STJ}	-55 to +150	°C

Electrical Characteristics

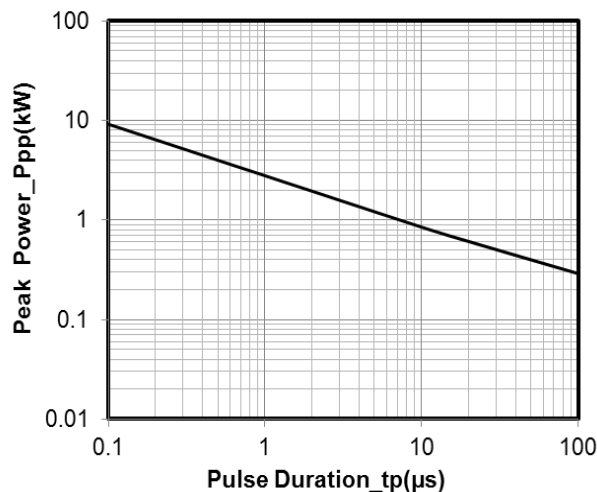
(TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				2.8	V
Breakdown Voltage	V_{BR}	$I_T = 2\mu A$	3			V
Reverse Leakage Current	I_R	$V_{RWM} = 2.8V$		0.001	1	μA
Clamping Voltage	V_C	$I_{PP} = 5A$ (8 x 20 μs pulse)			8.5	V
Clamping Voltage	V_C	$I_{PP} = 25A$ (8 x 20 μs pulse)			18	V
Clamping Voltage	V_C	$I_{PP} = 30A$ (8 x 20 μs pulse)			20	V
Junction Capacitance	C_J	$V_R = 0V$, $f = 1MHz$		2	3	pF

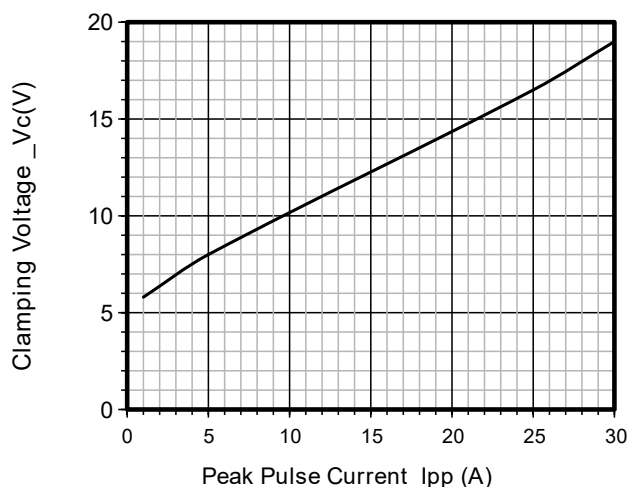
Typical Performance Characteristics(TA=25°C unless otherwise specified)



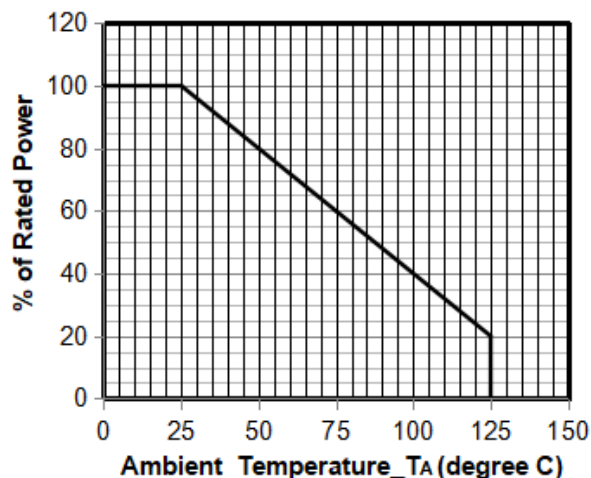
Junction Capacitance vs. Reverse Voltage



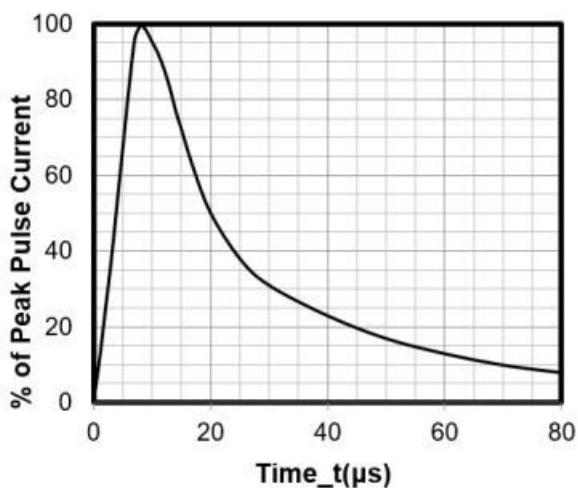
Peak Pulse Power vs. Pulse Time



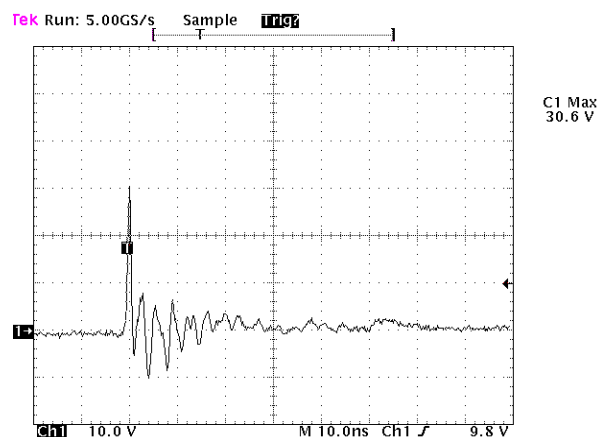
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform

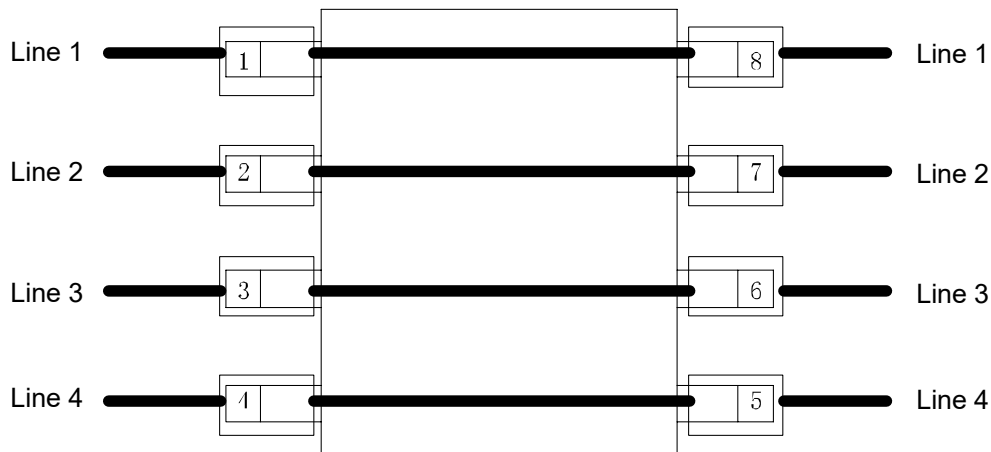


Note: Data is taken with a 10x attenuator

ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

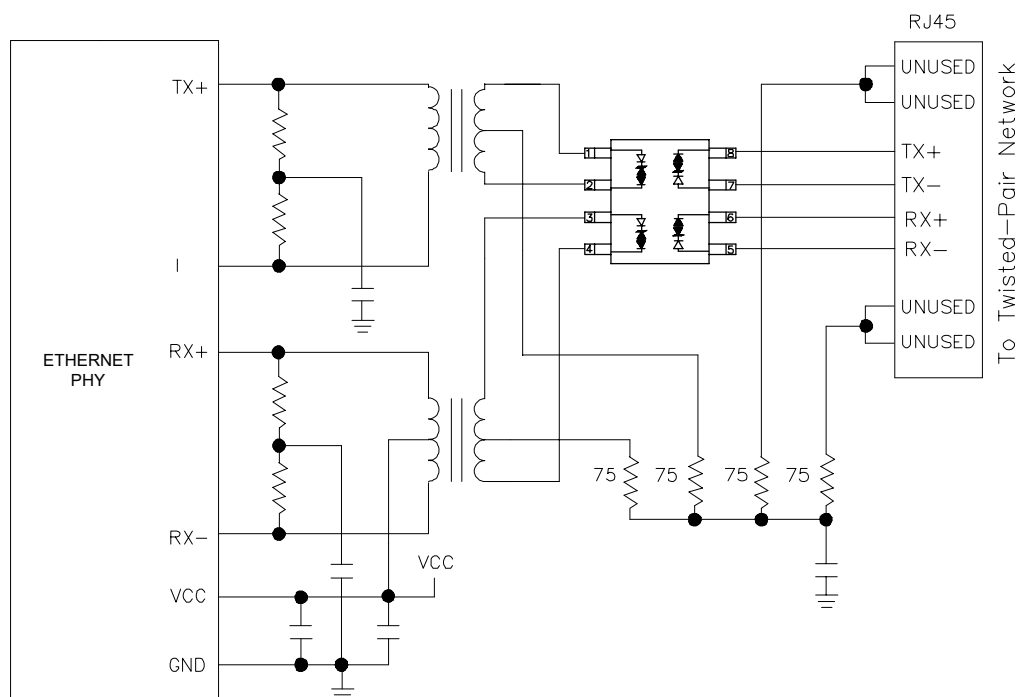
Typical Application

The LM-AZ3028-04P is designed such that the data lines are routed through the device. The first line pair enters at pins 1 and 2 and exit at pins 8 and 7 respectively. The second line pair enters at pins 3 and 4 and exits at pins 6 and 5. The traces must be connected at the bottom of the device as shown.

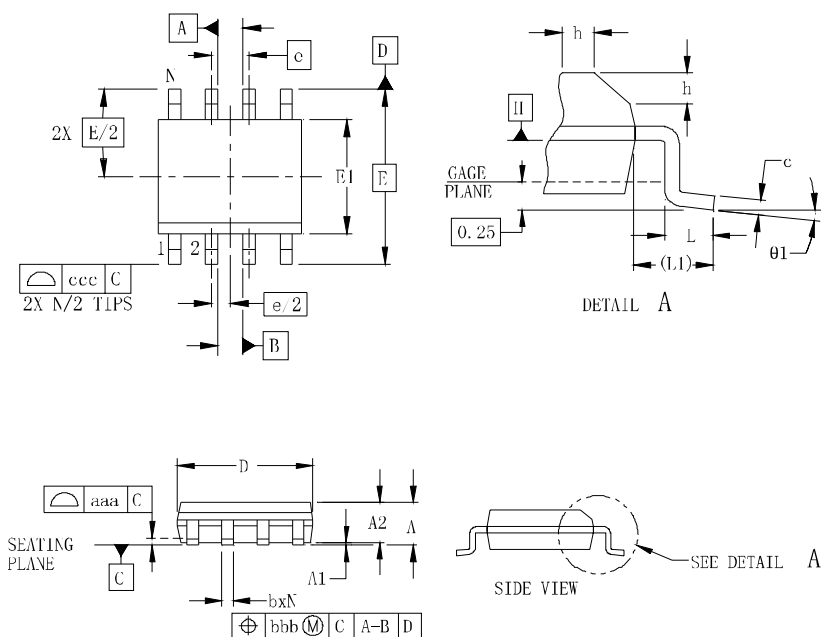


Low capacitance protection of two differential line pairs

LM-AZ3028-04P on Ethernet Application

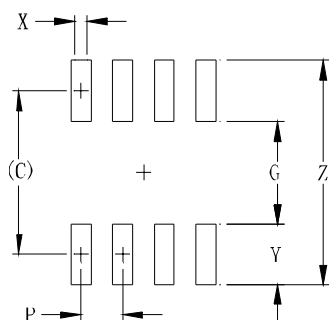


SOP-8 Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.35		1.75	0.053		0.069
A1	0.10		0.25	0.004		0.010
A2	1.25		1.65	0.049		0.065
b	0.31		0.51	0.012		0.020
c	0.17		0.25	0.007		0.010
D	4.80	4.90	5.00	0.189	0.193	0.197
E1	3.80	3.90	4.00	0.150	0.154	0.157
E	6.00 BSC			0.236 BSC		
e	1.27 BSC			0.050 BSC		
h	0.25		0.50	0.010		0.020
L	0.40	0.72	1.04	0.016	0.028	0.041
L1	(1.04)			(0.041)		
N	8			8		
θ_1	0°		8°	0°		8°
aaa	0.10			0.004		
bbb	0.25			0.010		
ccc	0.20			0.008		

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	(5.20)	0.205
G	3.00	0.118
P	1.27	0.050
X	0.60	0.024
Y	2.20	0.087
Z	7.40	0.291

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