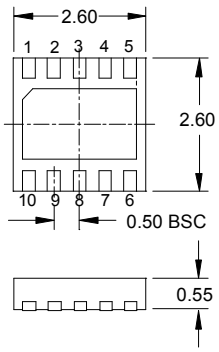
LM-AZ3133-04F

4-Line 3.3V ESD Protection Diode Array

Features

- Ultra low leakage: nA level
- Ultra low operating voltage: 3.3V
- Ultra low clamping voltage
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±25kV
    Contact discharge: ±15kV
  – IEC61000-4-4 (EFT) 40A (5/50ns)
  – IEC61000-4-5 (Lightning) 25A (8/20μs)

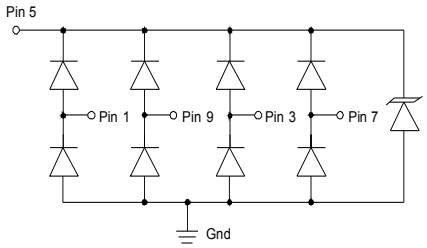
Dimensions DFN2626-10



Applications

- Analog Video
- RJ-45 Connectors
- T1/E1 Secondary Protection
- T3/E3 Secondary Protection
- 10/100/1000 Ethernet

Pin Configuration



Mechanical Characteristics

- Package: DFN2626-10
- RoHS Compliant
- Lead Finish: NiPdAu
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Reel Size: 7inch
- Quantity Per Reel:3,000pcs
- Device Marking: 3304N

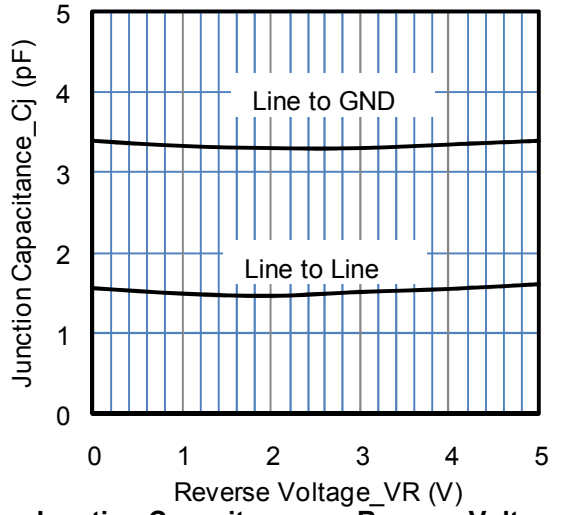
Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	450	W
Peak Pulse Current (8/20μs)	Ipp	25	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±25 ±15	kV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

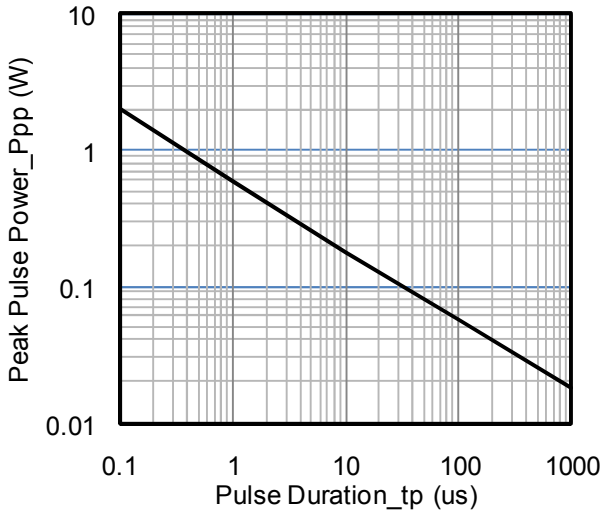
Electrical Characteristics(TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			3.3	V	
Punch-Through Voltage	V_{PT}	3.5			V	I_{PT} = 5μA
Snap-Back Voltage	V_{SB}	2.8			V	I_{SB} = 50mA
Reverse Leakage Current	I_R			0.5	uA	V_{RWM} = 3.3V
Clamping Voltage	V_C			5.5	V	I_{PP} = 1A (8 x 20μs pulse), any I/O to GND
Clamping Voltage	V_C			10.5	V	I_{PP} = 10A (8 x 20μs pulse), any I/O to GND
Clamping Voltage	V_C			20	V	I_{PP} = 25A (8 x 20μs pulse), any I/O to GND
Junction Capacitance	C_J		2.0		pF	VR = 0V, f = 1MHz, between I/O pins
Junction Capacitance	C_J		3.8	5.0	pF	VR = 0V, f = 1MHz, any I/O to GND

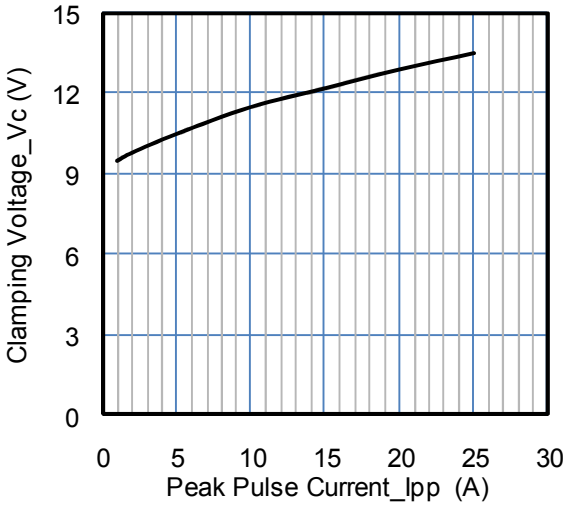
Characteristic Curves



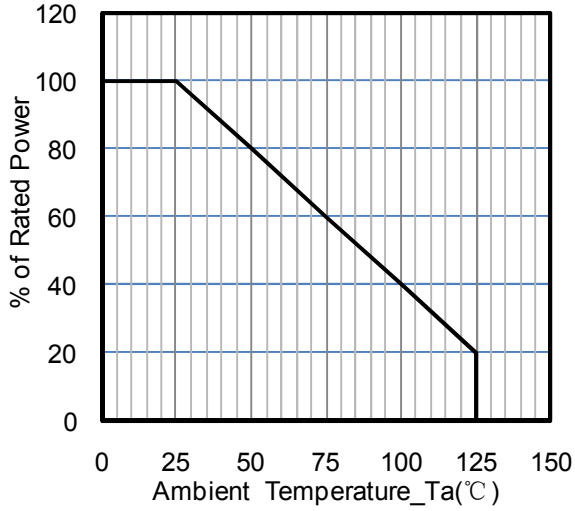
Junction Capacitance vs. Reverse Voltage



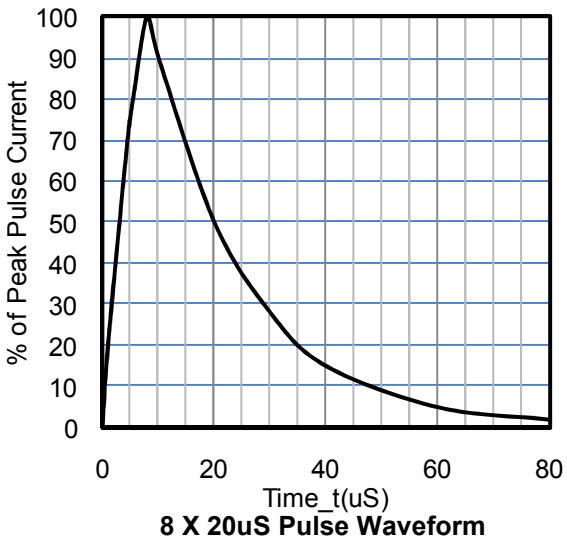
Peak Pulse Power vs. Pulse Time



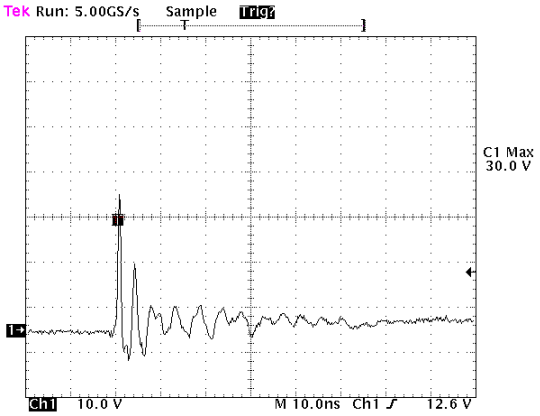
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



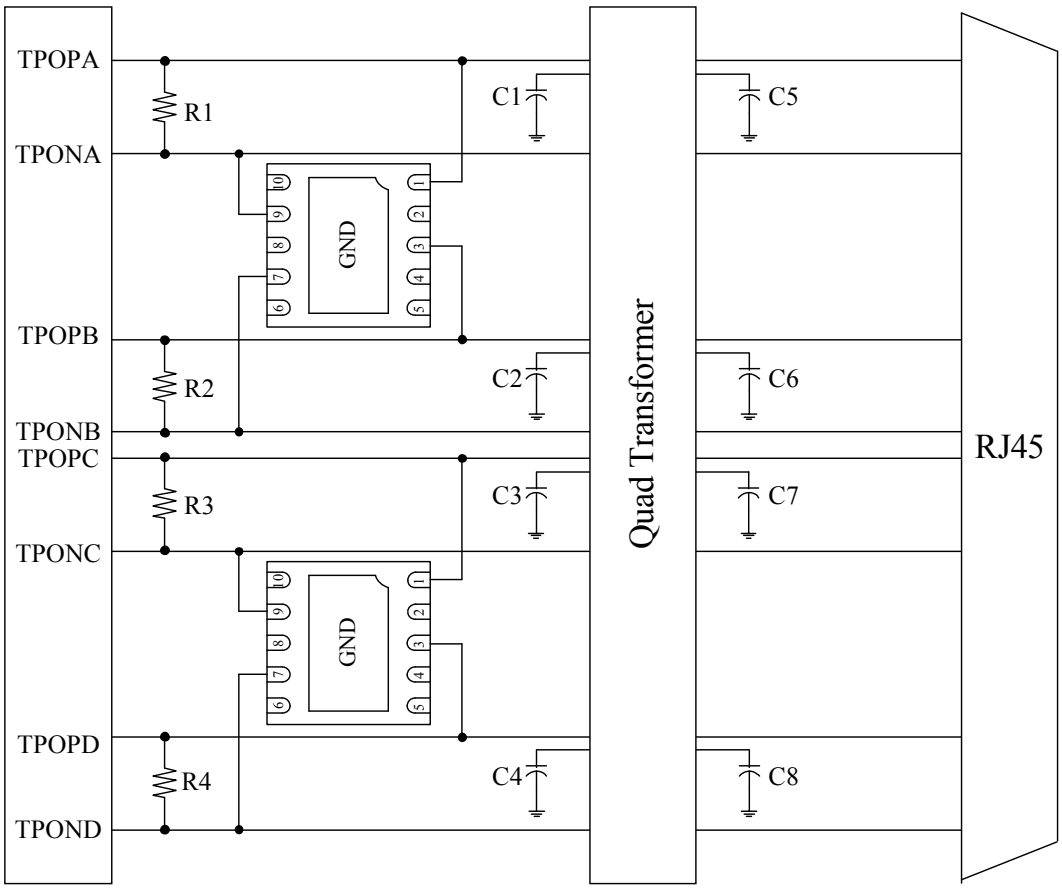
8 X 20uS Pulse Waveform



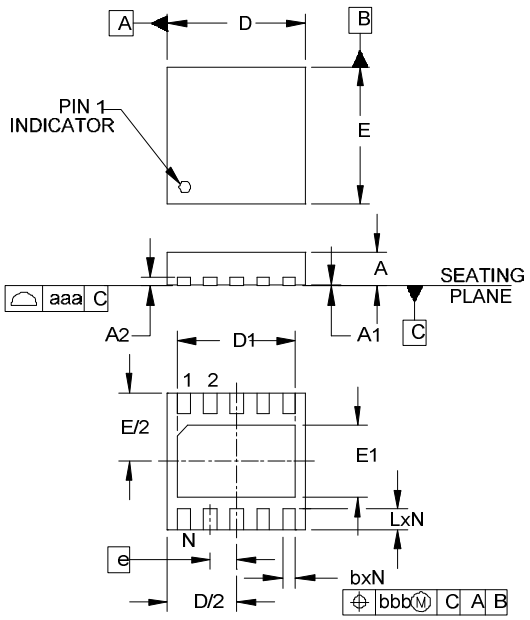
ESD Clamping Voltage

8 kV Contact per IEC61000−4−2

LM-AZ3133-04F on Gigabit Ethernet Protection



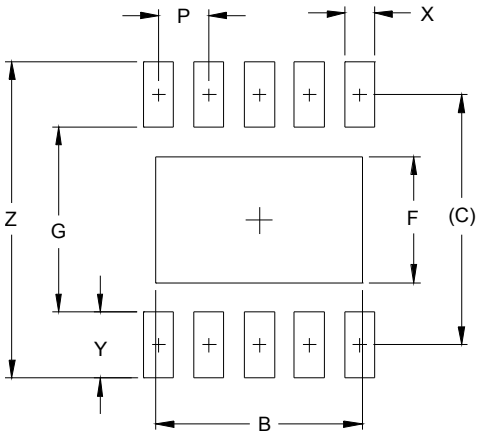
DFN2626-10 Package Outline Drawing



DIM	DIMENSIONS					
	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.020	.022	.024	0.50	0.55	0.60
A1	.000	.001	.002	0.00	0.03	0.05
A2		(.007)			(0.17)	
b	.007	.010	.012	0.20	0.25	0.30
D	.098	.102	.106	2.50	2.60	2.70
D1	.079	.085	.089	2.00	2.15	2.25
E	.098	.102	.106	2.50	2.60	2.70
E1	.044	.050	.054	1.11	1.26	1.36
e		.020 BSC			0.50 BSC	
L	.011	.014	.016	0.30	0.35	0.40
N		10			10	
aaa		.003			0.08	
bbb		.004			0.10	

NOTES:
1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

Suggested Land Pattern



DIM	DIMENSIONS	
	INCHES	MILLIMETERS
B	.081	2.05
C	.100	2.50
F	.050	1.26
G	.073	1.85
P	.020	0.50
X	.012	0.30
Y	.025	0.65
Z	.124	3.15

NOTES:
1. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY.
CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR
COMPANY'S MANUFACTURING GUIDELINES ARE MET.

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