TPESD2504N

4- Line 2.5V ESD Protection Diode Array

Features

- Ultra low leakage: nA level
- Operating voltage: 2.5V
- Ultra low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - IEC61000-4-5 (Lightning) 25A (8/20μs)
- RoHS Compliant

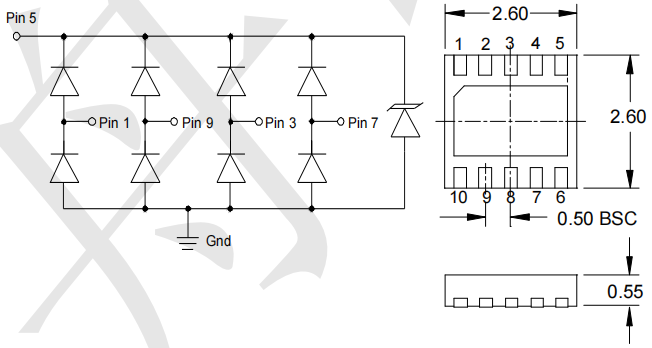
Mechanical Characteristics

- Package: DFN2626-10
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty @3000/7Inch Tape & Reel

Applications

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

Dimensions and Pin Configuration



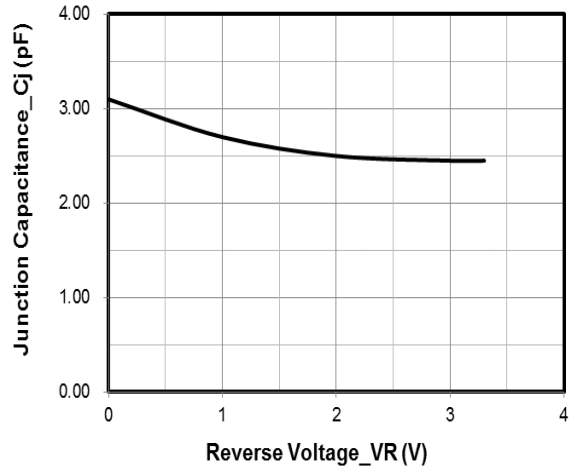
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

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)	V_{ESD}	±30 ±30	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

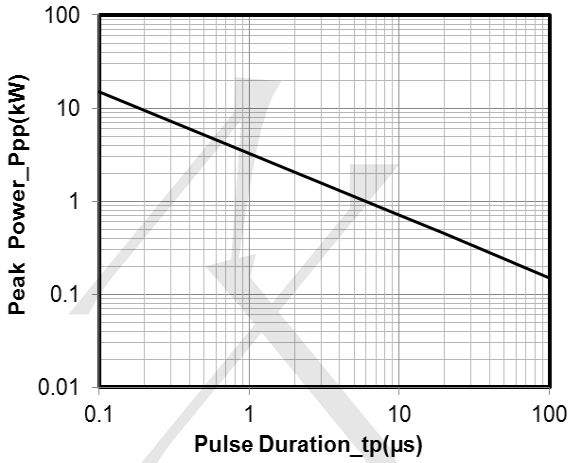
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			2.5	V	
Punch-Through Voltage	V_{PT}	2.7			V	I_{PT} = 5μA
Snap-Back Voltage	V_{SB}	2.0			V	I_{SB} = 50mA
Reverse Leakage Current	I_R			1	μA	V_{RWM} = 2.5V
Clamping Voltage	V_C			5.5	V	I_{PP} = 1A (8 x 20μs pulse), any I/O to GND
Clamping Voltage	V_C			9.5	V	I_{PP} = 10A (8 x 20μs pulse), any I/O to GND
Clamping Voltage	V_C			18	V	I_{PP} = 25A (8 x 20μs pulse), any I/O to GND
Junction Capacitance	C_J		3.2	5.0	pF	VR = 0V, f = 1MHz, any I/O to GND
Junction Capacitance	C_J		1.5		pF	VR = 0V, f = 1MHz, between I/O pins

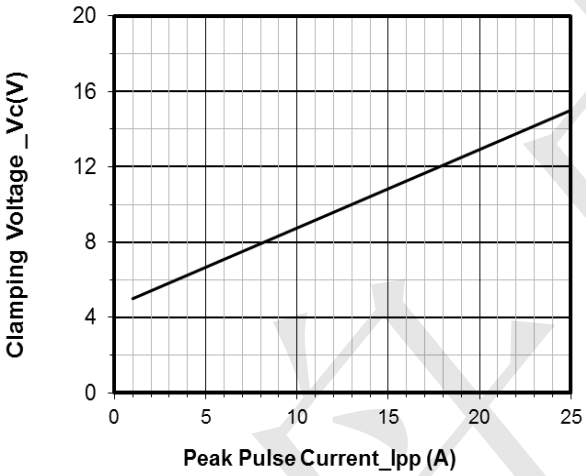
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



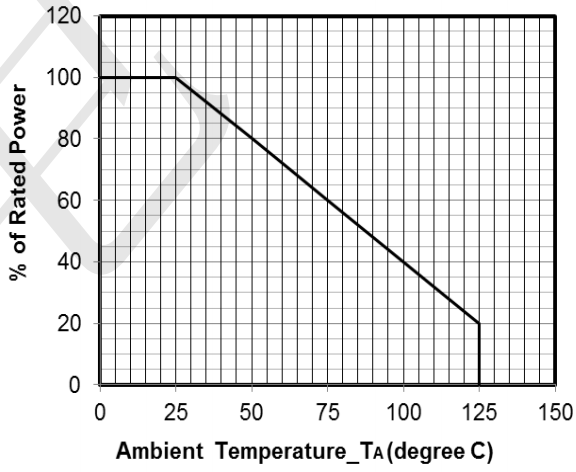
Junction Capacitance vs. Reverse Voltage



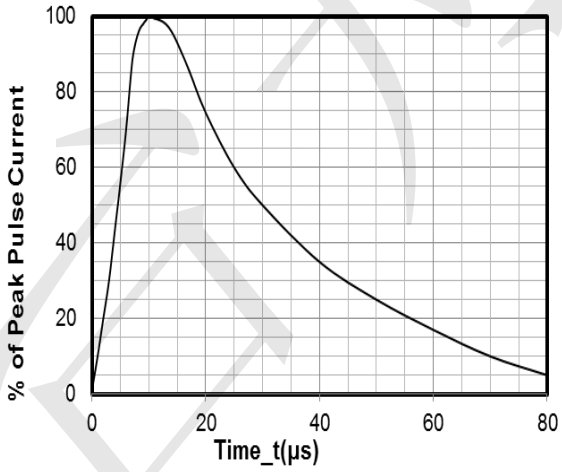
Peak Pulse Power vs. Pulse Time



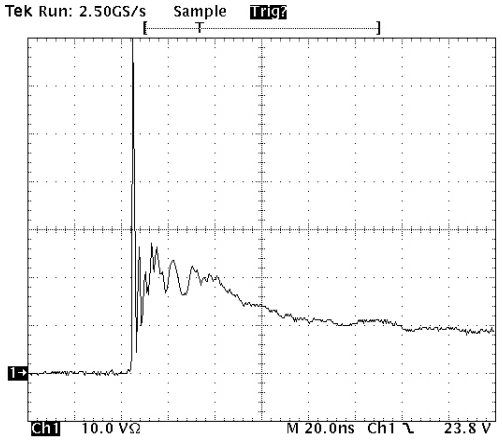
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



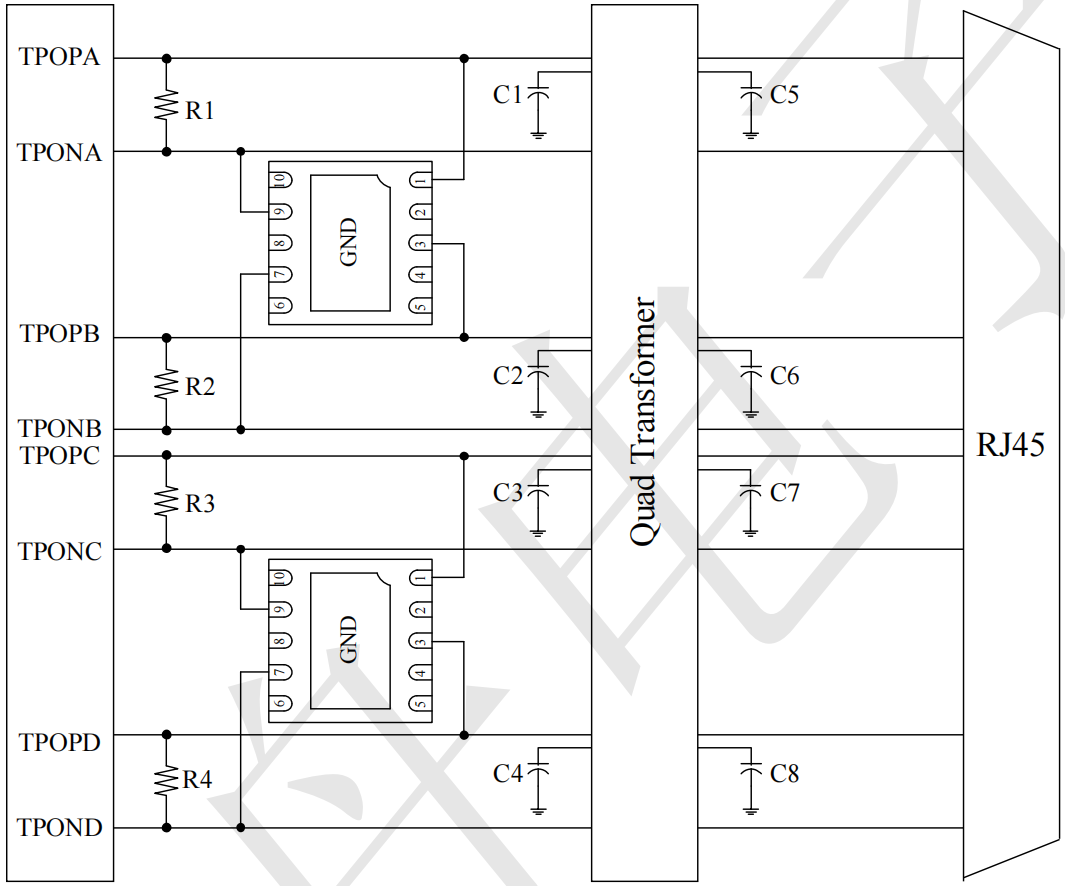
8 X 20μs Pulse Waveform



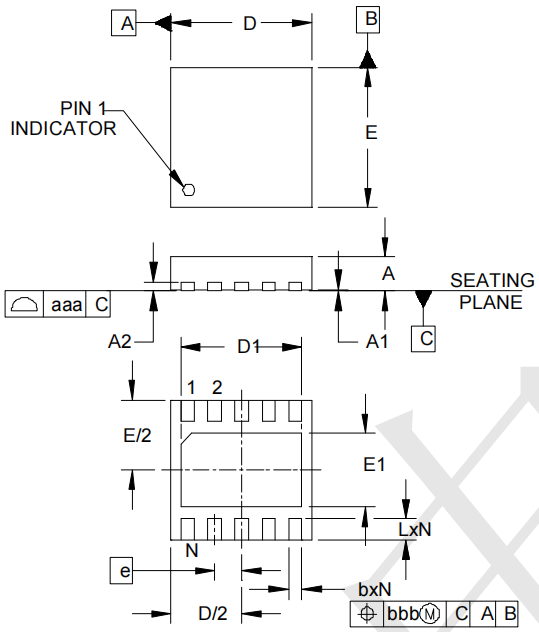
Note：Data is taken with a 10x attenuator

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

TPESD3304N on Gigabit Ethernet Protection



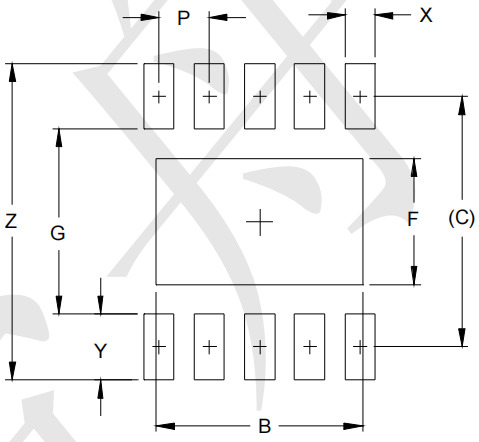
DFN2626-10 Package Outline Drawing



DIMENSIONS						
DIM	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



DIMENSIONS		
DIM	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