

## 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:  $\pm 25\text{kV}$   
Contact discharge:  $\pm 15\text{kV}$
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 25A (8/20 $\mu\text{s}$ )
- RoHS Compliant

## Ordering Information

Part Number	Qty per Reel	Reel Size
TPESD3304N	3000	7"

## Mechanical Characteristics

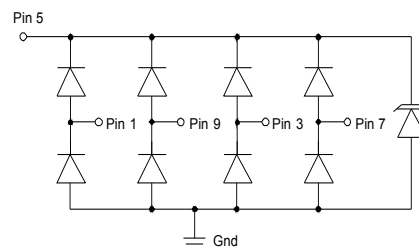
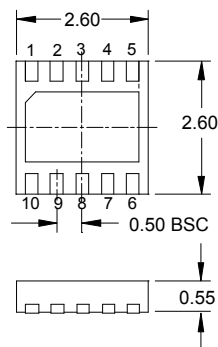
- Package: DFN2626-10
- Lead Finish: NiPdAu
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below



## 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** (Tamb=25°C unless otherwise specified)

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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)	VESD	±25	kV
ESD per IEC 61000-4-2 (Contact)		±15	
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			3.3	V	
Punch-Through Voltage	VPT	3.5			V	IPT = 5μA
Snap-Back Voltage	VS <sub>B</sub>	2.8			V	ISB = 50mA
Reverse Leakage Current	I <sub>R</sub>			0.5	uA	VRWM = 3.3V
Clamping Voltage	V <sub>C</sub>			5.5	V	I <sub>PP</sub> = 1A (8 x 20μs pulse), any I/O to GND
Clamping Voltage	V <sub>C</sub>			9.5	V	I <sub>PP</sub> = 10A (8 x 20μs pulse), any I/O to GND
Clamping Voltage	V <sub>C</sub>			18	V	I <sub>PP</sub> = 25A (8 x 20μs pulse), any I/O to GND
Junction Capacitance	C <sub>J</sub>		2.0		pF	VR = 0V, f = 1MHz, between I/O pins
Junction Capacitance	C <sub>J</sub>		3	5.0	pF	VR = 0V, f = 1MHz, any I/O to GND

**Typical characteristics ( $T_A=25^\circ\text{C}$ , unless otherwise noted)**

Fig1. 8/20 $\mu\text{s}$  Pulse Waveform

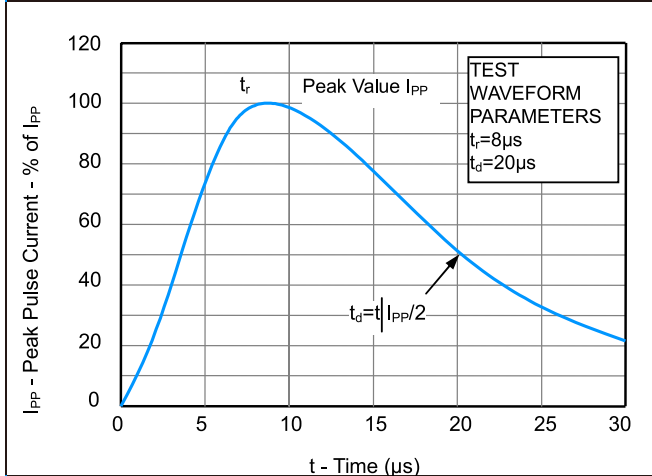


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

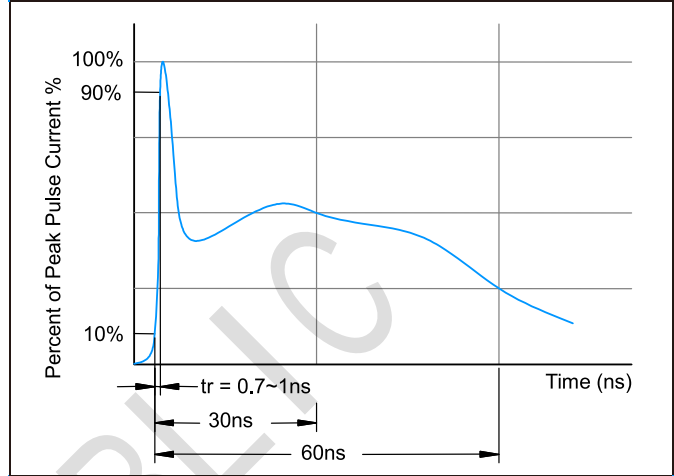


Fig3. Power Derating Curve

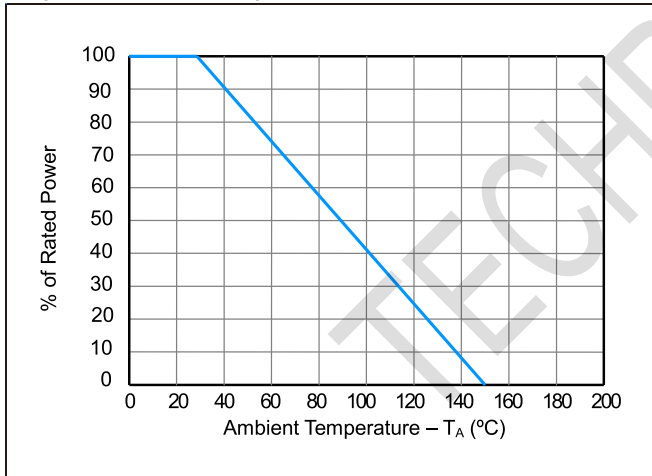
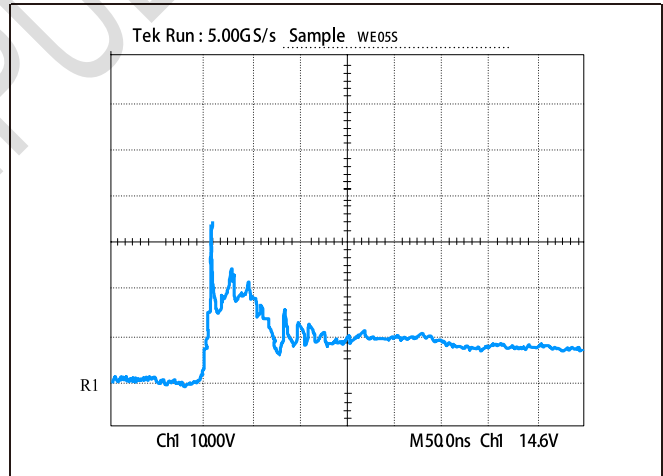
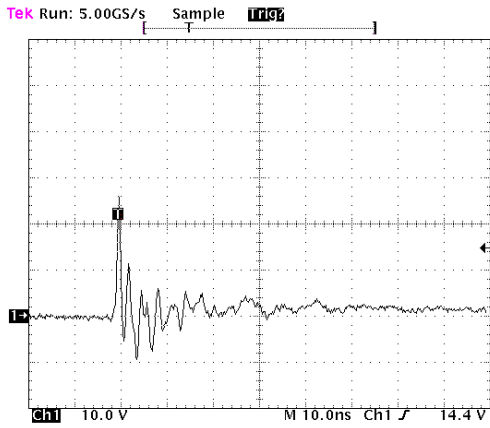


Figure 4: ESD Clamping (8kV Contact per IEC 61000-4-2)

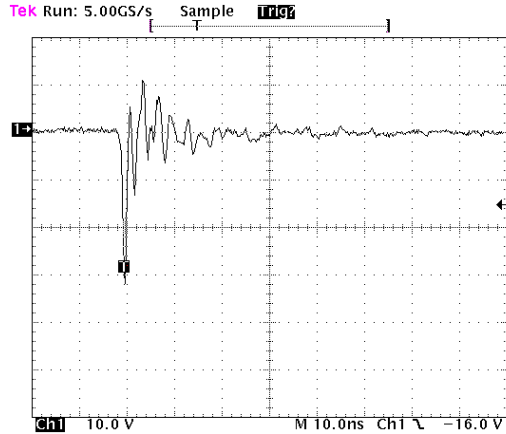


**Typical Performance Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise Specified)**



**ESD Clamping Voltage**

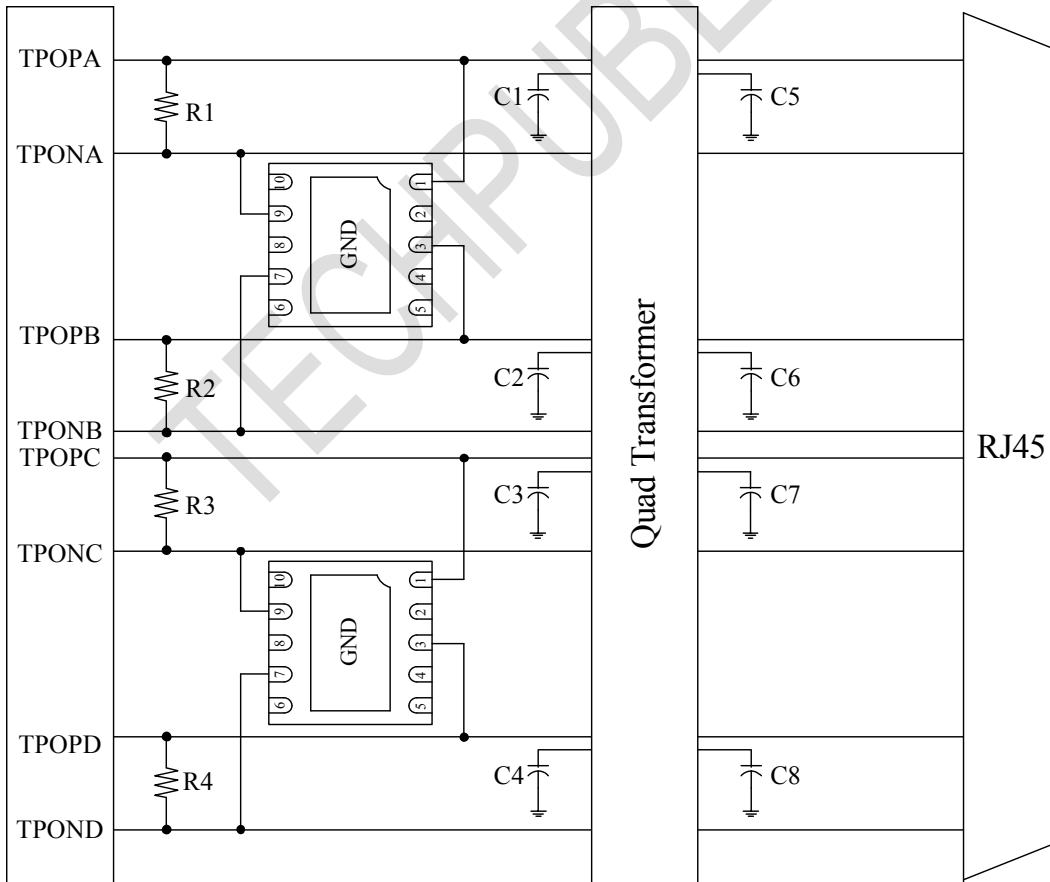
**8 kV Contact per IEC61000-4-2**



**ESD Clamping Voltage**

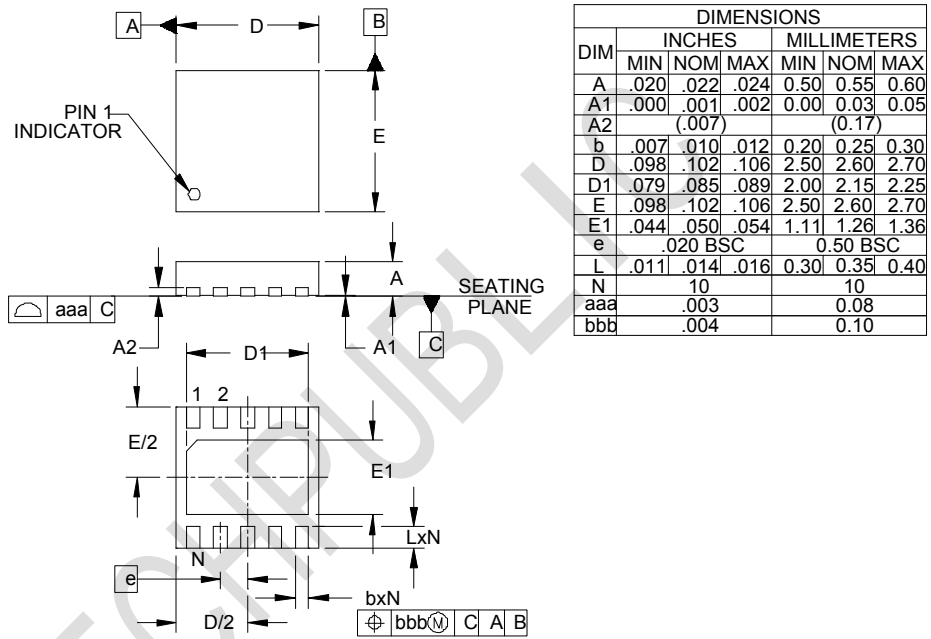
**-8 kV Contact per IEC61000-4-2**

**TPESD3304N on Gigabit Ethernet Protection**

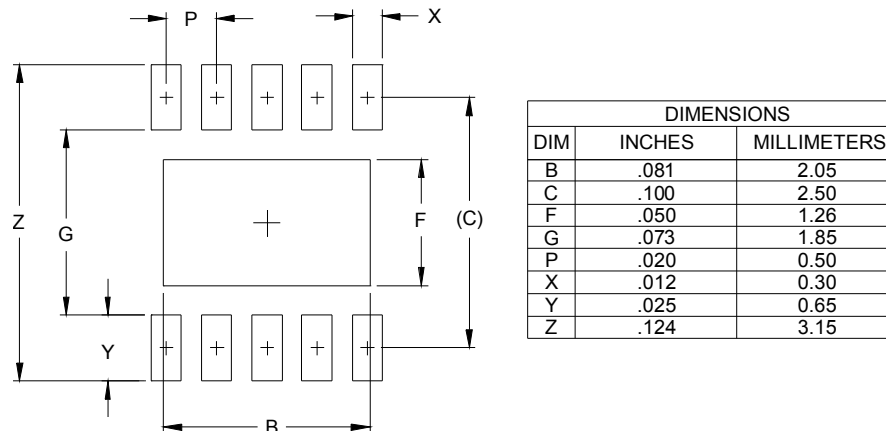


## Outline Drawing - DFN2626-10

### DFN2626-10 Package Outline Drawing



### Land Pattern - DFN2626-10



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