

### 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 $\mu\text{s}$ )

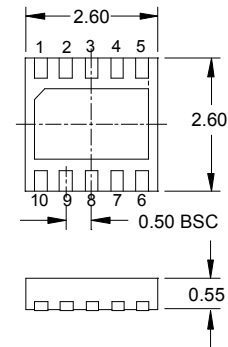
### Applications

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

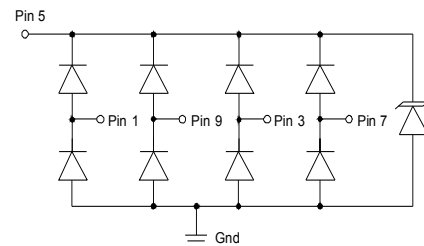
### Mechanical Characteristics

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

### Dimensions DFN2626-10



### Pin Configuration



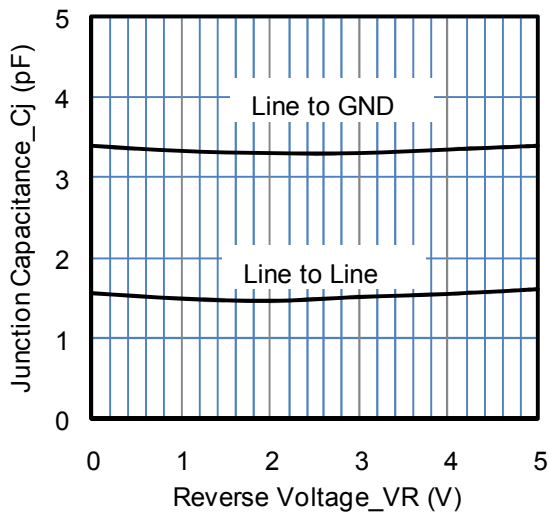
### Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	Ppk	450	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	Ipp	25	A
ESD per IEC 61000-4-2 (Air)	VESD	$\pm 25$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 15$	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

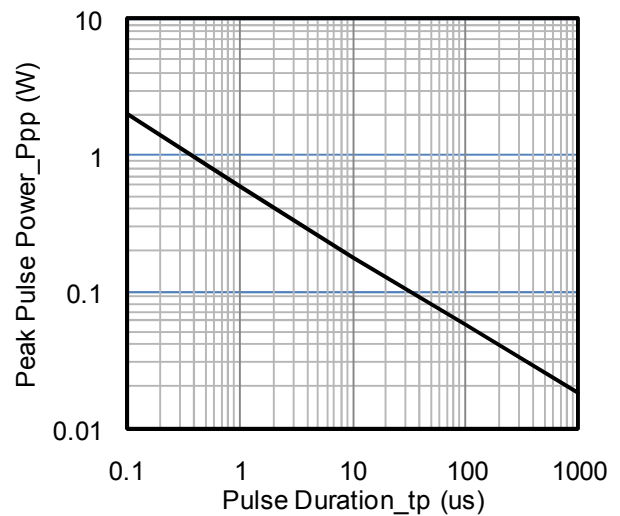
## Electrical Characteristics (TA=25°C unless otherwise specified)

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	VSB	2.8			V	ISB = 50mA
Reverse Leakage Current	IR			0.5	uA	VRWM = 3.3V
Clamping Voltage	VC			5.5	V	I <sub>PP</sub> = 1A (8 x 20μs pulse), any I/O to GND
Clamping Voltage	VC			10.5	V	I <sub>PP</sub> = 10A (8 x 20μs pulse), any I/O to GND
Clamping Voltage	VC			20	V	I <sub>PP</sub> = 25A (8 x 20μs pulse), any I/O to GND
Junction Capacitance	CJ		2.0		pF	VR = 0V, f = 1MHz, between I/O pins
Junction Capacitance	CJ		3.8	5.0	pF	VR = 0V, f = 1MHz, any I/O to GND

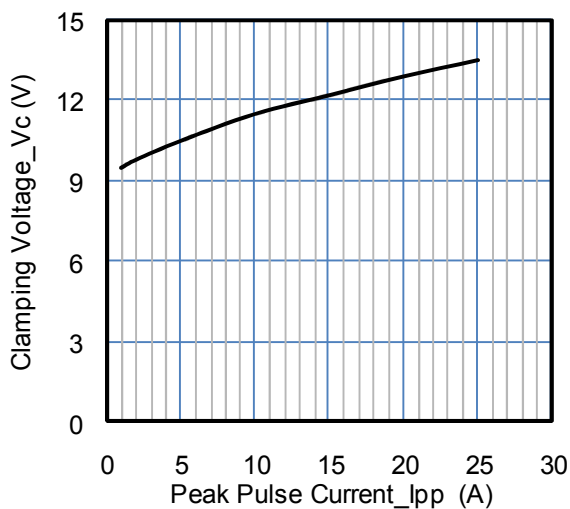
## Characteristic Curves



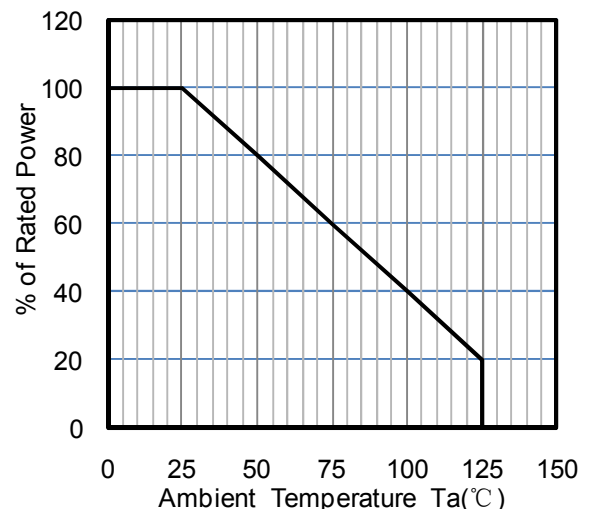
Junction Capacitance vs. Reverse Voltage



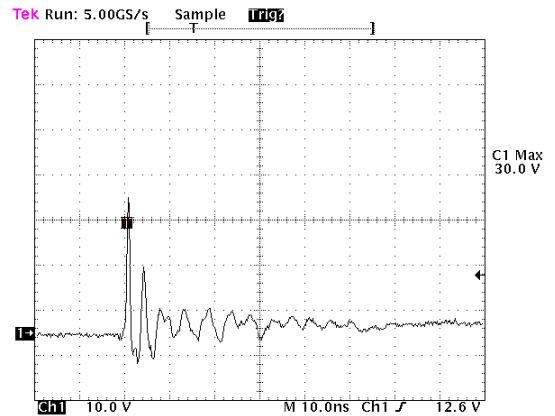
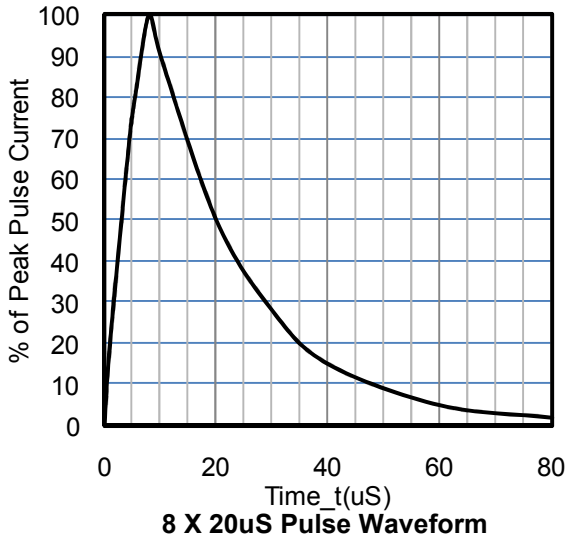
Peak Pulse Power vs. Pulse Time



Clamping Voltage vs. Peak Pulse Current

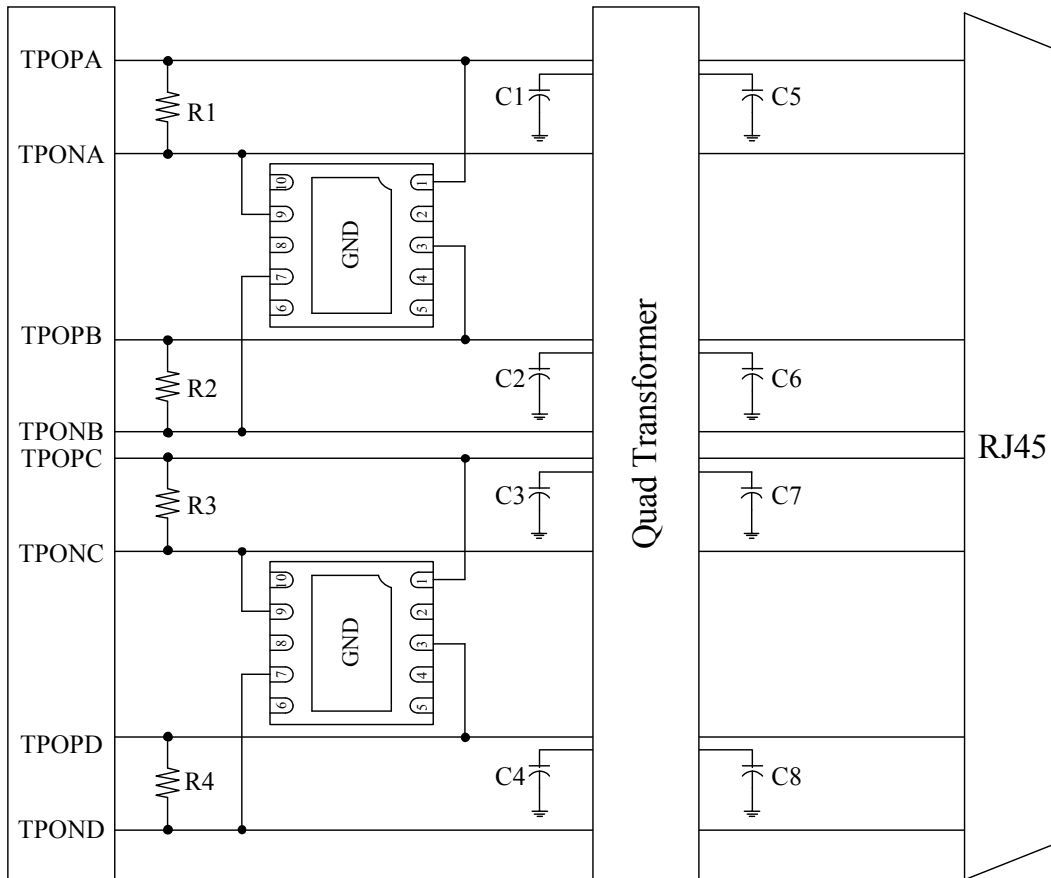


Power Derating Curve

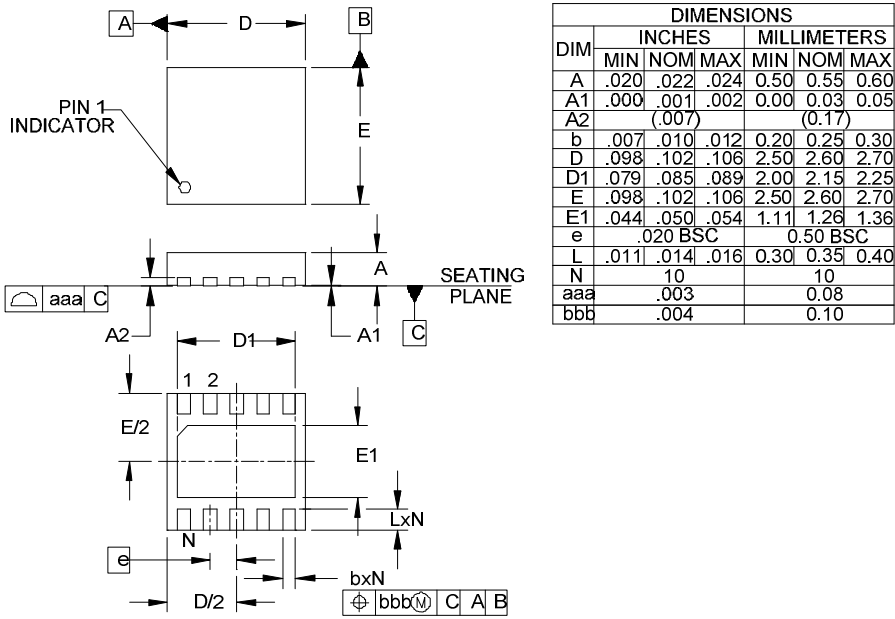


**ESD Clamping Voltage**  
**8 kV Contact per IEC61000-4-2**

## SP3304NUTG on Gigabit Ethernet Protection

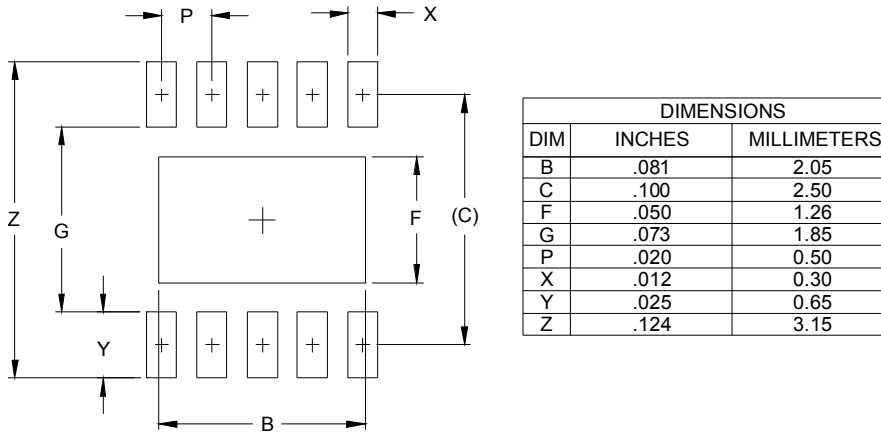


## DFN2626-10 Package Outline Drawing



- 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



- 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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