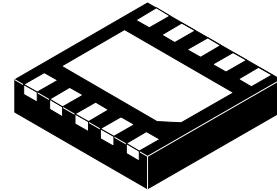
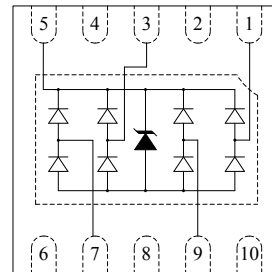


## Features

- 450W peak pulse power (tp=8/20us)
- Package optimized for high-speed lines
- Provides protection for two line pairs
- Low capacitance: 3.8pF @ 0V (Typical)
- Low leakage current: 0.1µA @ V<sub>RWM</sub> (Typical)
- Low operating and clamping voltage
- Transient protection for high-speed data lines
  - IEC 61000-4-2 (ESD) ±30kV (Air)
  - ±30kV (Contact)
  - IEC 61000-4-4 (EFT) 40A (5/50 ns)
  - IEC 61000-4-5 (Surge) 25A (8/20µs)
- Each I/O pin can withstand over 1000 ESD strikes for ±8kV contact discharge
- RoHS compliant



Package: DFN2626-10L



(Top View)

**Schematic Diagram**

## Applications

- 10/100/1000M Ethernet Ports
- WAN/LAN Equipment
- Desktops, Servers
- Notebooks Cellular Phones
- Switching Systems
- Audio/Video Inputs

## Absolute Maximum Ratings

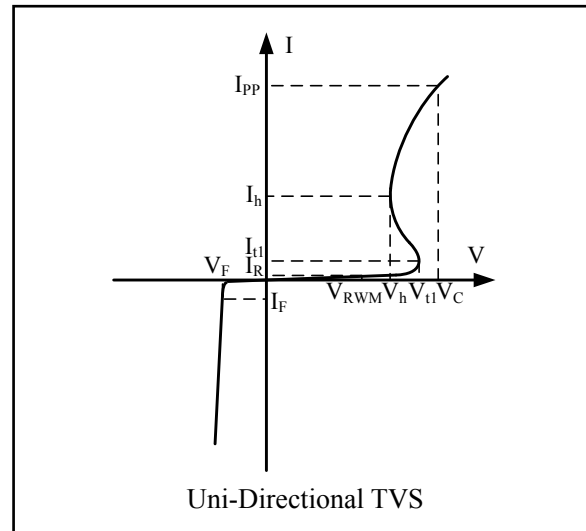
(T<sub>A</sub>=25°C unless otherwise specified)

Symbol	Parameter	Value	Units
I <sub>PP</sub>	Peak Pulse Current (8/20µs)	25	A
P <sub>PK</sub>	Peak Pulse Power (8/20µs)	450	Watts
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Air)	±30	kV
	ESD per IEC 61000-4-2 (Contact)	±30	
T <sub>OPT</sub>	Operating Temperature	-55 to +125	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

## Electrical Characteristics

( $T_A=25^\circ\text{C}$  unless otherwise specified)

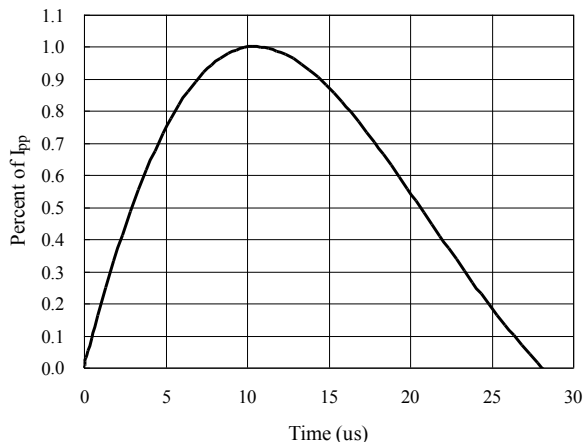
Symbol	Parameter
$V_{RWM}$	Nominal Reverse Working Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{tl}$	Trigger Voltage
$I_{tl}$	Trigger Current @ $V_{tl}$
$V_h$	Holding Voltage
$I_h$	Holding Current @ $V_h$
$V_C$	Clamping Voltage @ $I_{pp}$
$I_{pp}$	Maximum Peak Pulse Current
$V_F$	Forward Voltage @ $I_F$
$C_{ESD}$	Parasitic Capacitance



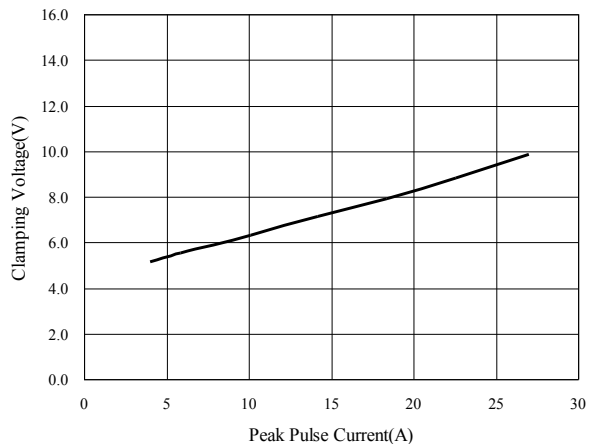
Symbol	Test Condition	Minimum	Typical	Maximum	Units
$V_{RWM}$	-	-	-	2.5	V
$I_R$	$V_{RWM} = 3.3\text{V}, T = 25^\circ\text{C}$	-	0.1	1.0	$\mu\text{A}$
$V_{tl}$	$I_{tl} = 1\mu\text{A}$	3.0	3.7	4.5	V
$V_h$	$I_h = 1\text{mA}$	3.0	-	4.0	V
$V_C$	$I_{pp} = 1\text{A}, t_p = 8/20\mu\text{s}$ (Each Line)	-	-	4.5	V
$V_C$	$I_{pp} = 10\text{A}, t_p = 8/20\mu\text{s}$ (Each Line)	-	-	7.5	V
$V_C$	$I_{pp} = 25\text{A}, t_p = 8/20\mu\text{s}$ (Each Line)	-	-	15.0	V
$C_{ESD}$	Between I/O Pins and Ground $V_R = 0\text{V}, f = 1\text{MHz}$	-	3.8	5.0	pF
$C_{ESD}$	Between I/O Pins $V_R = 0\text{V}, f = 1\text{MHz}$	-	2.0	2.5	pF

**Typical Characteristic Curves**

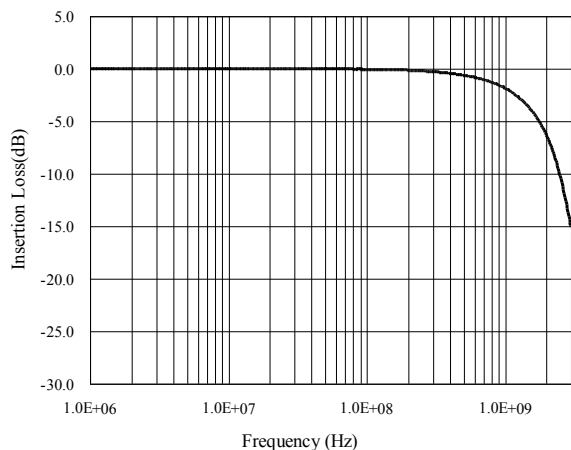
**8/20 $\mu$ s Pulse Waveform**



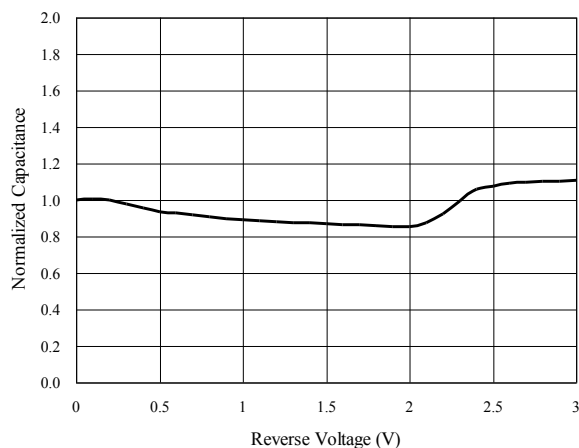
**Clamping Voltage  $V_C$  vs. Current  $I_{PP}$**



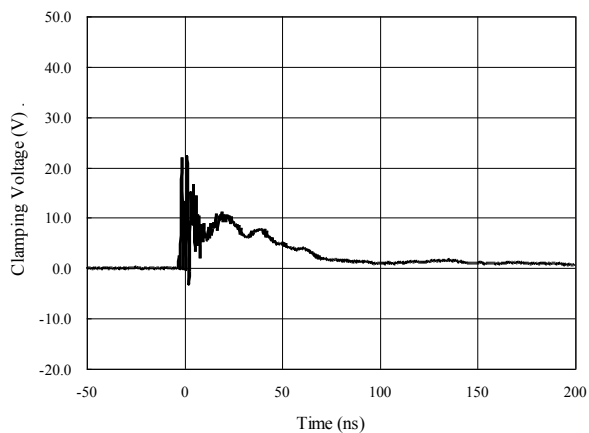
**Insertion Loss S21**



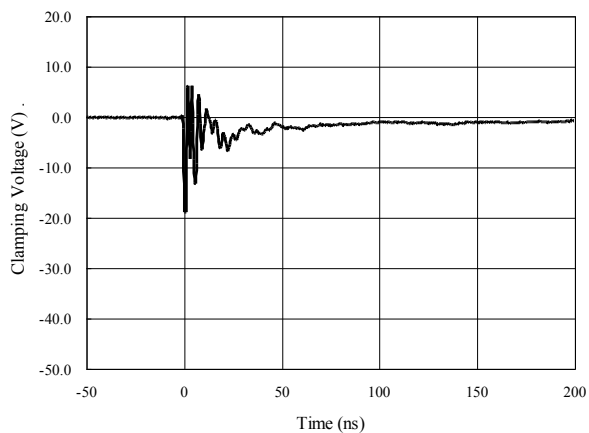
**Normalized Capacitance vs. Voltage**



**ESD Clamping of I/O to GND  
(+8kV Contact per IEC 61000-4-2)**



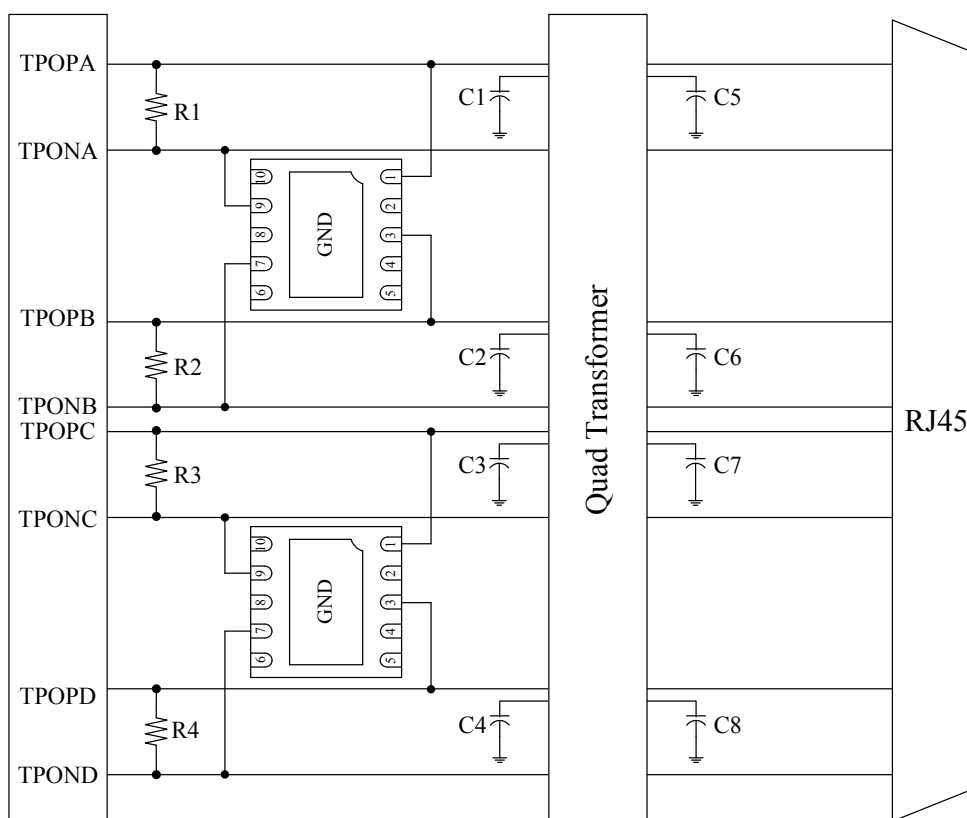
**ESD Clamping of I/O to GND  
(-8kV Contact per IEC 61000-4-2)**



## Application Information

Electronic equipment is susceptible to damage caused by a variety of sources, including Electrostatic Discharge (ESD), Electrical Fast Transients (EFT) and Lightning strikes. The SPESLC2V5D2626-10U was designed to protect the sensitive equipment from damage which may be induced by such transient events. This product can be configured in different connections to meet the requirement of common-mode and differential-mode as follows:

### Gigabit Ethernet Protection



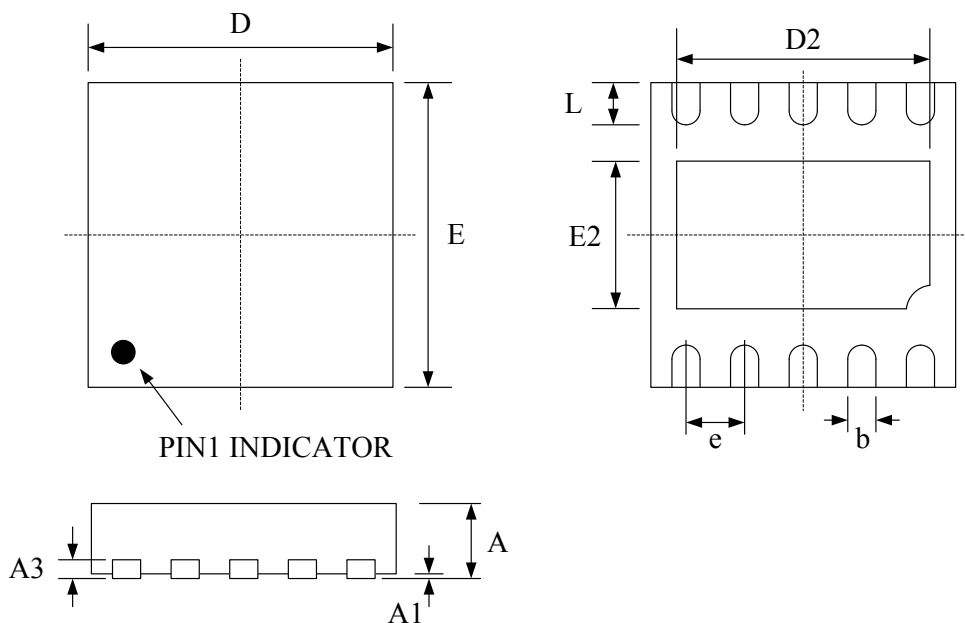
Schematic Diagram for Gigabit Ethernet ESD/ Surge Protection using SPESLC2V5D2626-10U

**NOTE:**

**DO NOT connect pin5 of SPESLC2V5D2626-10U to a DC Supply.**

**Product Dimensions**

DFN2626-10L



Package Dimensions (Controlling dimensions are in millimeters)

Symbol	Dimensions (mm)			Dimensions (Inches)		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
A	0.500	0.550	0.600	0.020	0.022	0.024
A1	0.000	—	0.050	0.000	—	0.002
A3	0.15 REF			0.006 REF		
b	0.200	0.250	0.300	0.008	0.010	0.012
D	2.550	2.600	2.650	0.100	0.102	0.104
D2	2.000	2.150	2.250	0.079	0.085	0.089
e	0.500 BSC			0.020 BSC		
E	2.550	2.600	2.650	0.100	0.102	0.104
E2	1.110	1.260	1.360	0.044	0.050	0.054
L	0.250	0.350	0.450	0.010	0.014	0.018

**Order Information**

Device	Marking	Carrier	Quantity	HSF Status
SPESLC2V5D2626-10U	S14P	Tape & Reel	3000pcs / Reel	RoHS Compliant