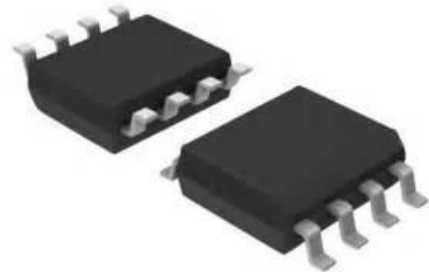


» **Features**

- 240Watts peak pulse power (tp = 8/20μs, Pin1,8-2,7 Pin3,6-4,5)
- SOP8 package
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Protection four data/power line
- IEC 61000-4-2 ±30V contact ±30kV air
- 1.2/50μs 12ohm 2kV (GbE PHY side)
- 10/700μs 40ohm 4kV (GbE PHY side)



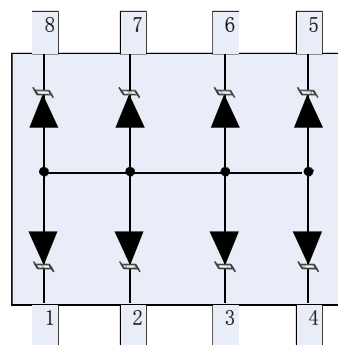
» **Applications**

- 10/100/1000 Ethernet
- LAN/WAN Equipment
- Security Cameras
- Notebook and PC Computers
- Integrated magnetics/RJ-45 connectors
- Industry Control

» **Mechanical Data**

- SOP8 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

» **Schematic & PIN Configuration**



» **Absolute Maximum Rating**

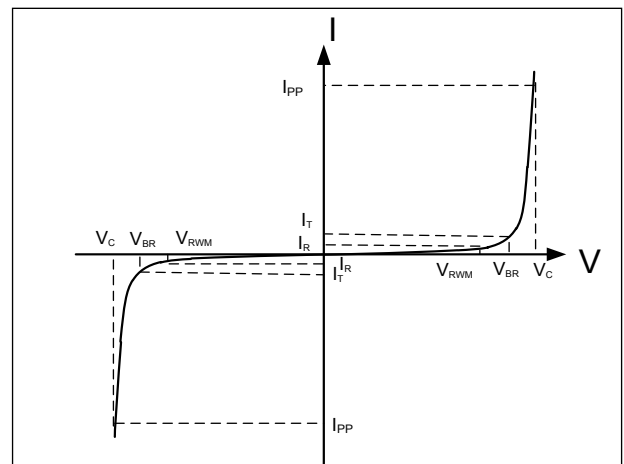
Rating	Symbol	Conditions	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	Pin1,8-2,7 Pin3,6-4,5	240	W
Peak Pulse Current ($t_p = 8/20\mu s$) (note1)	I_{PP}	Pin1,8-2,7 Pin3,6-4,5	16	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}		30 30	kV
Lead Soldering Temperature	T_L		260(10seconds)	°C
Junction Temperature	T_J		-55 to + 125	°C
Storage Temperature	T_{stg}		-55 to + 125	°C

» **Electrical Characteristics**

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	6	8.0		V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T = 25^\circ C$		0.2	0.5	uA
Clamping Voltage	V_C	$I_{PP} = 16A, t_p = 8/20\mu s$ Pin1,8-2,7, Pin3,6-4,5		12	15	V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$ Pin1,8-2,7 Pin3,6-4,5		1.2	1.4	pF

» **Electrical Parameters (TA = 25°C unless otherwise noted)**

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Note: 8/20μs pulse waveform.

» Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

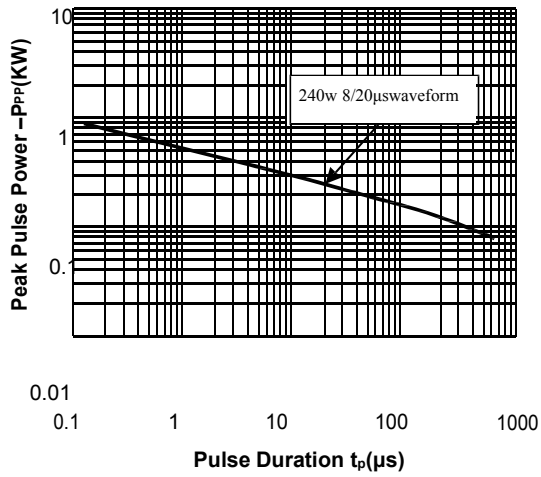


Fig.2 Pulse Derating Curve

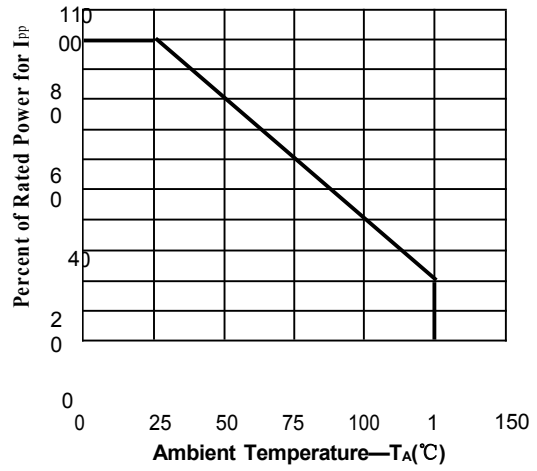


Fig.3 Pulse Waveform-8/20 μ s

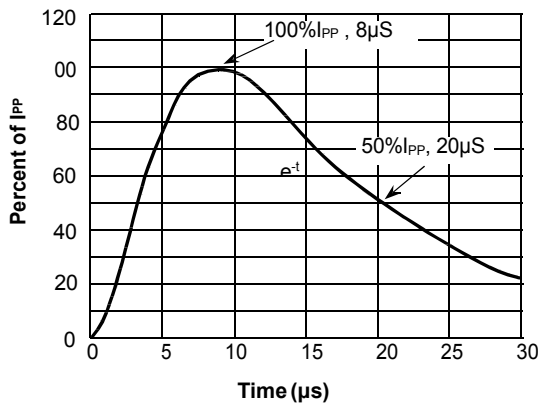


Fig.4 Pulse Waveform-ESD (IEC61000-4-2)

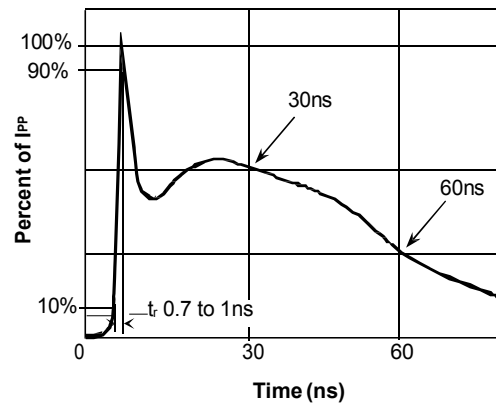


Fig.5 Eye Diagram - HDMI mask at 5.0Gbps per channel

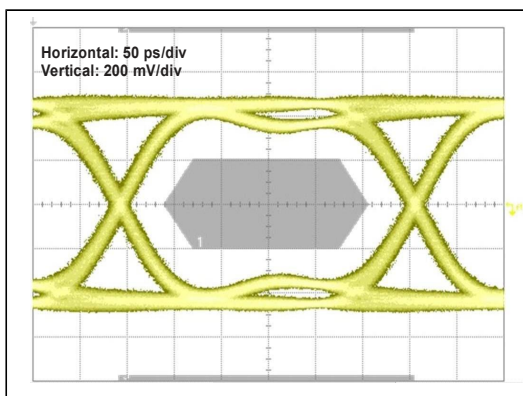
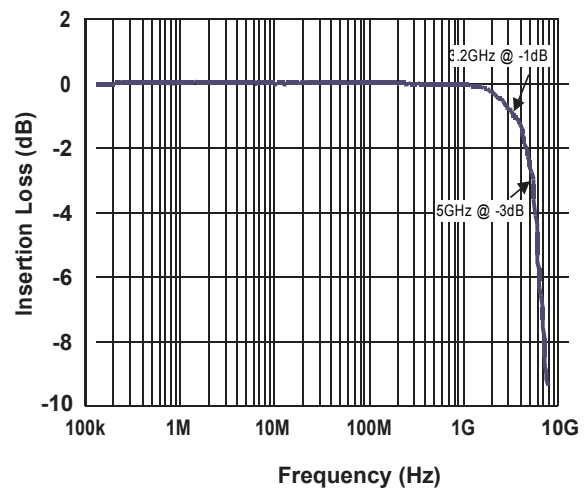


Fig.6 Insertion Loss S21



» **Application Information**

Lightning Surge Test Results for Gigabit Ethernet

During the metallic (line-to-line) surge test, the line being stressed is tied to the surge generator with the remaining lines tied together and connected to the generator ground. Current will flow through the line transformer transferring energy to the PHY side of the transformer. Figure 7 shows the test set-up for measuring the clamping voltage of the device. This set up is designed to test the surge in an actual gigabit Ethernet (GbE) circuit. Two 4.7 Ohm resistors is used for decoupling. The clamping voltage of the SLVU2.8-4N for a metallic mode 4000V (100A) 10/700µs surge. The clamping voltage, measured at less than 13 volts, provides sufficient clamping margin to minimize electrical stress and is well below the failure voltage range of typical GbE PHY chips (Figure 8).

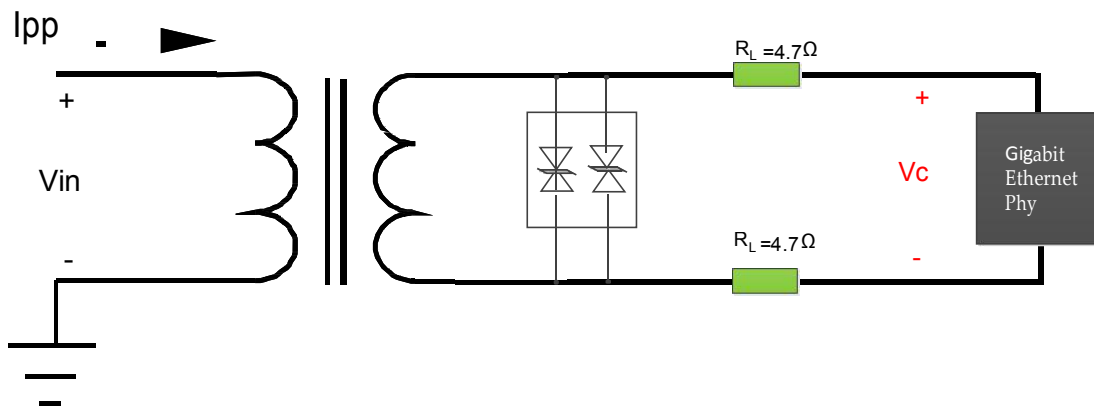


Figure 7 - Clamping Voltage Test Set-Up

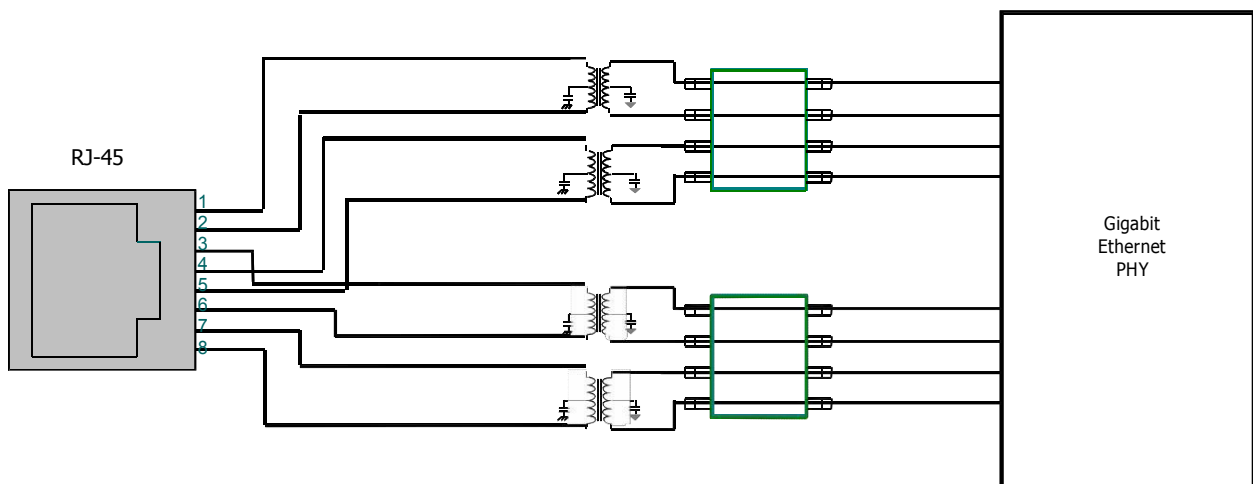
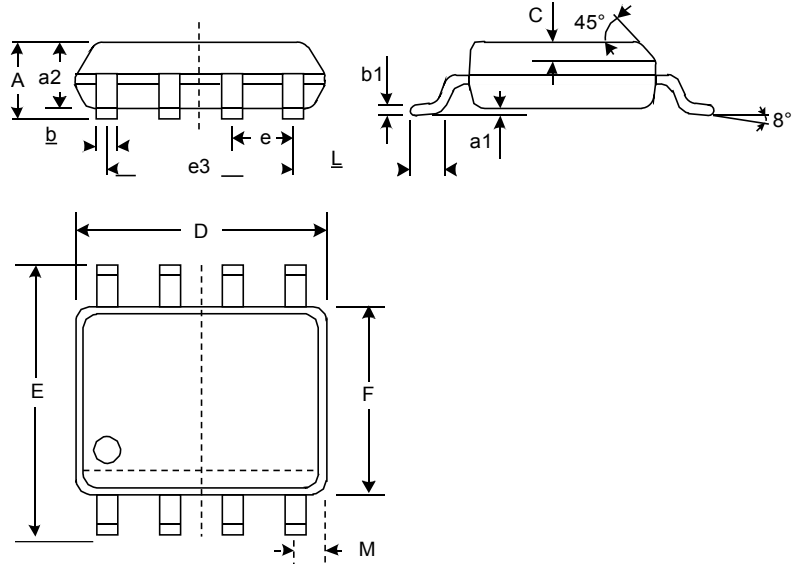


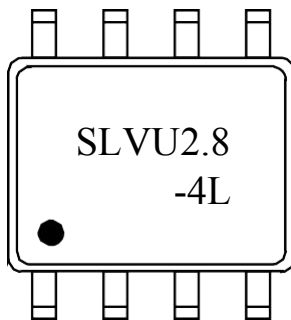
Figure 8 - GbE Protection to Lightning, ESD, and CDE

» Outline Drawing – SOP8

Ref. (mm)	Min.	Typ.	Max.
A			1.75
a1	0.10		0.25
a2			1.65
b	0.35		0.48
b1	0.19		0.25
C		0.50	
D	4.80		5.00
E	5.80		6.20
e		1.27	
e3		3.81	
F	3.80		4.00
L	0.40	0.85	1.27
M			0.6



» Marking



» Ordering information

Order code	Package	Base qty	Delivery mode
SLVU2.8-4N	SOP8	2500	Tape and reel