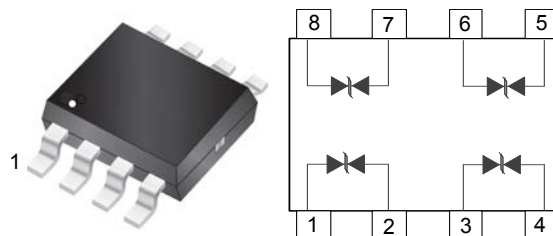


### Features

- 240Watts peak pulse power (tp = 8/20μs)
- SOIC-8 Package
- Low clamping voltage
- Low leakage current
- Low capacitance
- Protection four data/power line
- IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 16A (8/20μs)
- 1.2/50us 12Ω 2KV(GbE PHY side)
- 10/700us 40Ω 4KV(GbE PHY side)



### Mechanical Data

- **Case:** SOIC-8 (plastic package).  
Lead free; RoHS compliant; Halogen free
- **Molding Compound Flammability Rating:**  
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:  
260 °C/10 sec. at terminals

### Applications

- 10/100/1000 Ethernet
- Integrated magnetics/RJ-45 connectors
- LAN/WAN Equipment
- Security Cameras
- Industrial Controls
- Peripherals
- Notebooks & PC Computers

### Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

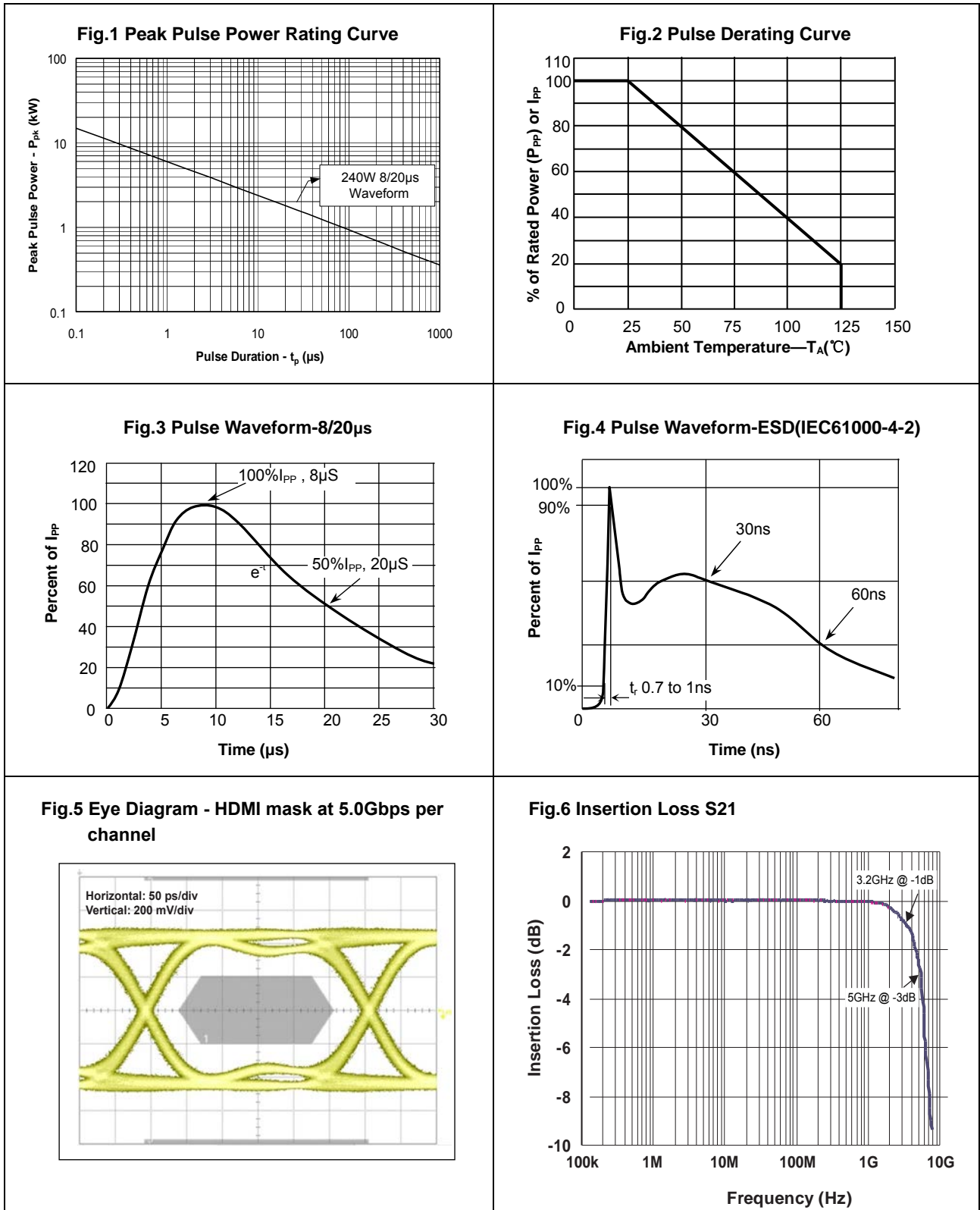
Parameter	Symbol	Value	Unit
Peak Pulse Power (T <sub>P</sub> =8/20μs)	P <sub>PP</sub>	240	W
ESD contact/air discharge (IEC-61000-4-2)	V <sub>ESD</sub>	30/30	kV
Peak Pulse Current (T <sub>P</sub> = 8/20μs)	I <sub>PP</sub>	16	A
Junction Temperature	T <sub>J</sub>	-55 to +125	°C
Storage temperature	T <sub>STG</sub>	-55 to +150	°C

### Electrical Characteristics

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

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V <sub>RWM</sub>				2.8	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	4.0			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> =2.8V			0.5	μA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =16A, T <sub>P</sub> =8/20μs Pin 1,8-2,7; Pin 3,6-4,5		8.5		V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V, f=1MHz Pin 1,8-2,7; Pin 3,6-4,5		1.2		pF

**Typical Characteristics** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)



## 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 YELSOP82T16AG for a metallic mode 4000V (100A) 10/700 $\mu$ s 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 ).

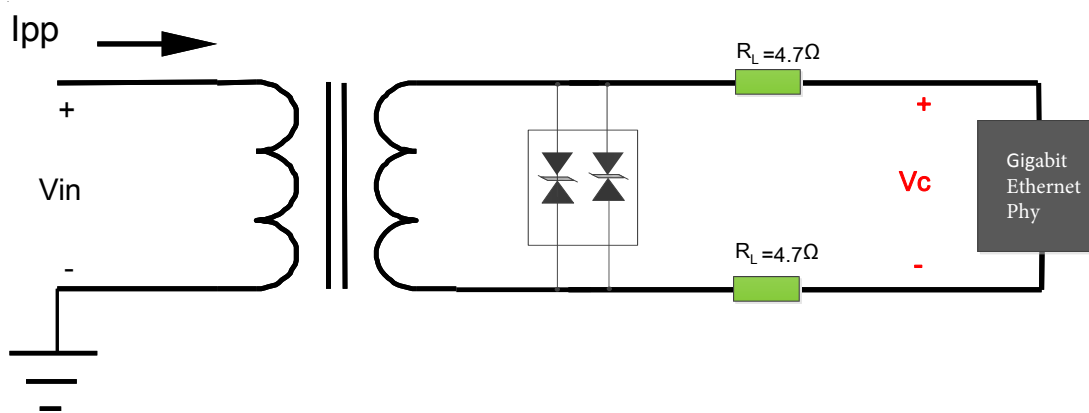


Figure 7 - Clamping Voltage Test Set-Up

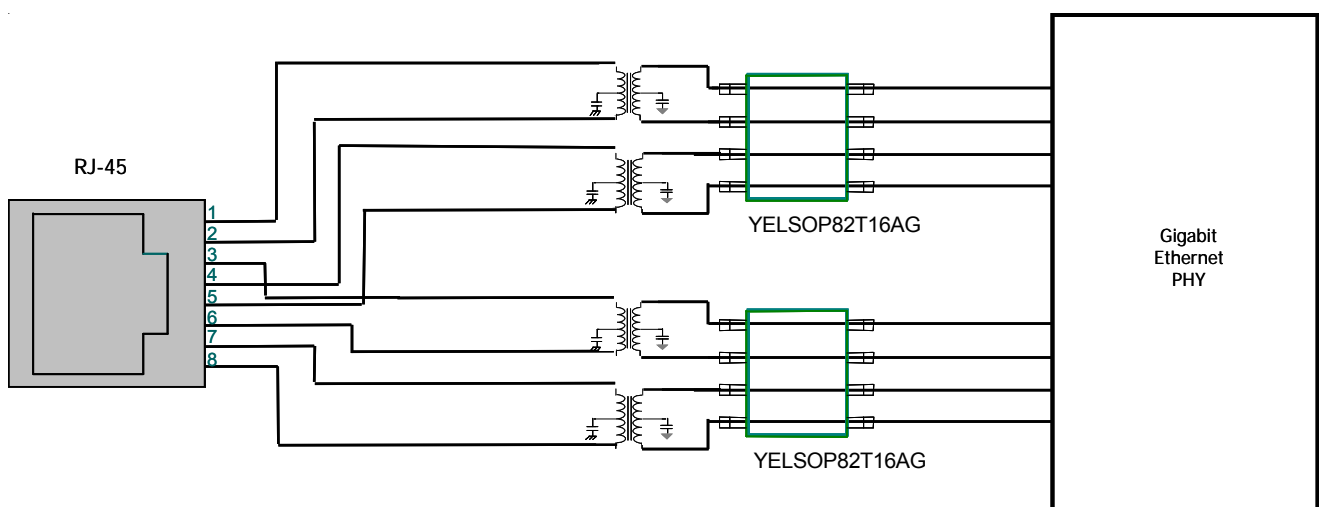
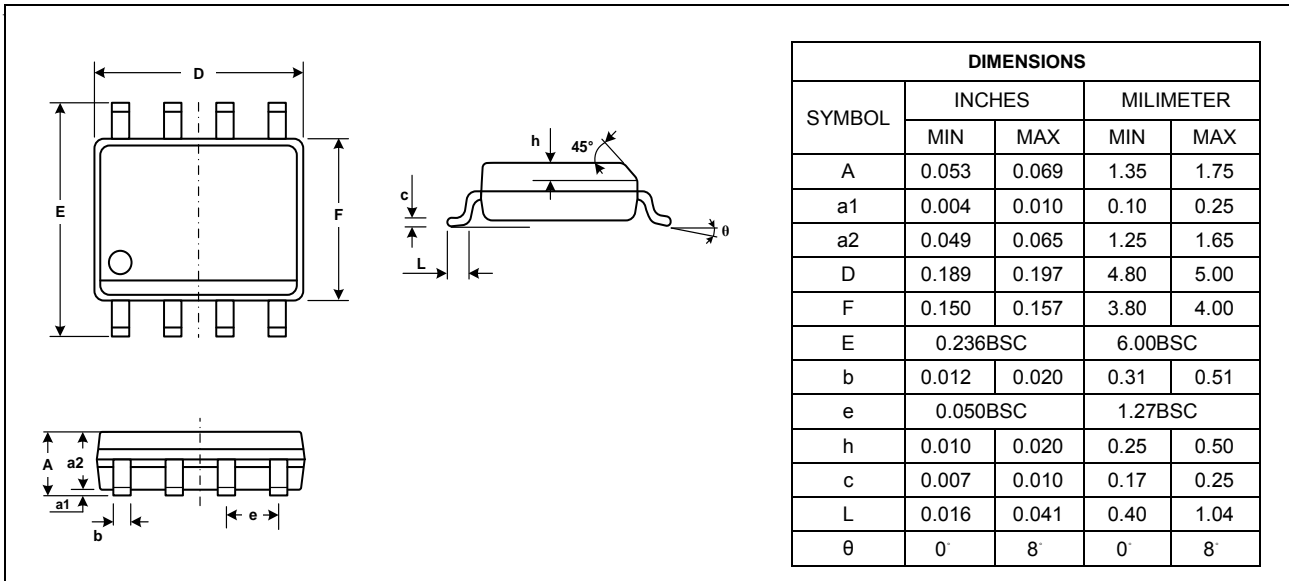
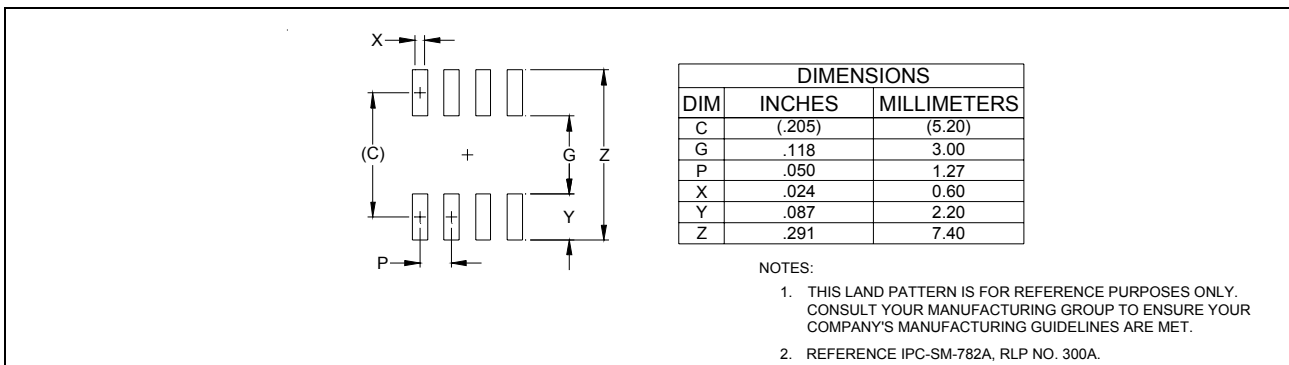


Figure 8 - GbE Protection to Lightning, ESD, and CDE

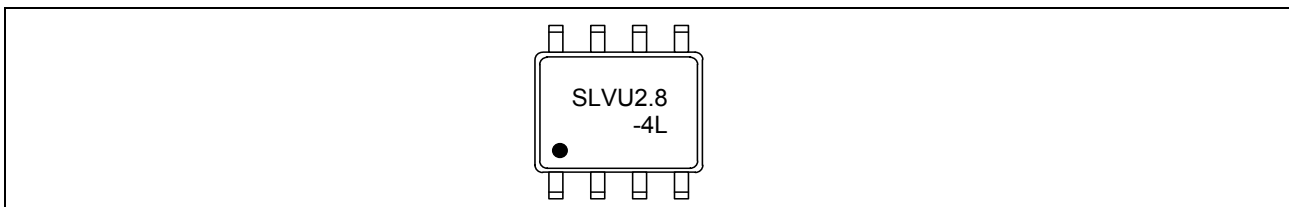
### Package Dimensions



### Pad Dimensions



### Marking



### Ordering information

Order code	Package	Packaging option	Base quantity	Packaging specification
YELSOP82T16AG	SOIC-8	Tape and reel	2500pcs / reel	EIA STD RS-481