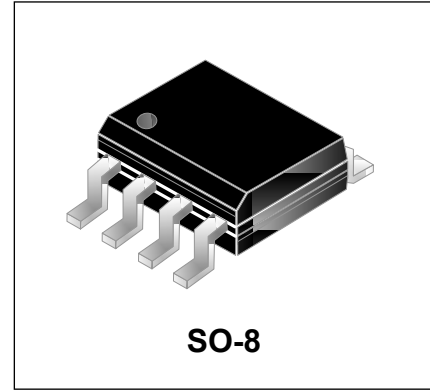




Features

- 550 Watts peak pulse power ($t_p=8/20\mu s$)
- Protects Two Line Pairs (Four lines)
- Low capacitance
- Low leakage current
- Low operating and clamping voltage
- Solid-state Punch through Avalanche TVS process technology



IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 26A (8/20 μs)

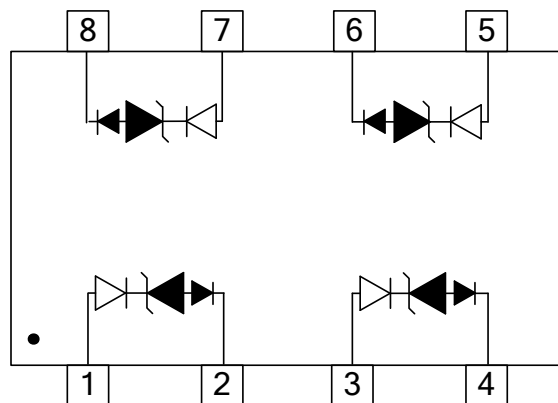
Mechanical Characteristics

- JEDEC SO-8 package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel
- RoHS Compliant

Applications

- Switching Systems
- WAN/LAN Equipment
- Desktops, Servers, Notebooks & Handhelds
- 10/100 Ethernet
- Base Stations
- Audio/Video Inputs

Schematic & PIN Configuration

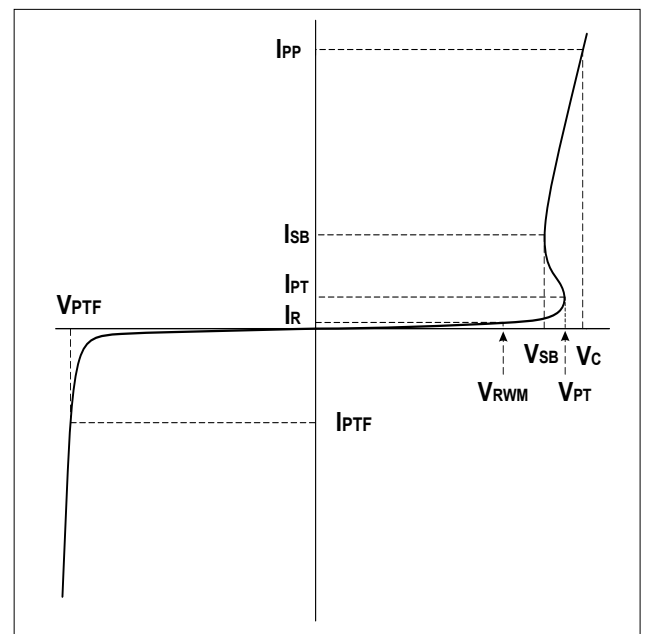


SO-8 (Top View)

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$) see Figure1& Figure2	P_{PP}	550	Watts
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	26	A
Lead Soldering Temperature	T_L	260(10sec)	$^{\circ}C$
Operating Temperature	T_J	-55 to + 125	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

Electrical Parameters (T=25 $^{\circ}C$)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{PT}	Punch-through Breakdown Voltage @ I_T
V_{SB}	Snap-Back Voltage @ I_{SB}
I_{SB}	Snap-Back Current
I_{PT}	Test Current
V_{PTF}	Forward Punch-through Breakdown Voltage @ I_F
I_{PTF}	Forward Test Current



Electrical Characteristics(T=25 $^{\circ}C$)

DW2.8-4LVU-S						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}	See Note1			2.8	V
Punch-through Voltage	V_{PT}	$I_{PT}=2\mu A$, See Note1	3.0			V
Reverse Leakage Current	I_R	$V_{RWM}=2.8V$ See Note1			1	μA
Snap-Back Voltage	V_{SB}	$I_{SB}=50mA$, See Note1	2.8			V

Electrical Characteristics (Cont.)

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Clamping Voltage (Note1)	V_C	$I_{PP}=2A$, $t_p=8/20\mu s$ See Note1		7	9	V
Clamping Voltage	V_C	$I_{PP}=5A$, $t_p=8/20\mu s$ See Note1		9	11	V
Clamping Voltage	V_C	$I_{PP}=26A$, $t_p=8/20\mu s$ See Note1		19	21	V
Junction Capacitance	C_j	$V_R = 0V$, $f = 1MHz$ See Note1		5.5	7.5	pF
Steer Diodes						
Reverse Breakdown Voltage	V_{BR}	$I_T = 10\mu A$ See Note4	50			V
Reverse Leakage Current	I_R	$V_{RWM} = 2.8V$ See Note4			1	μA
Forward Voltage (Note3)	V_F	$I_F=1A$ See Note5			2	V

NOTES:

1. Device measured between pin 1 to 2, pin 3 to 4, pin 5 to 6 and pin 7 to 8.
2. The 8/20 μs test pulse wave is shown in figure3, and the clamping voltage vs. I_{PP} is shown in figure4 .
3. The Junction Capacitance vs. Reverse Voltage is shown in figure5.
4. Each Steer Diode integrated in the DW2.8-4LVU-S reversely connected with a TVS Diode in series
5. The Forward Voltage vs. Forward Current for Steer diode is shown in figure6.



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

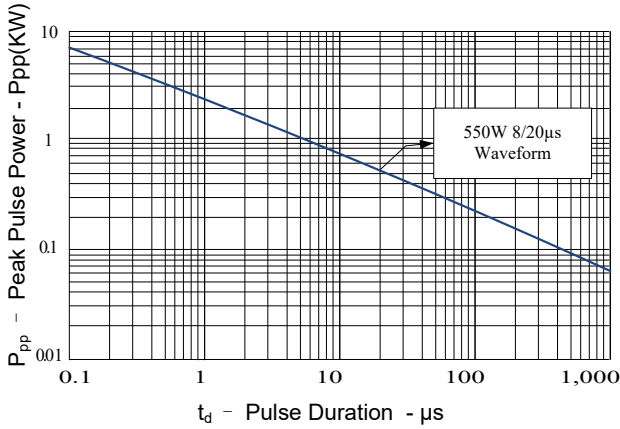


Figure 2: Power Derating Curve

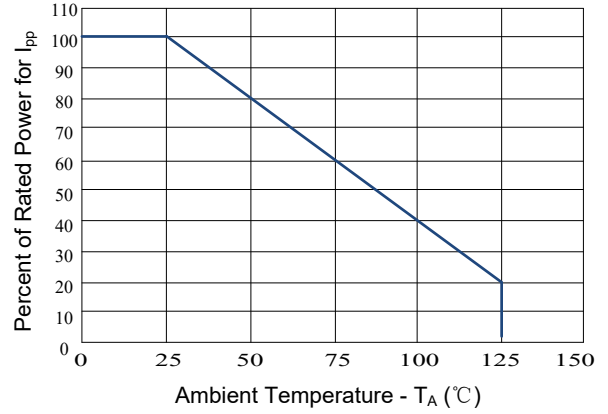


Figure3: Pulse Waveform

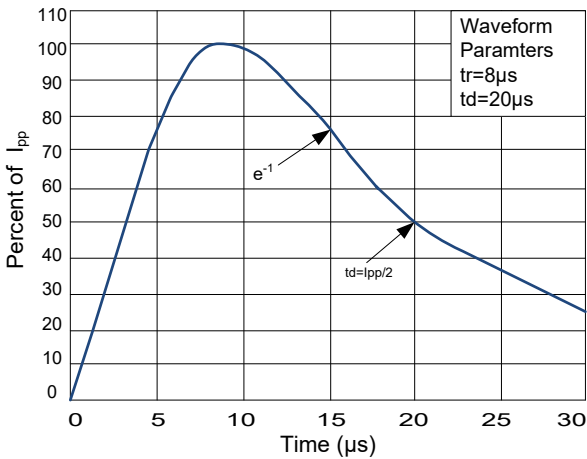


Figure 4: Clamping Voltage vs. Peak Pulse Current

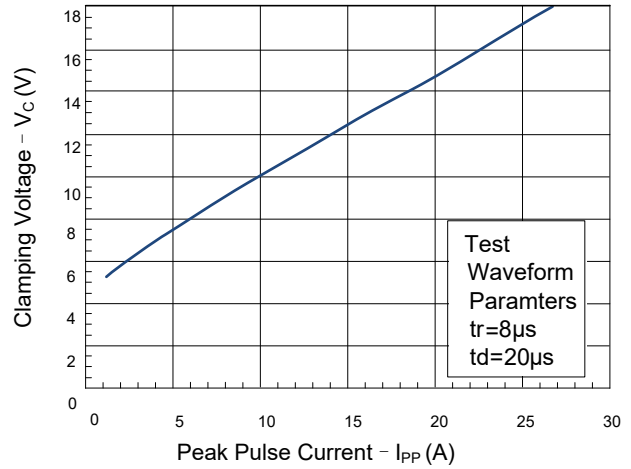


Figure 5: Capacitance vs. Reverse Voltage

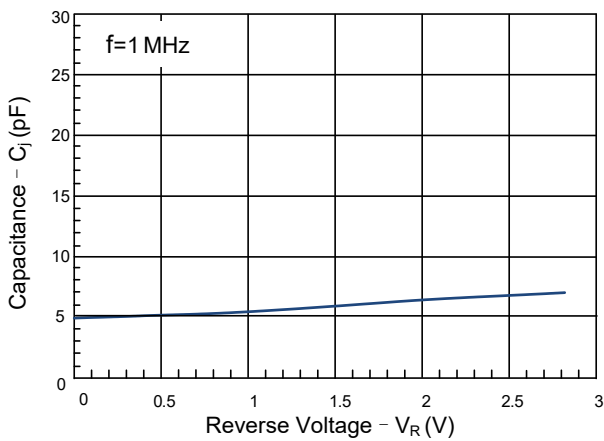
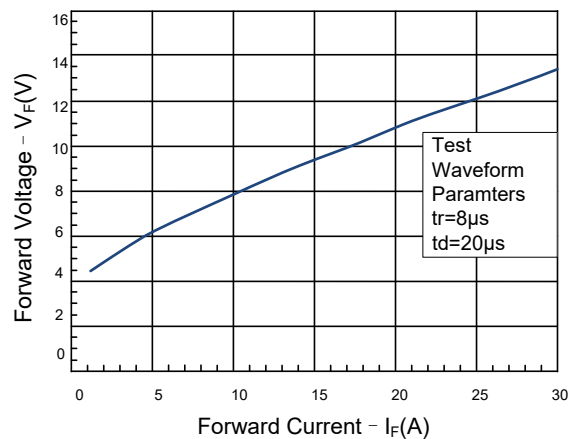


Figure 6: Forward Voltage vs. Forward Current



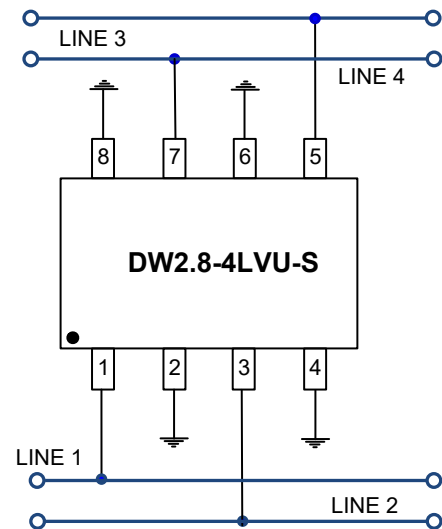
Application Information

The DW2.8-4LVU-S is designed to providing protection for electronic equipment that is susceptible to damage caused by Electrostatic Discharge (ESD), Electrical Fast Transients (EFT) and tertiary lightning effects. This product is offered in a unidirectional configuration and provides both common-mode and differential-mode protection.

Unidirectional Common-mode Protection

The DW2.8-4LVU-S device provide two lines of bidirectional protection in a common-mode configuration.

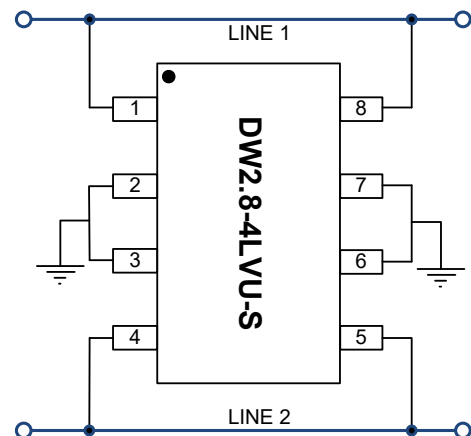
- Pin 1 is connected to Line1.
- Pin 3 is connected to Line2
- Pin 5 is connected to Line3.
- Pin 7 is connected to Line4
- Other Pins are connected to ground.



Bidirectional Common-mode Protection

The DW2.8-4LVU-S device provide two lines of bidirectional protection in a common-mode configuration.

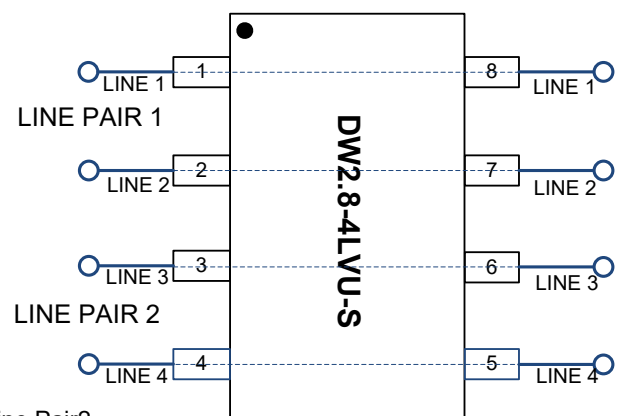
- Pin1 & Pin8 are connected to Line1
- Pin4 & Pin5 are connected to Line2
- Other Pins are connected to ground.



Bidirectional Differential-mode Protection

The DW2.8-4LVU-S device provide two lines of bidirectional protection in a common-mode configuration.

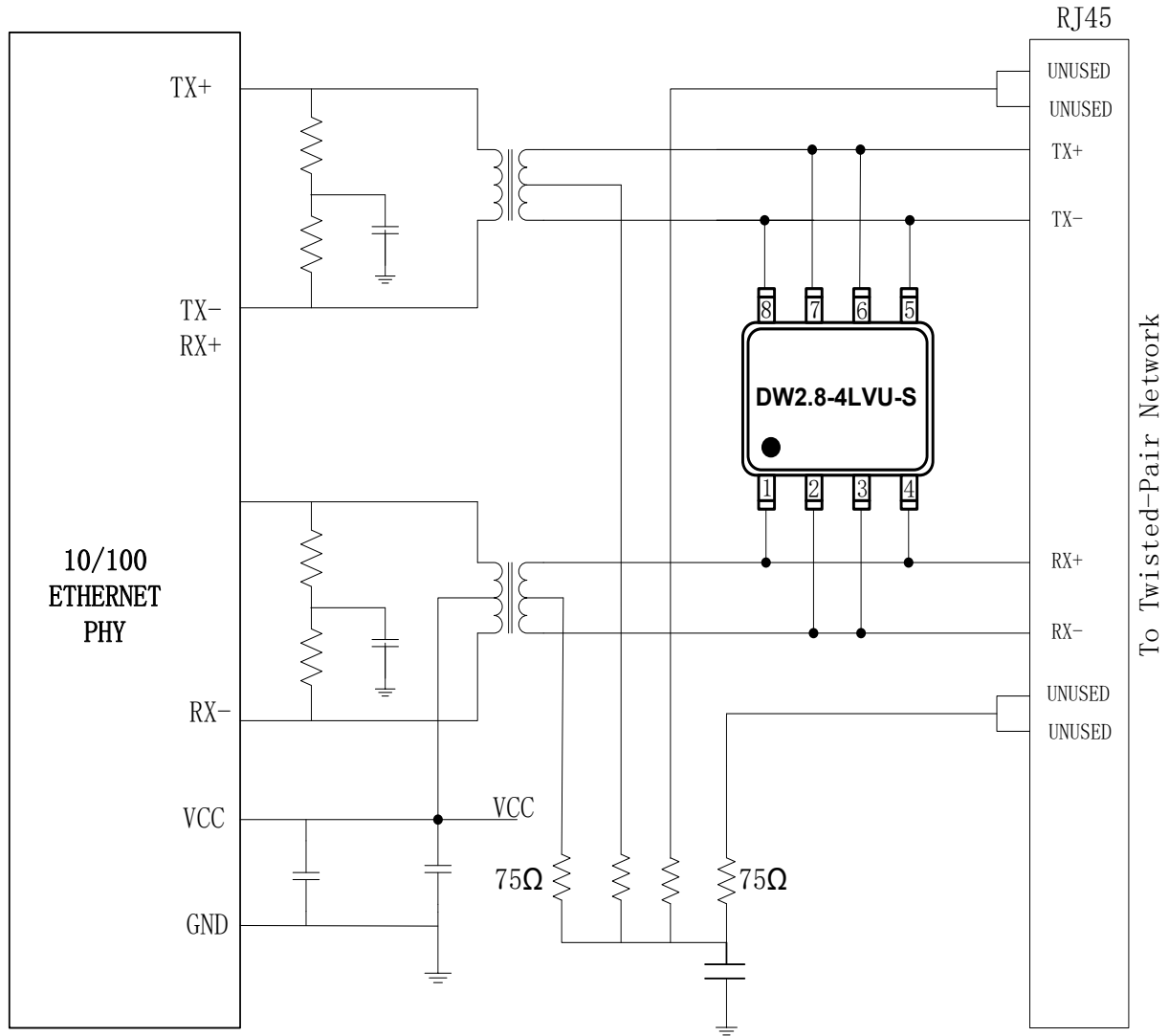
- Pin1 & Pin8 is connected to Line1
- Pin2 & Pin7 is connected to Line2
- Pin3 & Pin6 is connected to Line3
- Pin4 & Pin5 is connected to Line4
- Line1&Line2 compose Line Pair1 ,Line3&Line4 compose Line Pair2



Ver.: A1 2019-02-22 WA



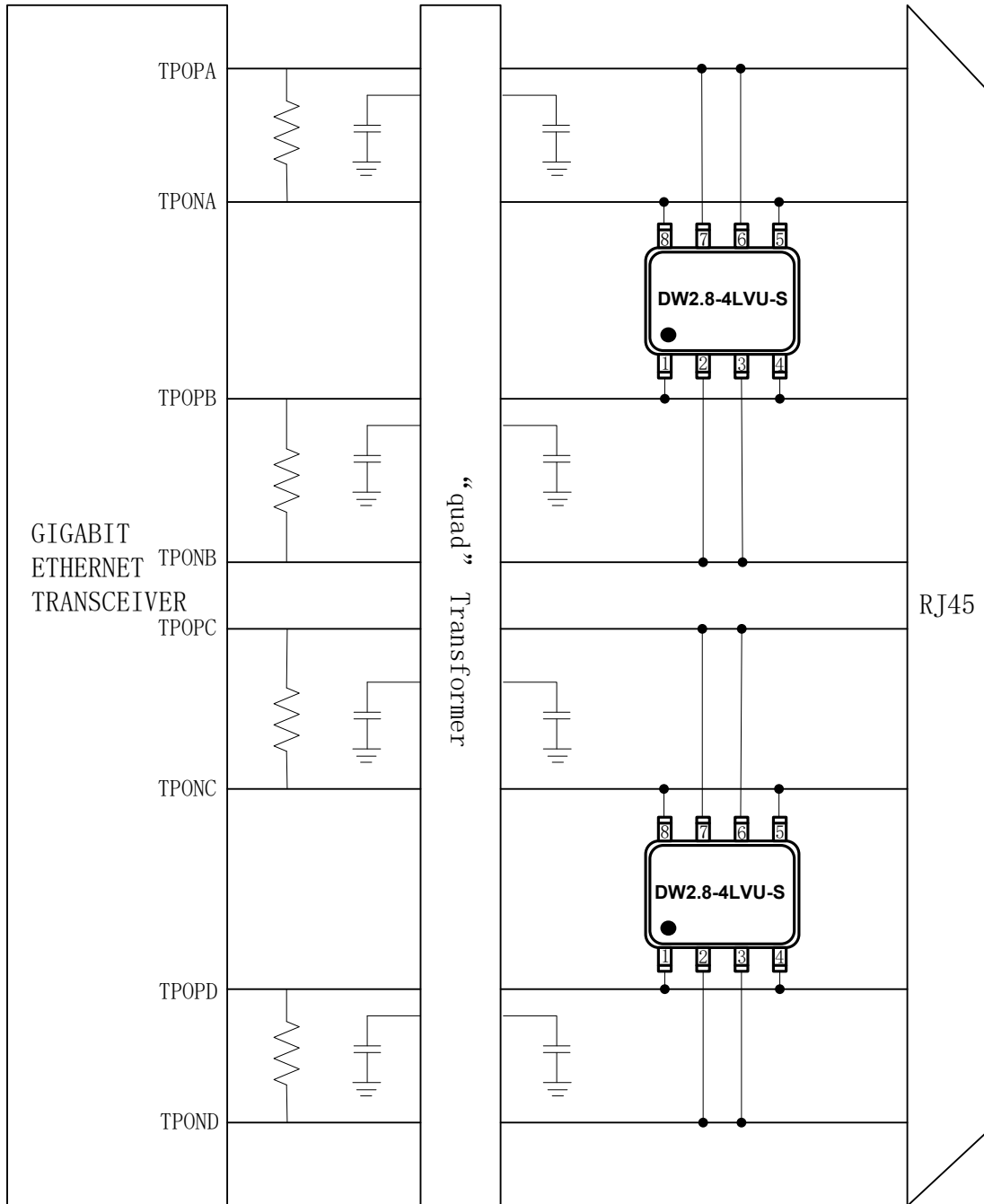
Main Application



10/100M Ethernet Protection Circuit

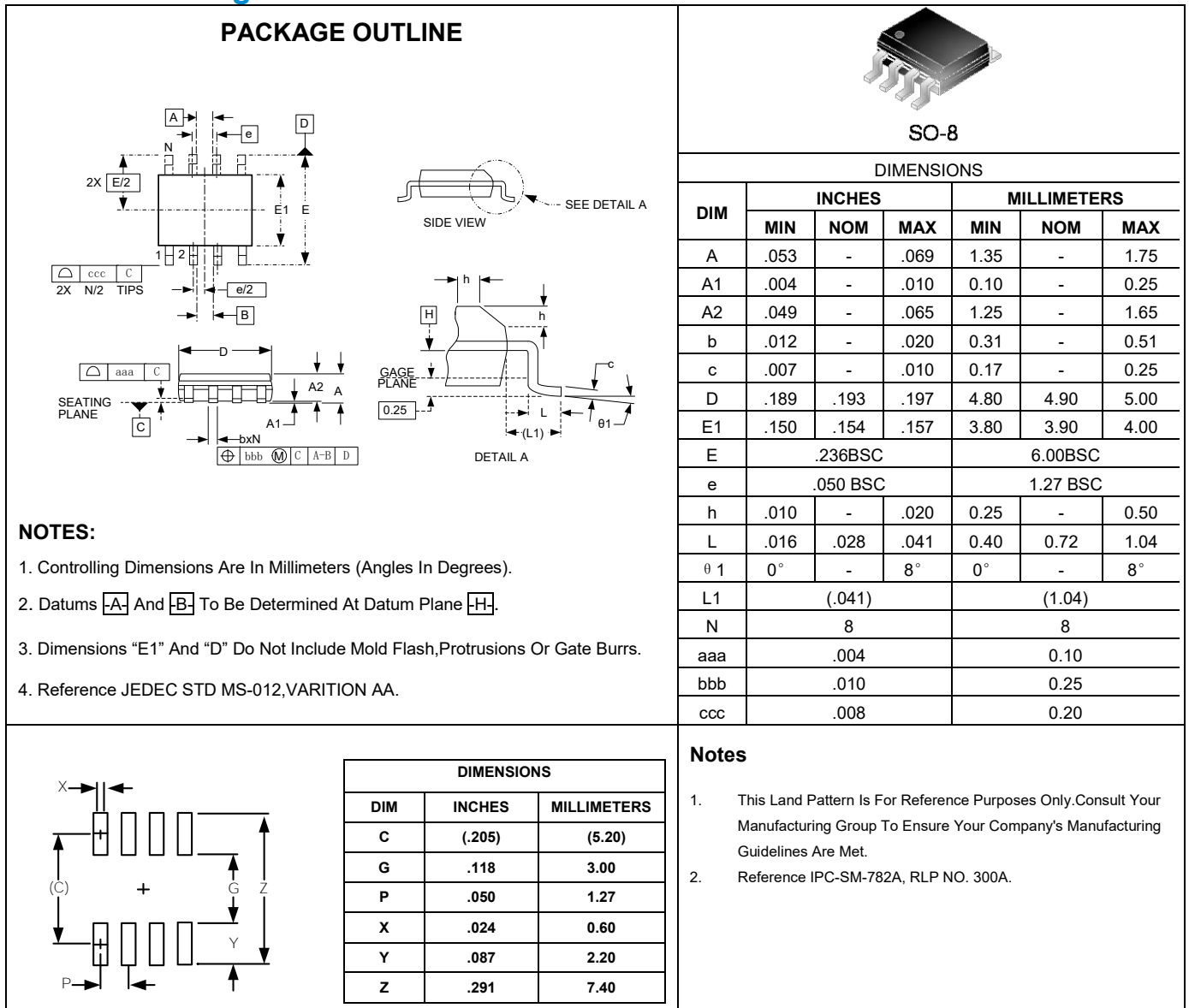


Main Application (Cont)



Gigabit Ethernet Protection Circuit

Outline Drawing – SO-8



Marking Codes

Part Number	DW2.8-4LVU-S
Marking Code	DW2.8-4LVU-S

Package Information

Qty: 2.5k/Reel