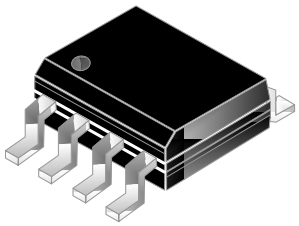
DW2.8-8LVU-S

Features

- 600 Watts peak pulse power (t_p=8/20μs)
- Protects Four Line Pairs (Eight lines)
- Low capacitance
- Low leakage current
- Low operating and clamping voltage
- Solid-state Punch through Avalanche TVS process technology



SO-8

IEC Compatibility (EN61000-4)

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

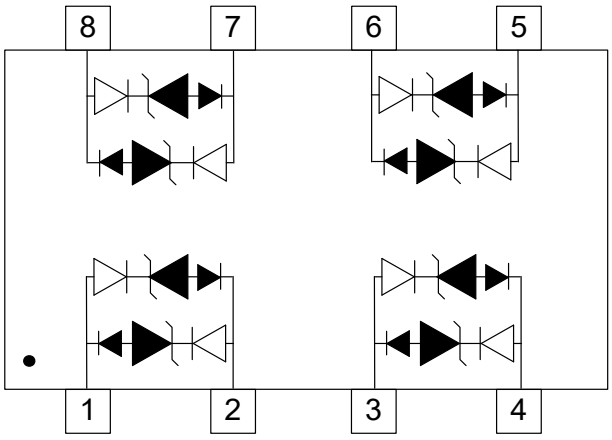
Mechanical Characteristics

- 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, Serves, Notebooks& Handhelds
- 10/100 Ethernet
- Base Stations
- Audio/Video Inputs

Schematic & PIN Configuration

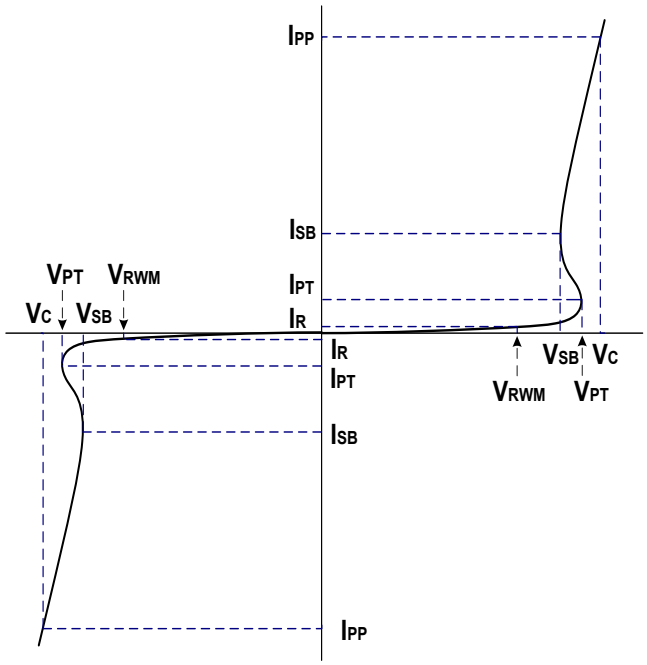


SO-8 (Top View)

Absolute Maximum Rating			
Rating	**Symbol**	**Value**	**Units**
Peak Pulse Power（t_p=8/20μs） see Figure1& Figure2	P_{PP}	600	Watts
Peak Pulse Current（t_p=8/20μs）	I_{PP}	30	A
Lead Soldering Temperature	T_L	260(10sec)	° C
Operating Temperature	T_J	-55 to + 125	° C
Storage Temperature	T_{STG}	-55 to +150	° C

Electrical Parameters (T=25℃)

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse 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℃)

DW2.8-8LVU-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}=2μA, 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=8/20μs See Note1			6.0	V
Clamping Voltage	V_C	I_{PP}=5A, t_p=8/20μs See Note1			9.5	V
Clamping Voltage	V_C	I_{PP}=24A, t_p=8/20μs See Note1		13		V
Clamping Voltage	V_C	I_{PP}=30A, t_p=8/20μs See Note1		17		V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz See Note1		2.5		pF

NOTES：

1. Device measured between pin 1 and 2, pin 3 and 4, pin 5 and 6, pin 7 and 8.
2. The 8/20μs 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 DW2.8-8LVU-S reversely connected with a TVS Diode in series.

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

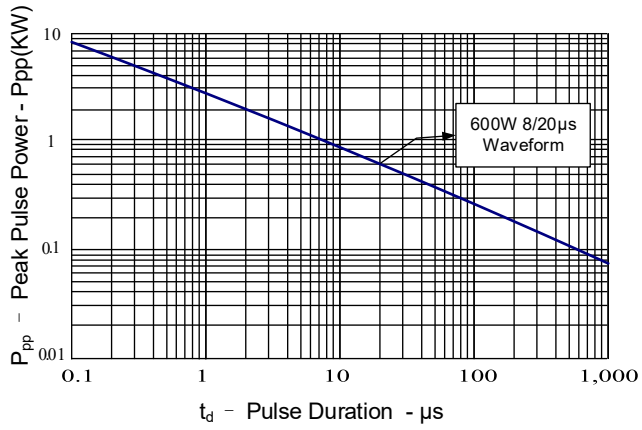


Figure 2: Power Derating Curve

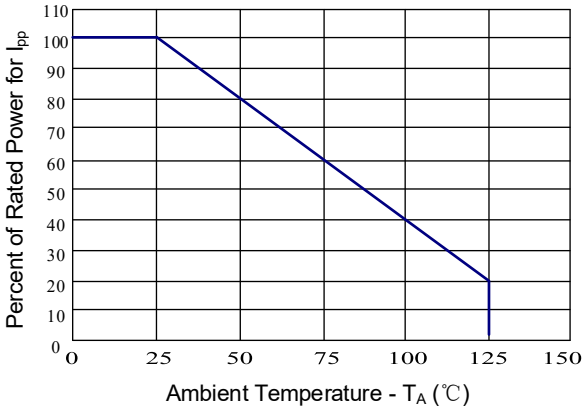


Figure3: Pulse Waveform

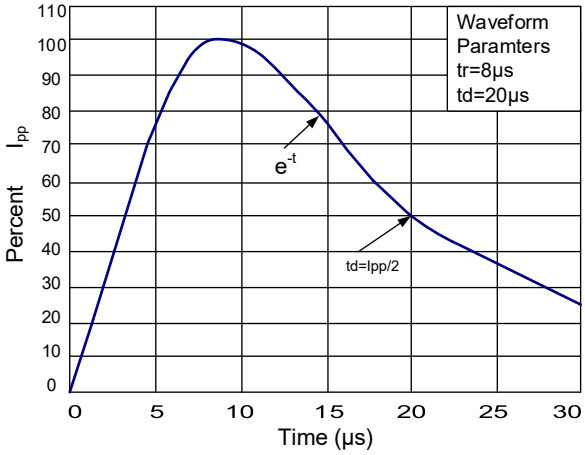


Figure 4: Clamping Voltage vs. Peak Pulse Current

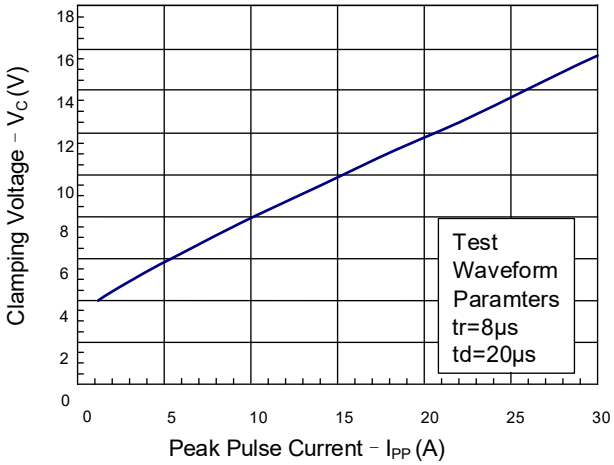
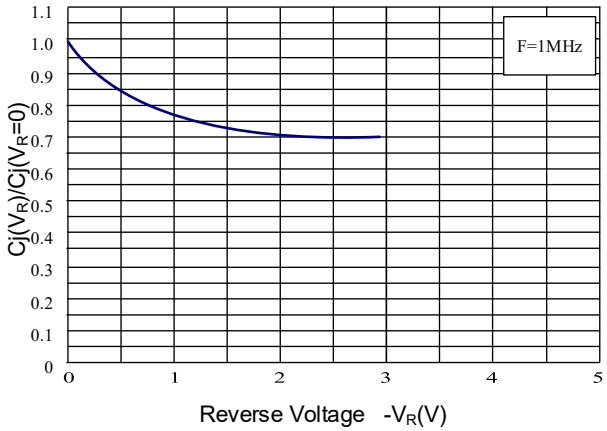


Figure 5: Normalized Junction Capacitance vs. Reverse Voltage



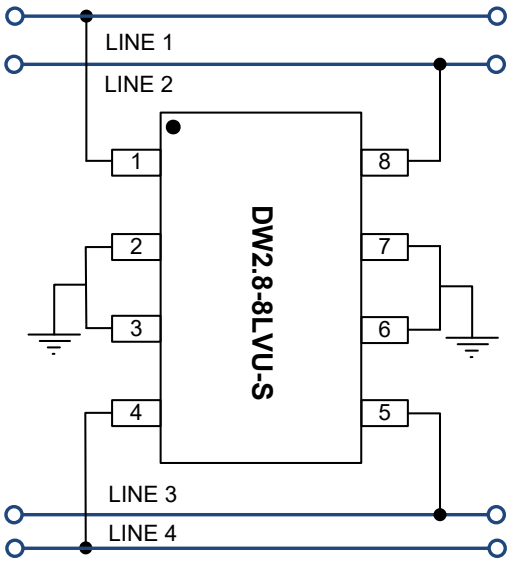
Application Information

The DW2.8-8LVU-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.

Bidirectional Common-mode Protection

The DW2.8-8LVU-S device provides four lines of bidirectional protection in a common-mode configuration .

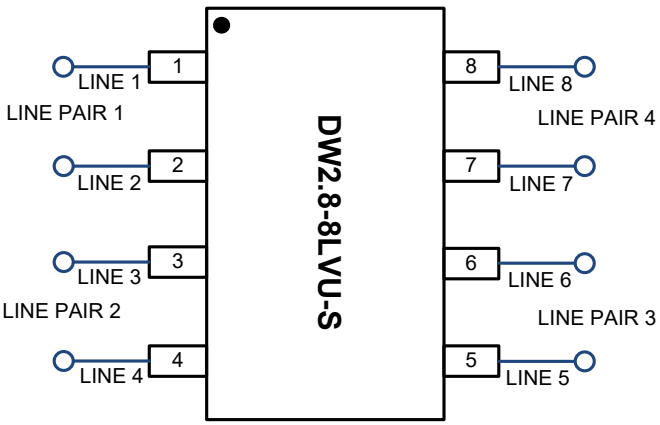
- Pin 1 is connected to Line1
- Pin 8 is connected to Line2
- Pin 5 is connected to Line3
- Pin 8 is connected to Line4
- Other Pins are connected to ground



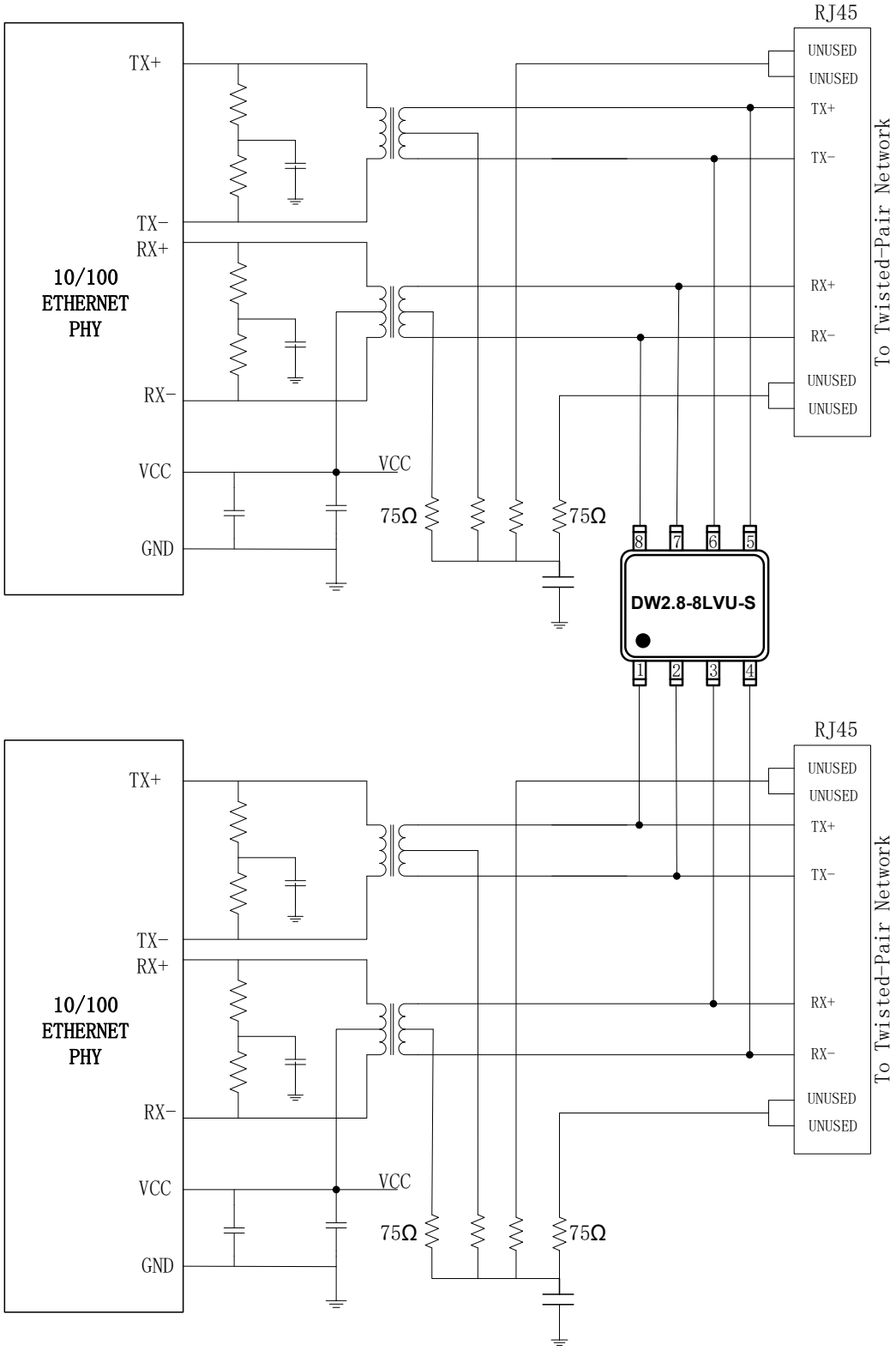
Bidirectional Differential-mode Protection

The DW2.8-8LVU-S device provides four line pairs of bidirectional protection in a differential-mode configuration.

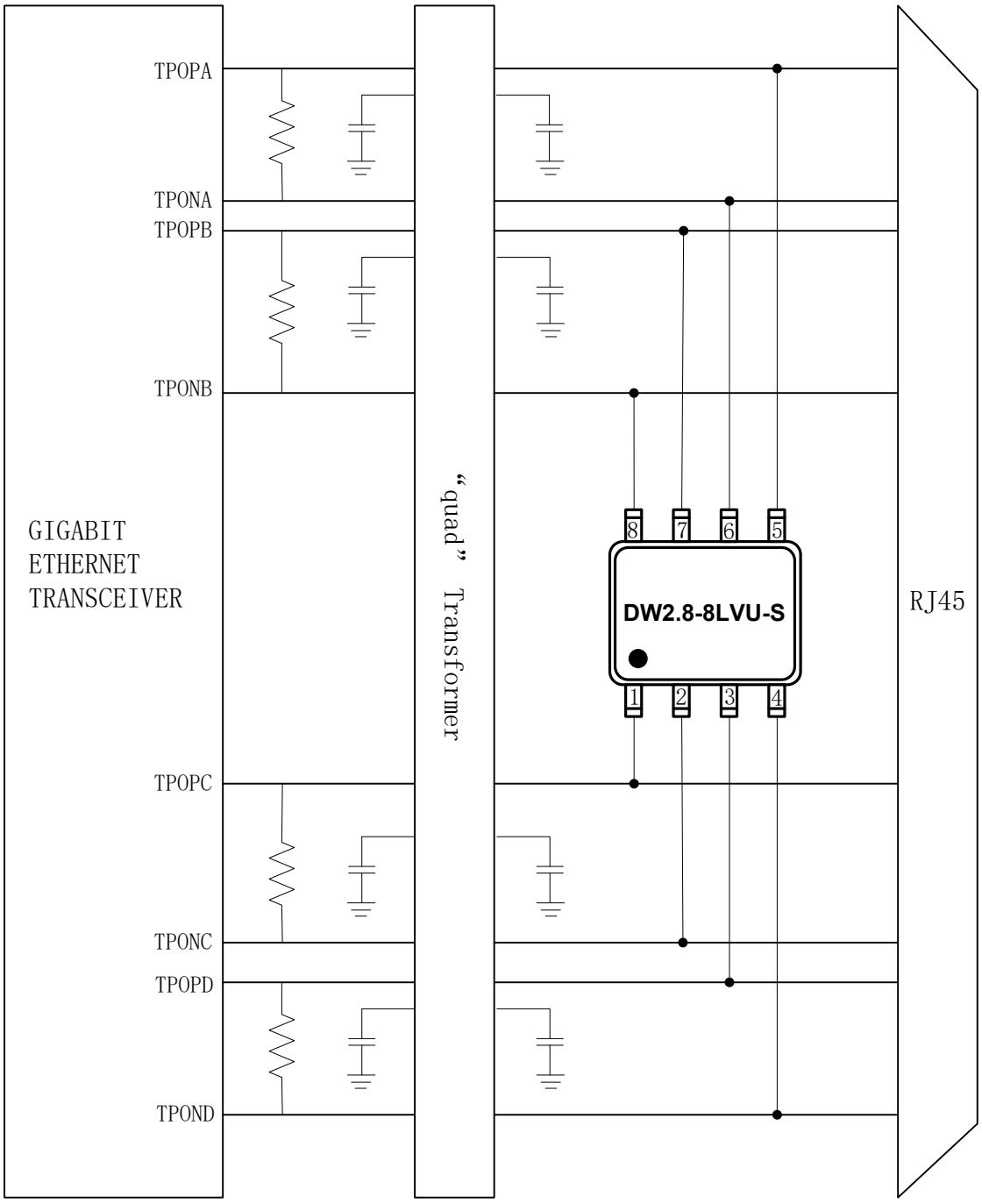
- Line1&Line2 compose Line Pair1
- Line3&Line4 compose Line Pair2
- Line1&Line2 compose Line Pair1
- Line3&Line4 compose Line Pair4
- Pin 1&Pin2 is respectively connected to Line1&Line2
- Pin 3&Pin4 is respectively connected to Line3&Line4
- Pin 5&Pin6 is respectively connected to Line5&Line6
- Pin 7&Pin8 is respectively connected to Line7&Line8



Main Application



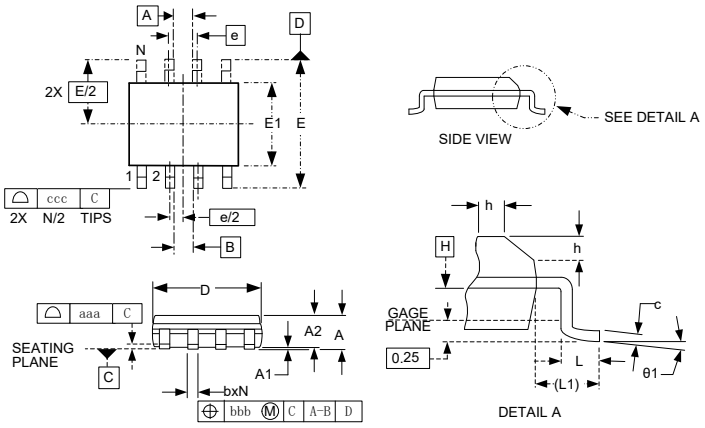
One DW2.8-8LVU-S Protecting Two 10/100 Ethernet Port



Gigabit Ethernet Protection Circuit

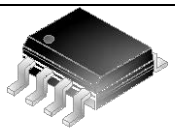
Outline Drawing – SO-8

PACKAGE OUTLINE



NOTES:

1. Controlling Dimensions Are In Millimeters (Angles In Degrees).
2. Datums -A- And -B- To Be Determined At Datum Plane -H-.
3. Dimensions “E1” And “D” Do Not Include Mold Flash,Protrusions Or Gate Burrs.
4. Reference JEDEC STD MS-012,VARITION AA.



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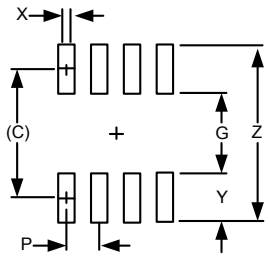
DIMENSIONS

DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.053	-	.069	1.35	-	1.75
A1	.004	-	.010	0.10	-	0.25
A2	.049	-	.065	1.25	-	1.65
b	.012	-	.020	0.31	-	0.51
c	.007	-	.010	0.17	-	0.25
D	.189	.193	.197	4.80	4.90	5.00
E1	.150	.154	.157	3.80	3.90	4.00
E	.236BSC			6.00BSC		
e	.050 BSC			1.27 BSC		
h	.010	-	.020	0.25	-	0.50
L	.016	.028	.041	0.40	0.72	1.04
θ 1	0°	-	8°	0°	-	8°
L1	(.041)			(1.04)		
N	8			8		
aaa	.004			0.10		
bbb	.010			0.25		
ccc	.008			0.20		



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.205)	(5.20)
G	.118	3.00
P	.050	1.27
X	.024	0.60
Y	.087	2.20
Z	.291	7.40

Notes

1. This Land Pattern Is For Reference Purposes Only.Consult Your Manufacturing Group To Ensure Your Company's Manufacturing Guidelines Are Met.
2. Reference IPC-SM-782A, RLP NO. 300A.

Marking Codes

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

Package Information

Qty：2.5k/Reel