LITE-ON SEMICONDUCTOR

L15ESDL5V0NA-4

ESD PROTECTION DEVICE

STAND-OFF VOLTAGE - **5.0** Volts
POWER DISSIPATION - **150** WATTS

GENERAL DESCRIPTION

The L15ESDL5V0NA-4 is ultra low capacitance TVS arrays designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

FEATURES

- Flow-Through design
- Protects four I/O lines (Data lines)
- Max. peak pulse power : Ppp = 150W at tp = 8/20 us.
- Low capacitance: 0.3pF typical (I/O to I/O)
- IEC 61000-4-2, level 4 (ESD), > ±15KV (air) ; > ±8KV (contact).

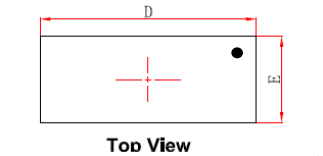
APPLICATION

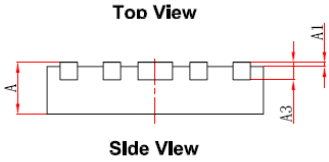
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- DisplayPort™ Interface
- MDDI Ports
- LVDS
- Serial ATA
- PCI Express

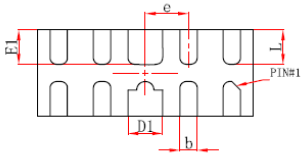
MECHANICAL DATA

- Case Material: "Green" molding compound UL flammability classification 94V-0 (No Br.Sb, Cl)
- Terminals: Lead Free Plating (Matte Tin Finish)
- Component in accordance to RoHs 2002/95/EC

SLP2510P8

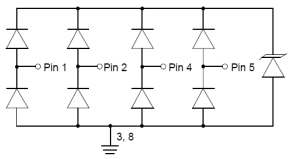






SLP2510P8		
DIM.	MIN.	MAX.
A	0.45	0.55
A1	0.00	0.05
A3	0.152 REF.	
D	2.45	2.55
E	0.95	1.05
D1	0.35	0.45
E1	0.35	0.45
b	0.15	0.25
e	0.50 BSC	
L	0.35	0.45
All Dimensions in millimeter		

PIN ASSIGNMENT	
1, 2, 4, 5	Input Lines
6, 7, 9, 10	NC
3,8	Ground



4 lines Protection

MAXIMUM RATINGS (Tj= 25℃ unless otherwise noticed)

Rating	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20us)	P_{pk}	150 (Max)	W
Peak Pulse Current (tp = 8/20us)	Ipp	5.0	A
Operating Junction Temperature Range	T_J	-55 to + 125	℃
Storage Temperature Range	Tstg	-55 to + 150	℃
Soldering Temperature, t max = 10s	T_L	260	℃

ELECTRICAL CHARACTERISTICS (Tj= 25℃ unless otherwise noticed)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse standoff voltage	V_{RWM}	Any I/O pin to ground	--	---	5.0	V
Reverse leakage current	I_{RM}	VDRM = 5V	--	---	1.0	uA
Breakdown voltage	V_{BR}	IR = 1 mA	6.0	---	---	V
Clamping Voltage	Vc	Ipp=1A, tp = 8/20 us	---	---	15	V
Junction capacitance	CJ	VR = 0 V , f = 1MH Between I/O pins	---	0.3	0.4	pF
Junction capacitance	CJ	VR = 0 V , f = 1MHz Any I/O pin to ground	---	---	0.8	pF

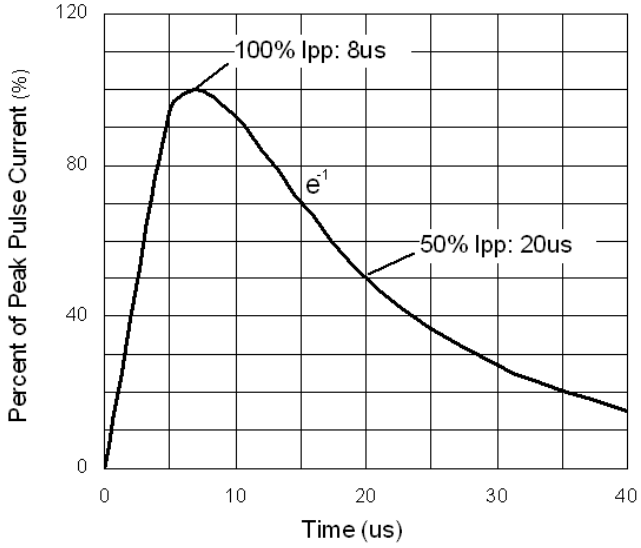


Figure 1. 8/20 us pulse waveform according to IEC 61000-4-5

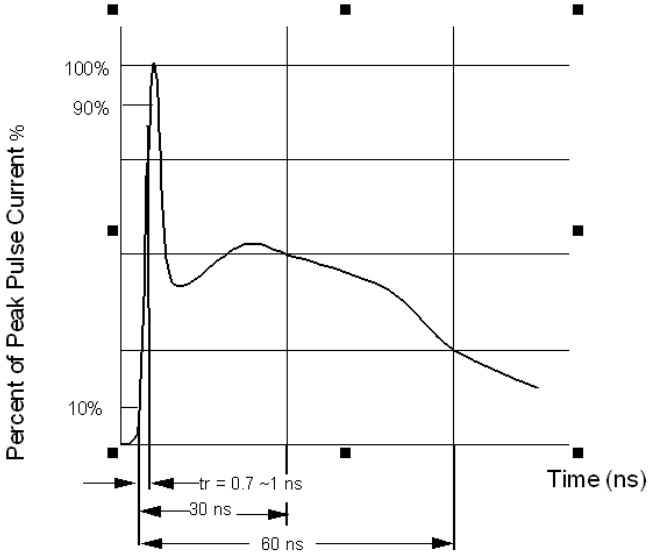


Figure 2. ESD pulse waveform according to IEC 61000-4-2

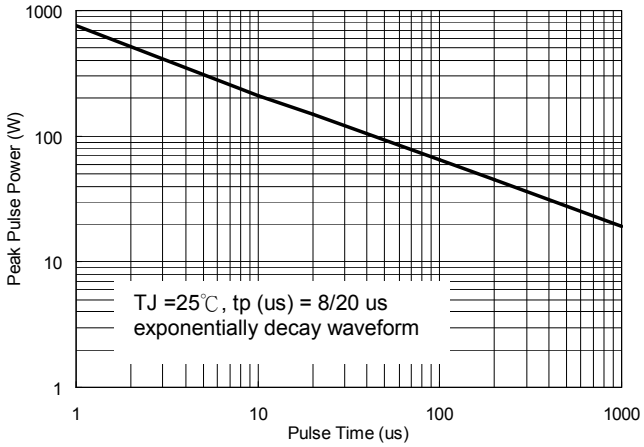


Figure 3. Power Dissipation versus Pulse Time

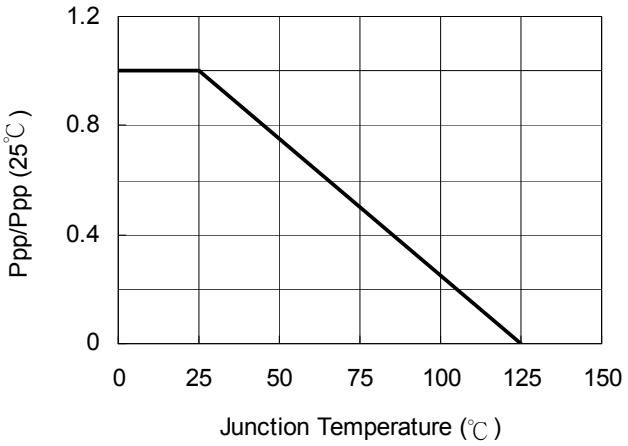


Figure 4. Peak pulse power versus TJ

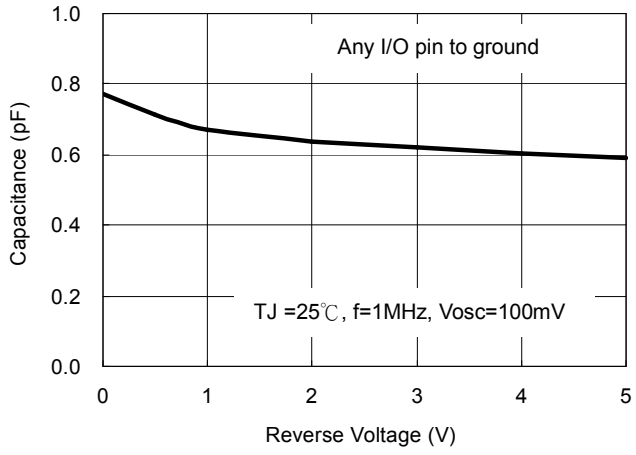


Figure 5. Typical Junction Capacitance

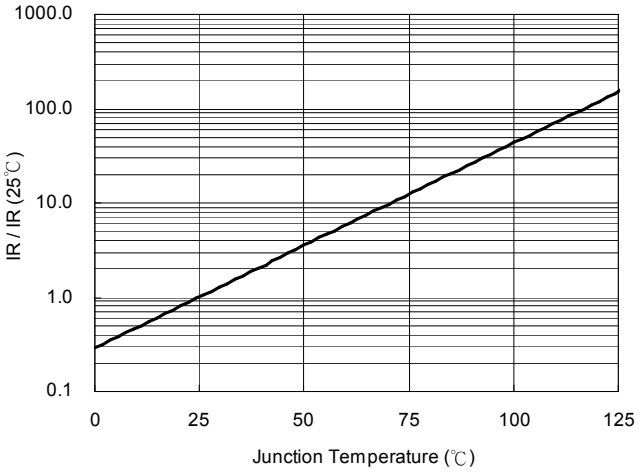


Figure 6. Reverse Leakage Current versus TJ

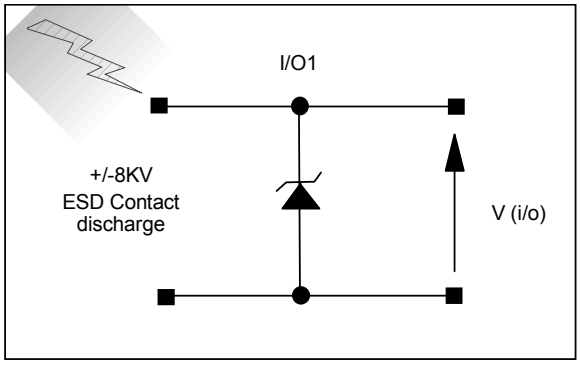


Figure 7. ESD Test Configuration

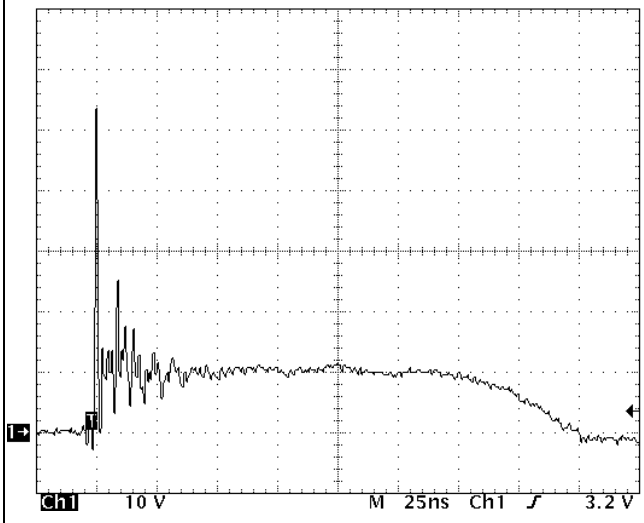


Figure 8. Clamped +8 kV ESD voltage waveform

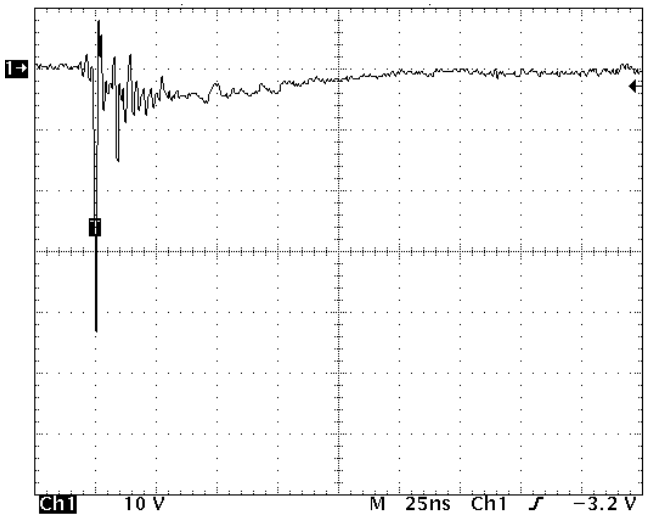


Figure 9. Clamped -8 kV ESD voltage waveform

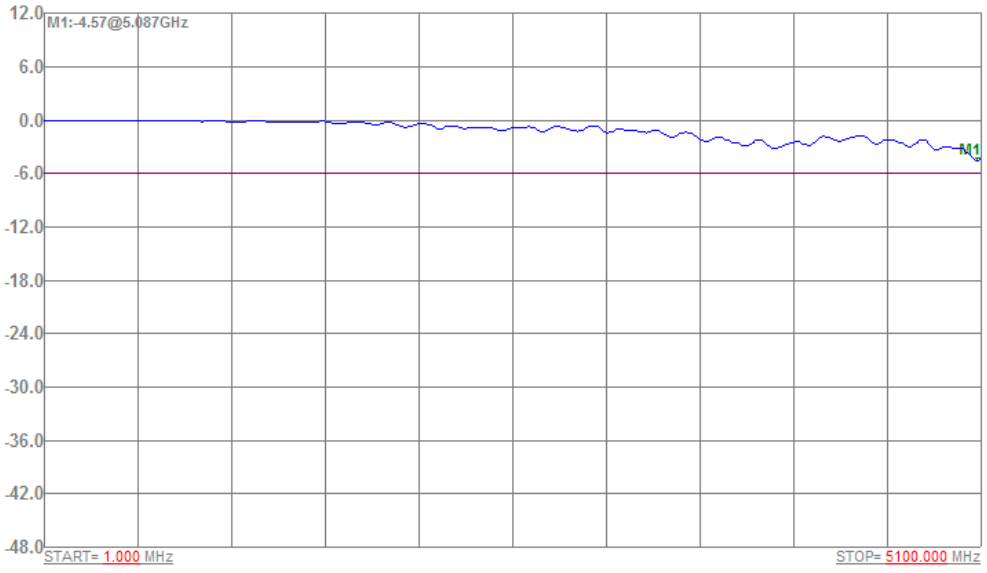
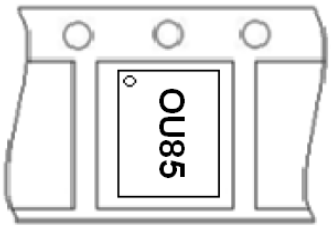


Figure 10. Insertion Loss (Each Line)

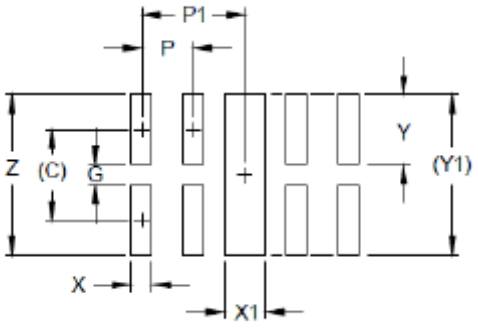
Marking & Orientation



Packaging Information

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
L15ESDL5V0NA-4	3000	7	45000	90K/180K

SLP2510P8 Soldering Pad Layout



Dim.	Millimeters	Inches
C	(0.875)	(0.034)
G	0.20	0.008
P	0.50	0.020
P1	1.00	0.039
X	0.20	0.008
X1	0.40	0.016
Y	0.68	0.027
Y1	(1.550)	(0.061)
Z	1.55	0.061

Important Notice and Disclaimer

LSC reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

LSC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does LSC assume any liability for application assistance or customer product design. LSC does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of LSC.

LSC products are not authorized for use as critical components in life support devices or systems without express written approval of LSC.