ESD2.5V52D-LC

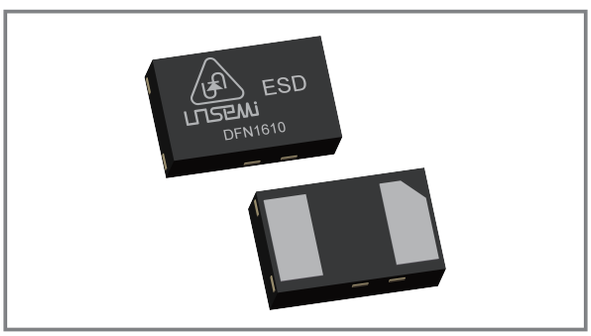
ROHS

Transient Voltage Suppressors for ESD Protection

www.unsemi.com.tw

Description

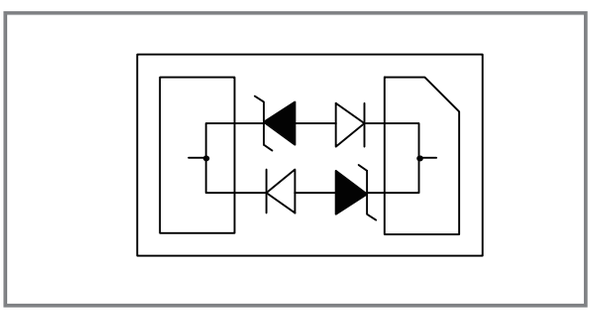
The ESD2.5V52D-LC is low capacitance TVS arrays designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from over-voltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).



Features

- 171 Watts Peak Pulse Power per Line (tp=8/20μs)
- Protects One High Speed I/O Bidirectional Line
- Low clamping voltage
- Working voltages : 2.5V
- Low leakage current
- IEC61000-4-2(ESD) ±30kV (air discharge)
  ±30kV (contact discharge)
- IEC61000-4-4(EFT)80A(5/50ηs)
- IEC61000-4-5(LIGHTING)18A(8/20μs)

Functional Diagram



Applications

- Cell Phone Handsets and Accessories
- Video Graphics Cards
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Digital Cameras
- MP3 players
- Industrial Controls

Mechanical Data

- DFN1610 Package (1.6x1.0x0.5mm)
- Molding Compound Flammability Rating: UL94V-O
- Weight 4.2 Milligrams (Approximate)
- Lead Finish: Lead Free

Mechanical Characteristics

Parameter	Symbol	Value	Units
Peak Pulse Power (Tp=8/20μs waveform)	P_{PP}	171	Watts
Lead Soldering Temperature	T_L	260 (10 sec.)	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Operating Junction Temperature Range	T_J	-40 to +125	°C

Electrical Characteristics @ 25℃ Unless Otherwise Specified)

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	--	--	--	2.5	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA;	3.0	--	--	V
Reverse Leakage Current	I_R	V_{RWM}=2.5 V, T=25°C;	--	--	0.1	μA
Clamping Voltage	V_C	I_{PP}=1A T_P = 8/20μs;	--	--	4.5	V
		I_{PP}=10A T_P = 8/20μs;	--	--	7.2	V
		I_{PP}=18A T_P = 8/20μs;	--	--	9.5	V
Junction Capacitance	C_J	V_R = 0 V, f = 1MHz ;	--	2.5	--	pF

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

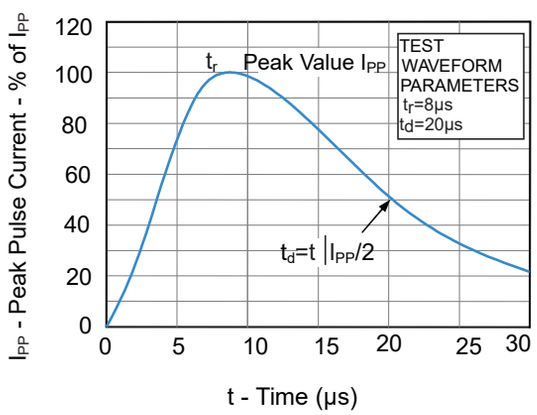
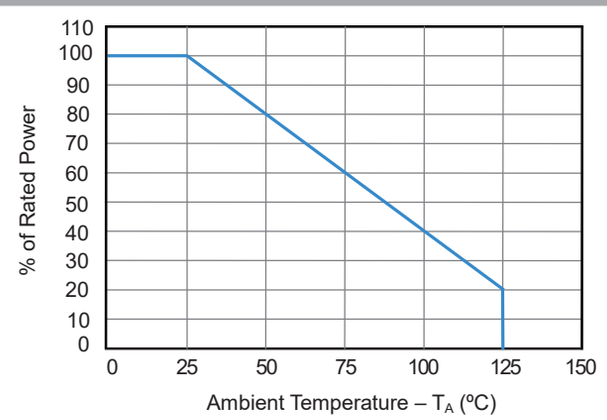


Fig2. Power Rating Derating Curve



Characteristic Curves

Fig3. ESD Pulse Waveform (according to IEC61000-4-2)

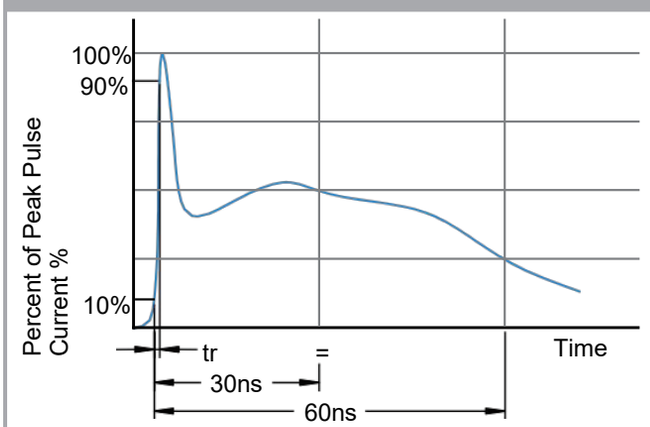


Fig4. Clamping Voltage Vs.Peak Pulse Current

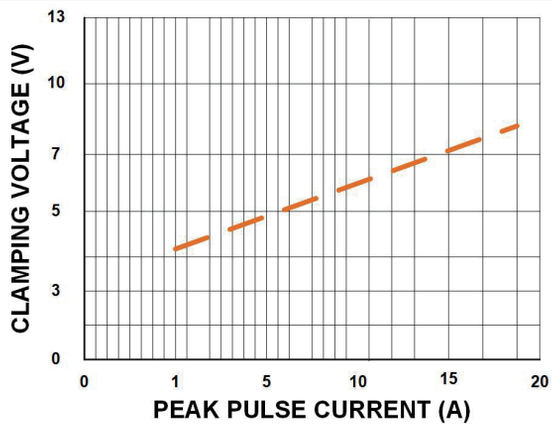


Fig5. Typical Capacitance vs. Reverse Voltage

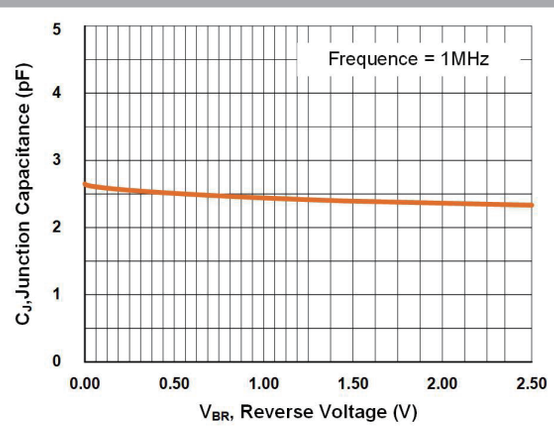


Fig6. Typic Breakdown Voltage vs.Temperature

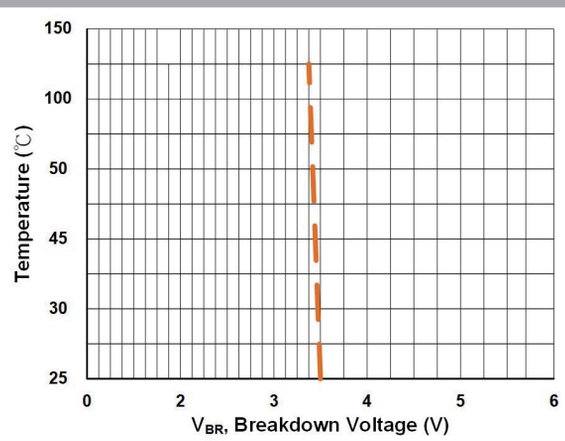
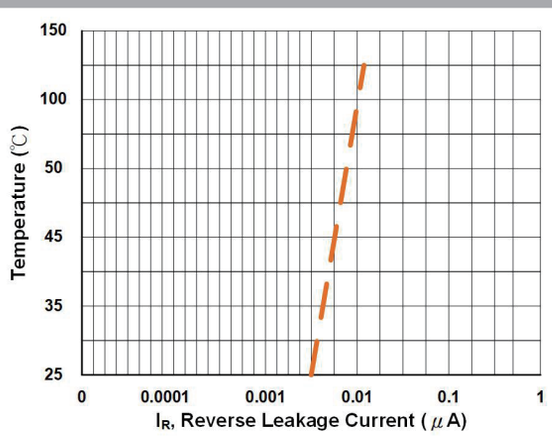
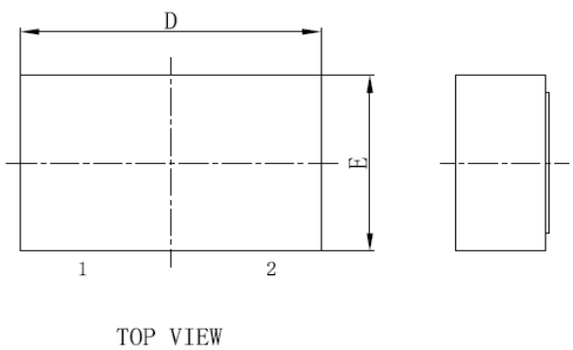


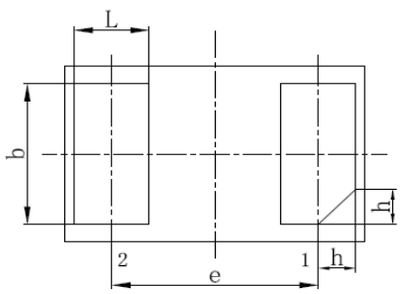
Fig7. Typic Reverse Current vs.Temperature



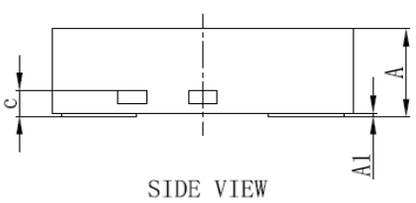
DFN1610 Package Outline & Dimensions



TOP VIEW

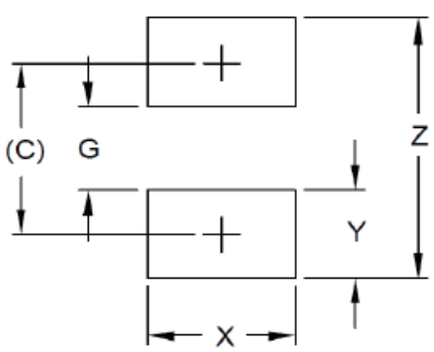


BOTTOM VIEW



SIDE VIEW

Symbol	Millimeters		
	Min.	Typ.	Max.
A	0.45	0.50	0.55
A1	--	0.02	0.05
b	0.75	0.80	0.85
c	0.10	0.15	0.20
D	1.55	1.60	1.65
e	1.10BSC		
E	0.95	1.00	1.05
L	0.35	0.40	0.45
h	0.15	0.20	0.25
载体尺寸(MIL)	34x35		



DIMENSIONS	
Dim	MILLIMETERS
C	1.225
G	0.60
X	1.00
Y	0.625
Z	1.85

Ordering Information

Device	Marking	Package	Quantity	Reel Size
ESD2.5V52D-LC	PT2	DFN1610	3,000pcs/Reel	7 inch

優恩半導體 UNSEMI

ROHS

Disclaimer

UNSEMI RESERVES THE RIGHT TO MAKE CHANGE ON OUR PRODUTS , PRODUCTS SPECIFICATION AND DATA WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

UN SEMICONDUCTOR LIMITED its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “UNSEMI”)does not give any representations or warranties for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

In no event shall UNSEMI be liable for any indirect, incidental, punitive, special or consequential damages (including any and all implied warranties, warranties of fitness for particular purpose, non-infringement and merchantability.) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Statements regarding the suitability of products for certain types of applications are based on UNSEMI knowledge of typical requirements that are often placed on UNSEMI products in generic applications. Such statements are not binding, statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify UNSEMI's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Unless otherwise agreed in writing, UNSEMI product is not designed, authorized or warranted to be suitable for use in medical life-saving, or life-sustaining application , nor in applications where failure or malfunction of a UNSEMI product can reasonably be expected to result in personal injury, death or severe property or environmental damage. UNSEMI and its suppliers accept no liability for inclusion or use of UNSEMI products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

All referenced brands, product names, service names and trademarks are the property of their respective owners.