

ESD2510LC3324P

ESD2510LC3324P Ultra Low Capacitance ESD Protection Array

General description

Ultra Low Capacitance ESD Protection Array.

FEATURES

- Transient protection for high-speed data lines
IEC 61000-4-2(ESD) $\pm 20\text{KV}$ (Contact)
 $\pm 25\text{KV}$ (Air)
IEC 61000-4-4(EFT) 40A(5/50ns)
- Package optimized for high-speed lines
- Protects four data line
- Low capacitance: 0.2pF (I/O to I/O)
- Low leakage current
- Low clamping voltage
- Each I/O pin can withstand over 1000 ESD strikes for $\pm 8\text{KV}$ contact discharge

APPLICATIONS:

- Serial ATA
- MDDI Ports
- USB 2.0/3.0 Power and Data Line Protection
- Display Ports
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)

MACHANICAL DATA

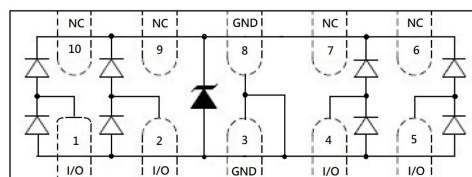
- DFN2510 package
- Flammability Rating: UL 94V-0
- Terminal: Matte tin plated.
- High temperature soldering guaranteed: $260^{\circ}\text{C}/10\text{s}$

Marking: 3324P

Package Outline



DFN2510 Package



PIN CONFIGURATION

ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
PPP	Peak Pulse Power (8/20 μs)	56	W
VESD	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	± 20 ± 25	kV
TOPT	Operating Temperature	$-55/+125$	$^{\circ}\text{C}$
TSTG	Storage Temperature	$-55/+150$	$^{\circ}\text{C}$

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ELECTRICAL CHARACTERISTICS (Ta=25°C)						
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
VRWM	Reverse Working Voltage	Any I/O pin to GND			3.3	V
VBR	Reverse Breakdown Voltage	$I_T = 1\text{mA}$ Any I/O pin to GND	4.2			V
IR	Reverse Leakage Current	$V_{RWM} = 3.3\text{V}$ Any I/O pin to GND			1.0	μA
V_C	Clamping Voltage	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			10	V
V_C	Clamping Voltage	$I_{PP} = 4\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			14	V
CESD	Parasitic Capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Between I/O and GND		0.4	0.5	pF
CESD	Parasitic Capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Between I/O and I/O		0.2	0.3	pF

Note: I/O pins are pin 1,2,4,5, GND pins are pin 3,8.

ELECTRICAL CHARACTERISTICS CURVE:

Fig 1 Power Derating Curve

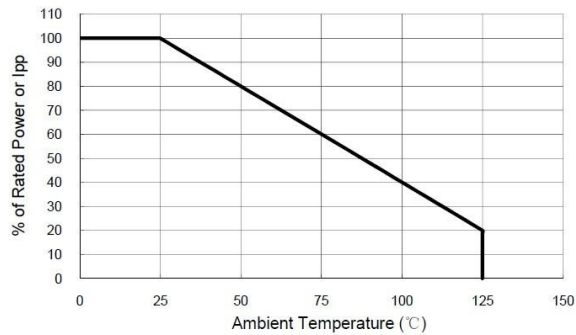


Fig 2 Clamping Voltage vs Peak Pulse Current

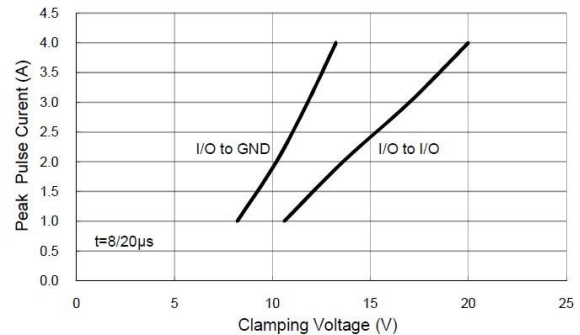


Fig 3 Voltage Sweeping of I/O to I/O

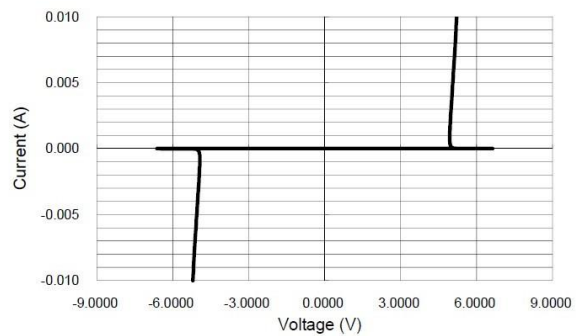


Fig 4 Voltage vs Capacitance

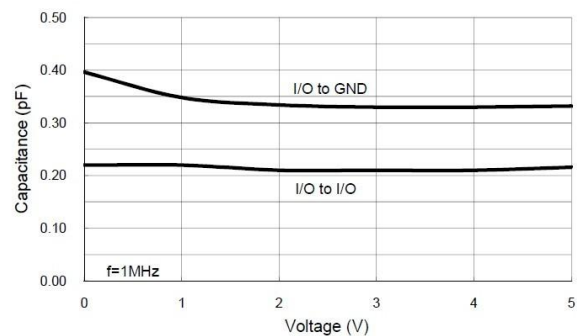


Fig 5 ESD Clamping of I/O to GND
(+8kV Contact per IEC 61000-4-2)

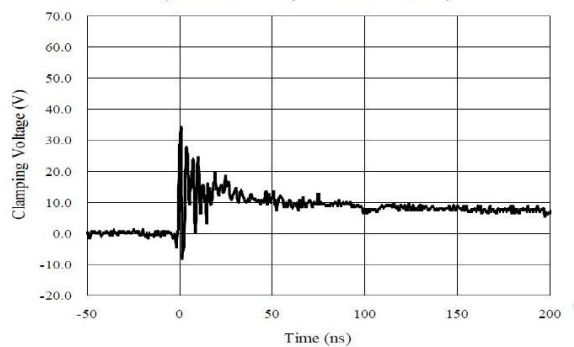
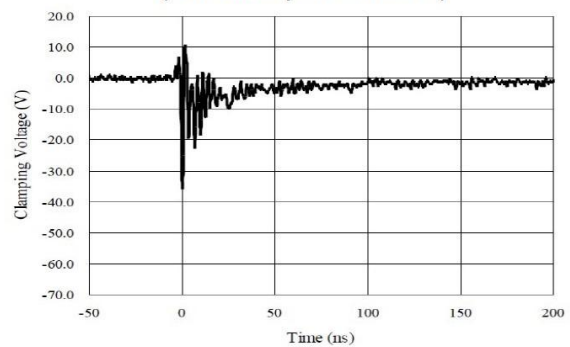
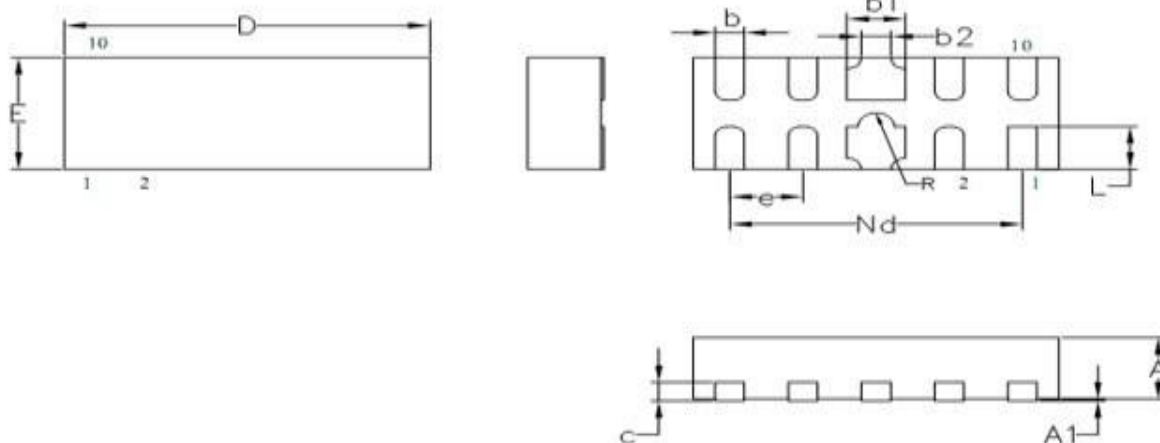


Fig 6 ESD Clamping of I/O to GND
(-8kV Contact per IEC 61000-4-2)



DFN2510 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions (mm)		
	Min.	Nom.	Max.
D	2.45	2.50	2.55
E	0.95	1.00	1.05
b1	0.35	0.40	0.45
b2	0.20REF		
b	0.15	0.20	0.25
L	0.33	0.38	0.43
Nd	2.00BSC		
e	0.50BSC		
R	0.10	0.125	0.15
A	0.45	0.50	0.55
c	0.15REF		
A1	0.00	-	0.05

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