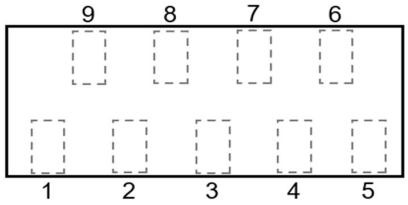
ASN3V3A4LC-Q1

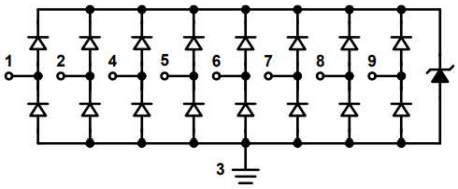
Ultra Low Capacitance ESD Protection Array

Features

- Low capacitance: 0.2pF TYP (Between I/O and I/O)
- Package optimized for high-speed lines
- Protects eight data lines
- Low leakage current
- Transient protection for high-speed data lines
  – IEC 61000-4-2 (ESD) ±25kV(air),±20kV(contact)
  – IEC 61000-4-4 (EFT) 40A (5/50ns)
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101



Pin Configuration



Circuit Diagram

Mechanical Characteristics

- Package: DFN3810-9
- Terminal Connections: See Diagram
- Marking: 3308P

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (8/20μs)	56	W
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±25 ±20	kV
T_{OPT}	Operating Temperature	-55/+125	°C
T_{STG}	Storage Temperature	-55/+150	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage	Any I/O pin to GND			3.3	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA Any I/O pin to GND	4.2			V
I_R	Reverse Leakage Current	V_{RWM} = 3.3V Any I/O pin to GND			1.0	μA
V_C	Clamping Voltage	I_{PP} = 1A, t_p = 8/20μs Any I/O pin to GND			10	V
V_C	Clamping Voltage	I_{PP} = 4A, t_p = 8/20μs Any I/O pin to GND			14	V
C_{ESD}	Parasitic Capacitance	V_R = 0V, f = 1MHz Between I/O and GND		0.4	0.5	pF
C_{ESD}	Parasitic Capacitance	V_R = 0V, f = 1MHz Between I/O and I/O		0.2	0.3	pF

Note: I/O pins are pin 1,2,4,5, 6,7,8,9; GND pins are pin 3.

Electrical Characteristics

Fig 1 Power Derating Curve

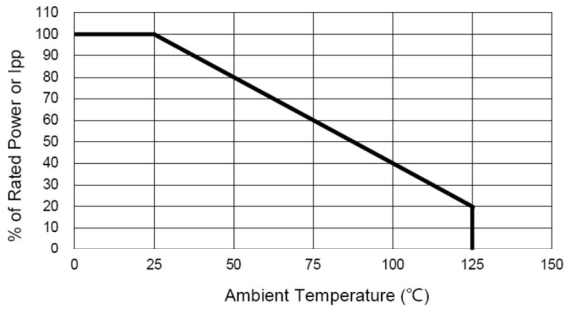


Fig 2 Clamping Voltage vs Peak Pulse Current

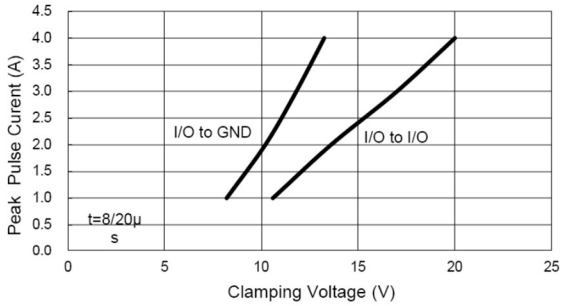


Fig 3 Voltage Sweeping of I/O to I/O

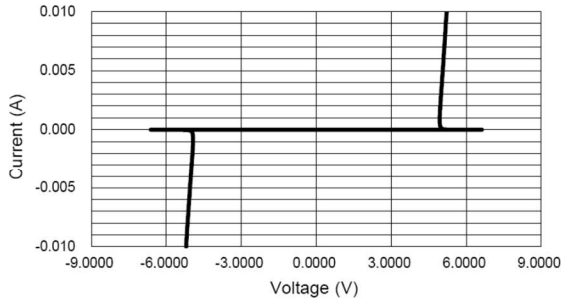


Fig 4 Voltage vs Capacitance

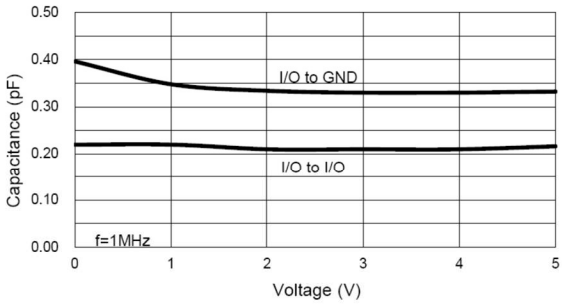


Fig 5 ESD Clamping of I/O to GND
(+8kV Contact per IEC 61000-4-2)

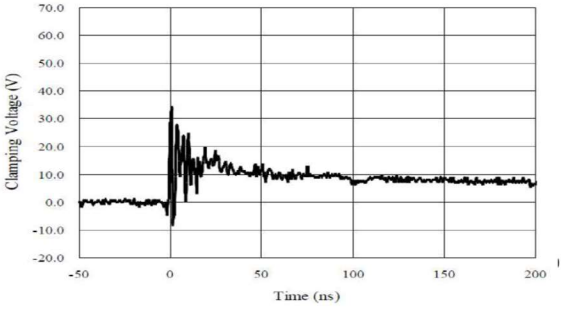


Fig 6 ESD Clamping of I/O to GND
(-8kV Contact per IEC 61000-4-2)

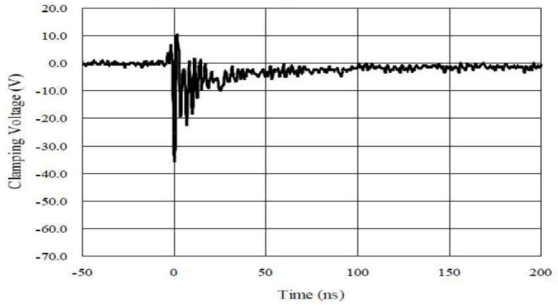
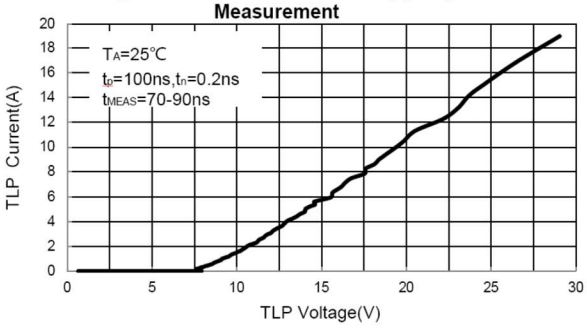
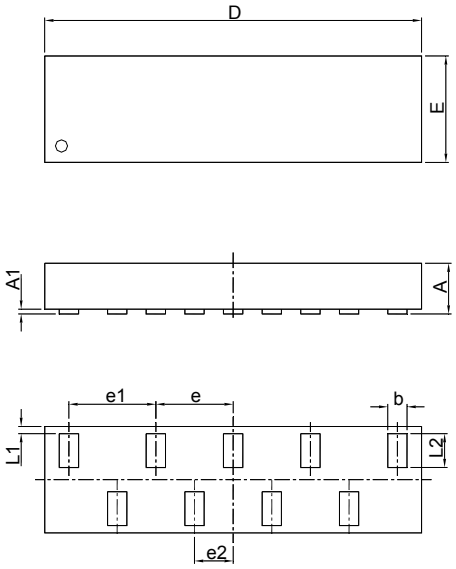


Fig7 Transmission Line Pulsing (TLP) Measurement

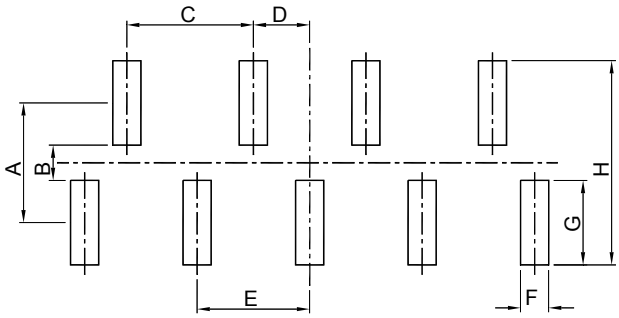


DFN3810-9 Package Outline Drawing



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.475	0.525	0.019	0.021
A1	0.000	0.050	0.000	0.002
b	0.150	0.250	0.006	0.010
D	3.700	3.900	0.146	0.154
E	0.900	1.100	0.035	0.043
e	0.800		0.032	
e1	0.900		0.035	
e2	0.400		0.016	
L1	0.025	0.075	0.001	0.003
L2	0.250	0.350	0.010	0.014

Suggested Land Pattern



SYMBOL	DIMENSIONS	
	MILLIMETERS	INCHES
A	0.850	0.033
B	0.250	0.010
C	0.900	0.035
D	0.400	0.016
E	0.800	0.031
F	0.200	0.008
G	0.600	0.024
H	1.450	0.057