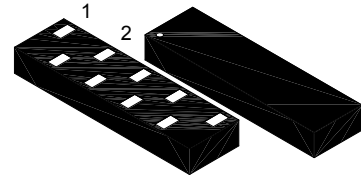
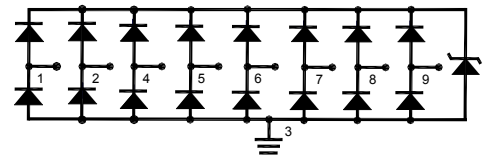


### Features

- Ultra low capacitance: 0.4pF max (Between I/O Pins)
- Protects eight high-speed lines
- Low operating voltage: 3.3V
- Low clamping voltage
- Low ESD clamping voltage
- Provide transient protection:
  - IEC 61000-4-2 (ESD)  $\pm 20\text{kV}(\text{air}), \pm 18\text{kV}(\text{contact})$
  - IEC61000-4-5 (Lightning) 5A (8/20 $\mu\text{s}$ )
- RoHS Compliant
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101



DFN3810-9 Plastic package



1. I/O 2. I/O 3. GND 4. I/O 5. I/O 6. I/O  
7. I/O 8. I/O 9. I/O

### Mechanical Characteristics

- Package: DFN3810-9
- Terminal Connections: See Diagram
- Marking: ASN3V3LC

### Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20 \mu\text{s}$ )	$P_{PK}$	65	W
Peak Pulse Current ( $t_p = 8/20 \mu\text{s}$ )	$I_{PP}$	5	A
IEC61000-4-2 (ESD)	Air Contact $V_{ESD}$	$\pm 20$ $\pm 18$	KV
Operation Temperature Range	$T_j$	- 55 to + 125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

### Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage, Any I/O to Gnd	$V_{RWM}$			3.3	V
Punch-Through Voltage at $I_{PT} = 2 \mu\text{A}$ , Any I/O to Gnd	$V_{PT}$	3.8			V
Forward Clamping Voltage at $I_F = 10 \text{ mA}$ , Gnd to I/O	$V_F$			1	V
Reverse Current at $V_{RWM} = 3.3 \text{ V}$ , Any I/O to Gnd	$I_R$			0.5	$\mu\text{A}$
Clamping Voltage at $I_{PP} = 1 \text{ A}$ , $t_p = 8/20 \mu\text{s}$ , Any I/O to Gnd at $I_{PP} = 5 \text{ A}$ , $t_p = 8/20 \mu\text{s}$ , Any I/O to Gnd	$V_C$			9 13	V
ESD Clamping Voltage at $I_{TLP} = 4 \text{ A}$ , $t_p = 0.2/100 \text{ ns}$ at $I_{TLP} = 16 \text{ A}$ , $t_p = 0.2/100 \text{ ns}$	$V_{CL}$		8.7 13.4		V
Junction Capacitance at $V_R = 0 \text{ V}$ , $f = 1 \text{ MHz}$ , Any I/O to Gnd at $V_R = 0 \text{ V}$ , $f = 1 \text{ MHz}$ , Between I/O pins	$C_j$			0.7 0.4	pF
Dynamic Resistance <sup>1)</sup>	$R_{dyn}$		0.4		$\Omega$

<sup>1)</sup> Dynamic Resistance calculated from  $I_{TLP} = 4 \text{ A}$  to  $I_{TLP} = 16 \text{ A}$ .

## Electrical Characteristics

Fig 1. Pulse Waveform

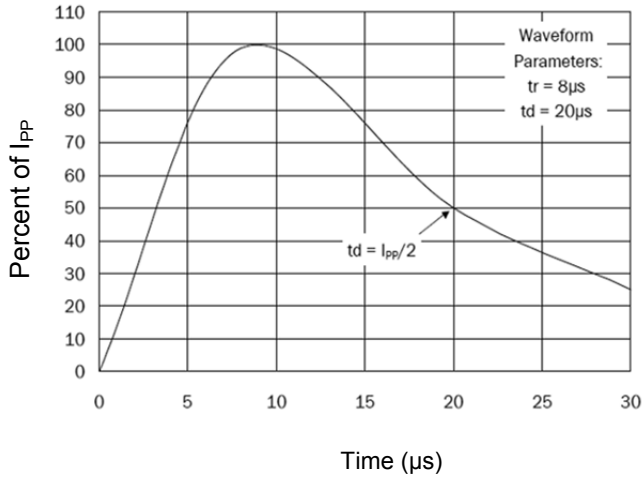


Fig 2. Power Derating Curve

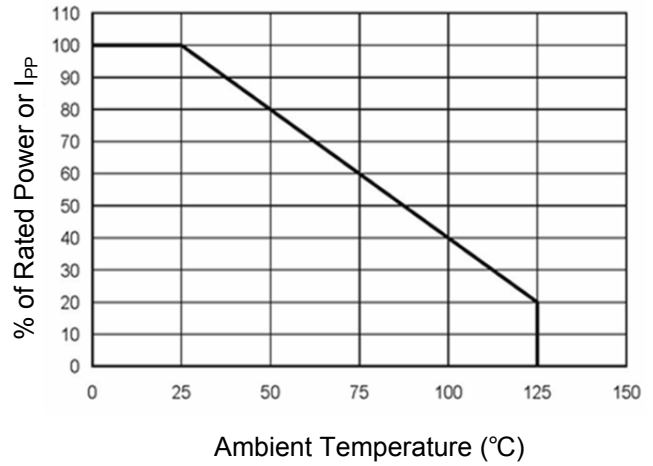


Fig 3. Clamping Voltage Curve

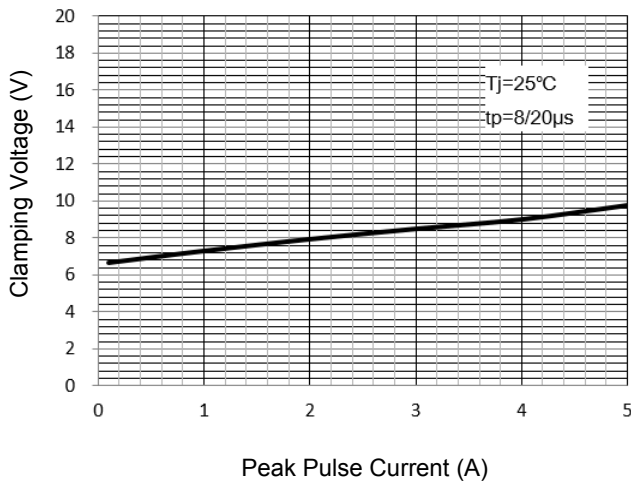


Fig 4. Junction Capacitance

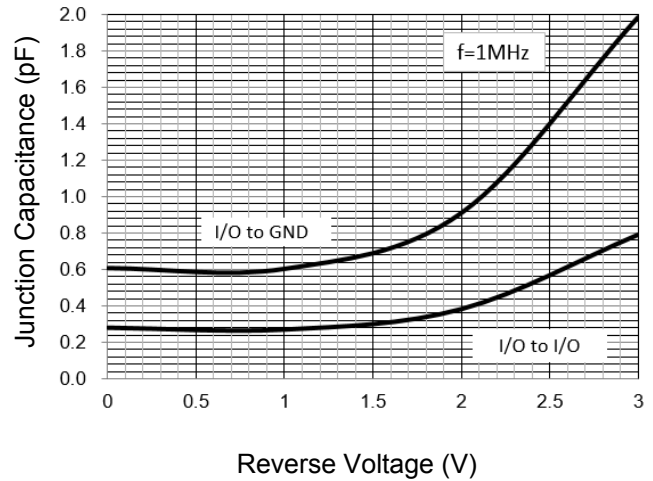
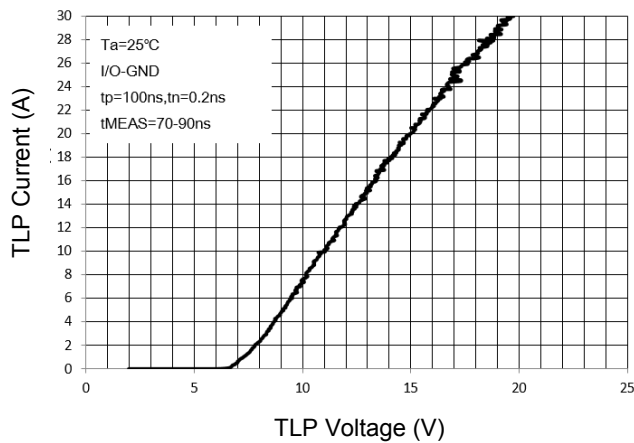
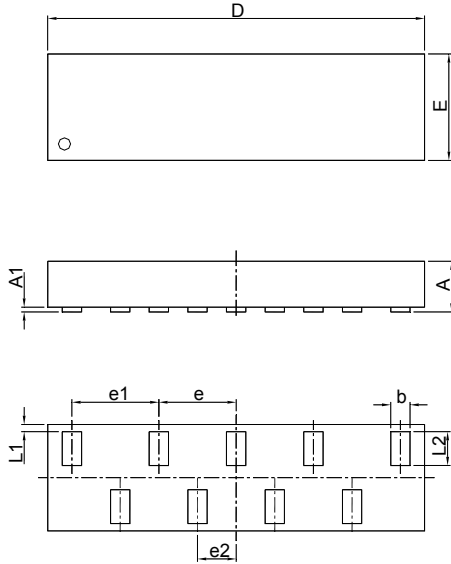


Fig 5 TLP Curve

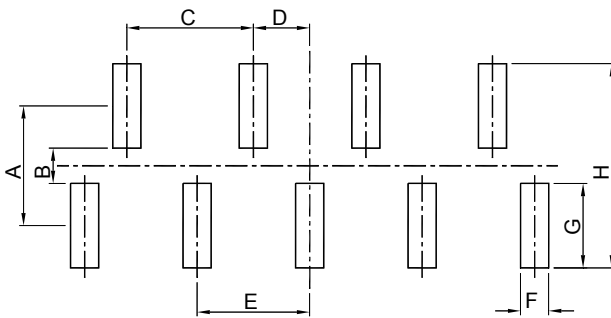


## DFN3810-9 Package Outline Drawing



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