

## Features

- Ultra low capacitance: 0.29pF typical (IO to IO)
- Ultra low leakage: nA level
- Low operating voltage: 3.3V
- Low clamping voltage
- Protects eight data lines
- Leadless flow-through package
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 25\text{kV}$
    - Contact discharge:  $\pm 20\text{kV}$
  - IEC61000-4-5 (Lightning) 4.5A (8/20 $\mu$ s)
  - IEC61000-4-4 (EFT) 40A (5/50ns)

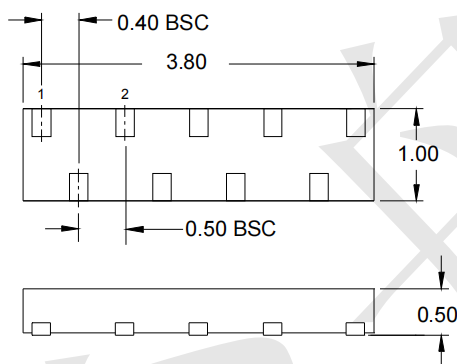
## Mechanical Characteristics

- Package: DFN3810-9
- Lead Finish: NiPdAu
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty :3000 /7Inch Tape & Reel

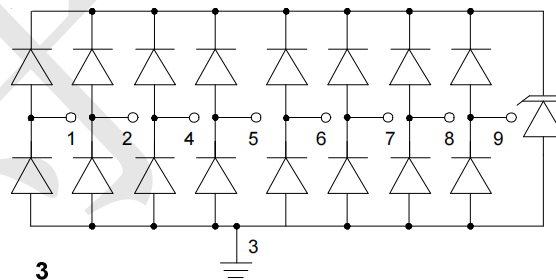
## Applications

- USB 3.0, 3.1 and type C
- HDMI 1.4
- High-Speed Data Lines

## Dimensions and Pin Configuration



Dimensions



Circuit Diagram

**Marking:T318xx**

**“xx ”is internal code**

**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	100	W
Peak Pulse Current (8/20μs)	I <sub>PP</sub>	4.5	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±25	kV
ESD per IEC 61000-4-2 (Contact)		±20	
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

**Electrical Characteristics** (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			3.3	V	Any I/O pin to ground
Breakdown Voltage	V <sub>BR</sub>	4.5			V	I <sub>T</sub> = 1mA, any I/O pin to ground
Reverse Leakage Current	I <sub>R</sub>			0.5	μA	V <sub>RWM</sub> = 3.3V, any I/O pin to ground
Clamping Voltage	V <sub>C</sub>			15	V	I <sub>PP</sub> = 1A (8 x 20μs pulse), any I/O pin to ground
Clamping Voltage	V <sub>C</sub>			18	V	I <sub>PP</sub> = 4.5A (8 x 20us pulse), any I/O pin to ground
Junction Capacitance	C <sub>J</sub>		0.5	0.6	pF	V <sub>R</sub> = 0V, f = 1MHz, any I/O pin to ground
Line Capacitance Difference	ΔC <sub>Line</sub>		0.29	0.45	pF	V <sub>R</sub> = 0V, f = 1MHz, any I/O pin to pin variation

**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**

Fig1. 8/20 $\mu\text{s}$  Pulse Waveform

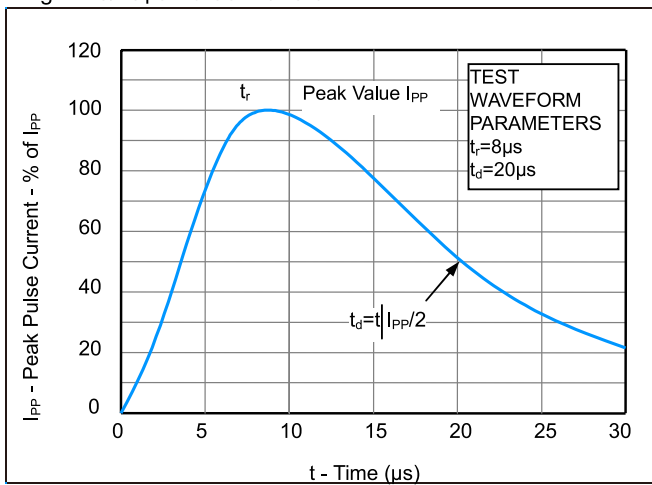


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

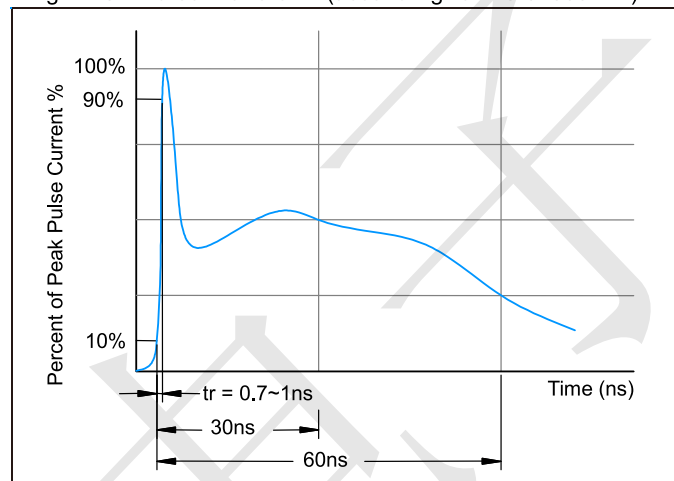
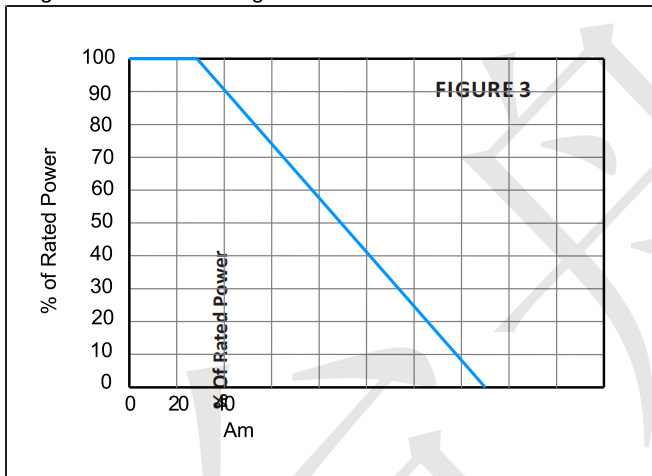
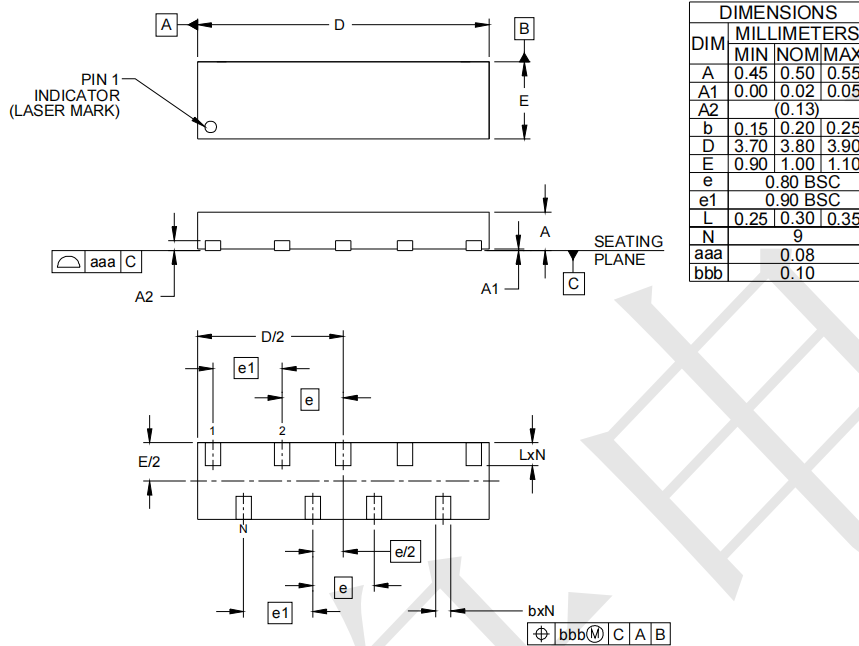


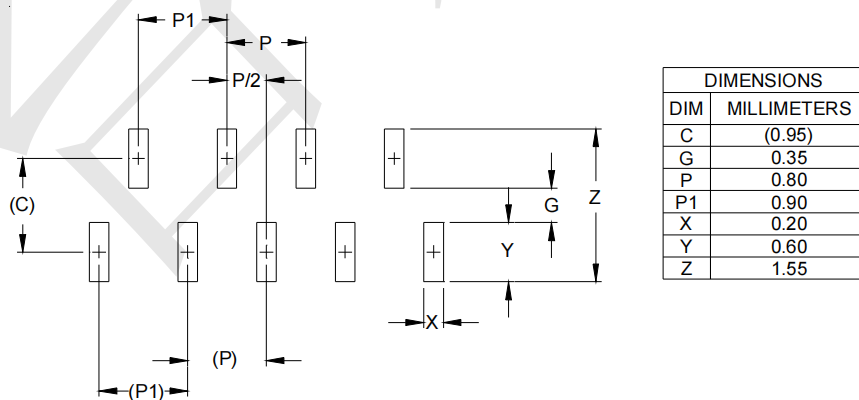
Fig3. Power Derating Curve



**DFN3810-9 Package Outline Drawing**



**Land Pattern - DFN3810-9**



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