

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) 5A (8/20 μs)
 - IEC61000-4-4 (EFT) 40A (5/50ns)

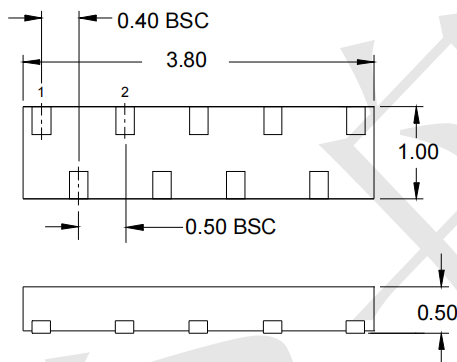
Mechanical Characteristics

- 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

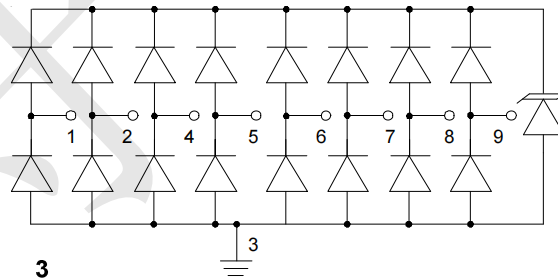
Applications

- 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 _{PP}	5	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±25	kV
ESD per IEC 61000-4-2 (Contact)		±20	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			3.3	V	Any I/O pin to ground
Breakdown Voltage	V _{BR}	4.5			V	I _T = 1mA, any I/O pin to ground
Reverse Leakage Current	I _R			0.5	μA	V _{RWM} = 3.3V, any I/O pin to ground
Clamping Voltage	V _C			15	V	I _{PP} = 1A (8 x 20μs pulse), any I/O pin to ground
Clamping Voltage	V _C			18	V	I _{PP} = 5A (8 x 20us pulse), any I/O pin to ground
Junction Capacitance	C _J		0.5	0.6	pF	V _R = 0V, f = 1MHz, any I/O pin to ground
Line Capacitance Difference	ΔC _{Line}		0.29	0.45	pF	V _R = 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 μs Pulse Waveform

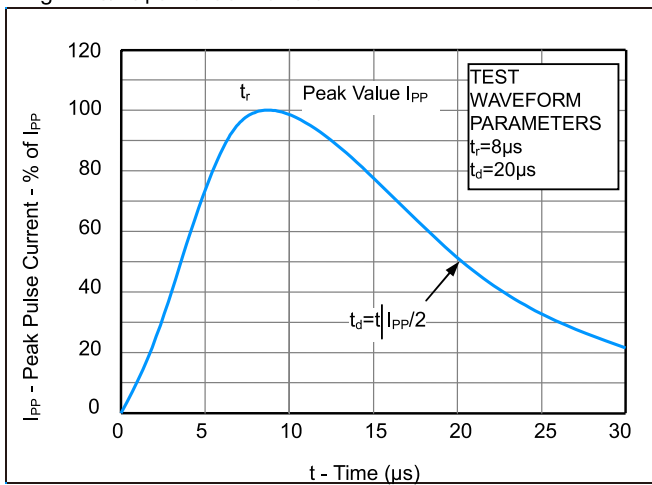


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

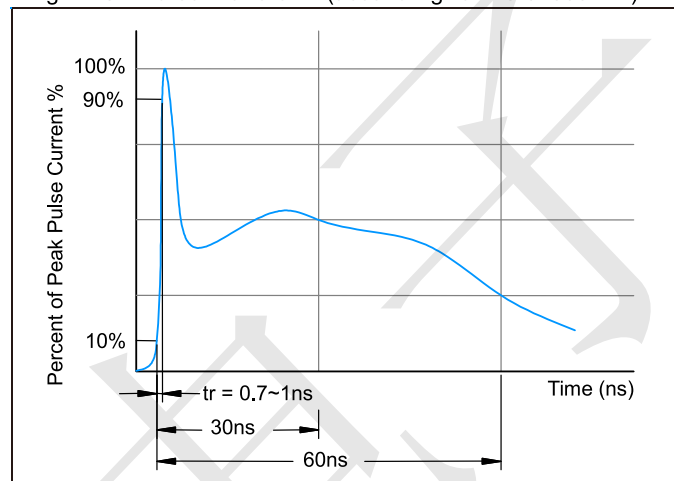
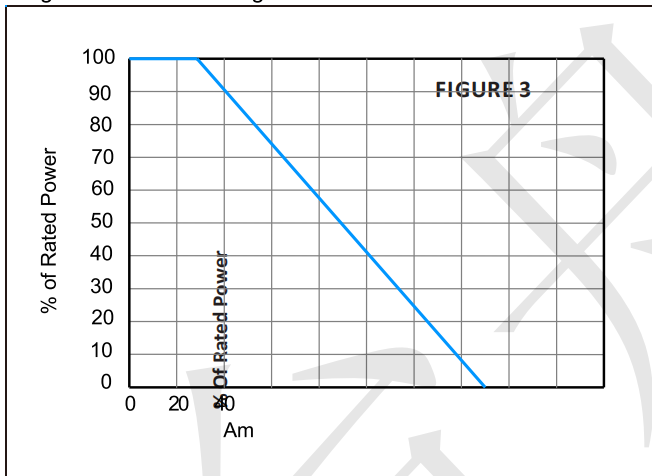
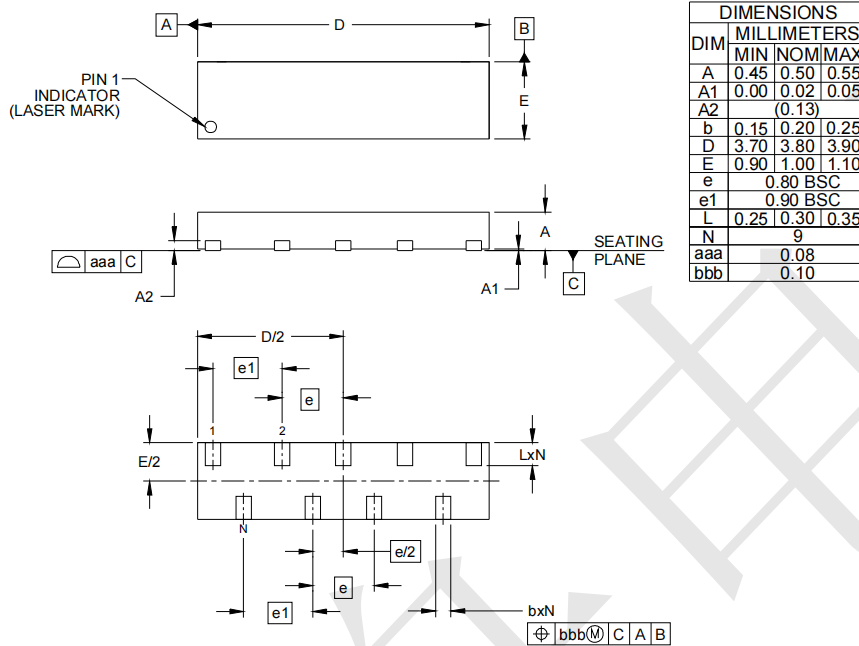


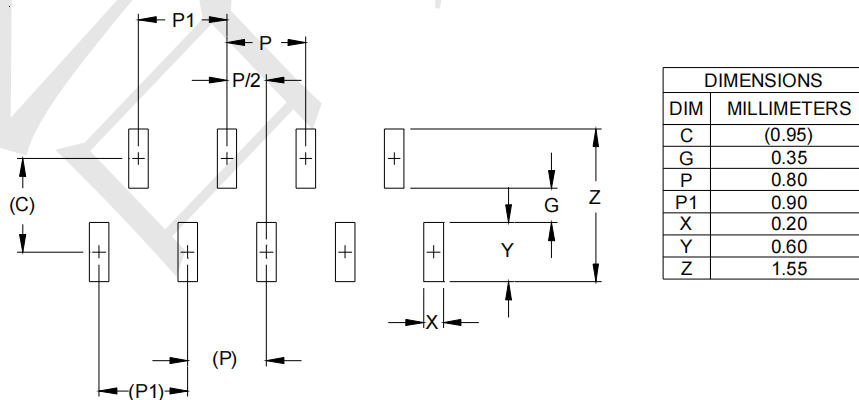
Fig3. Power Derating Curve



DFN3810-9 Package Outline Drawing



Land Pattern - DFN3810-9



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