

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 μ s)
 - IEC61000-4-4 (EFT) 40A (5/50ns)

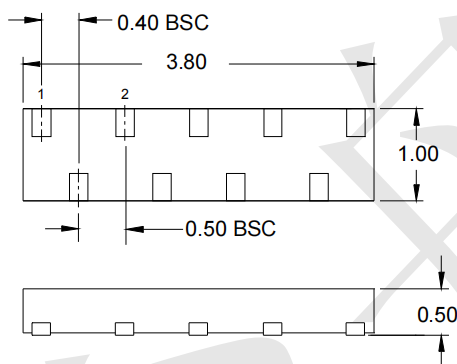
Mechanical Characteristics

- 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

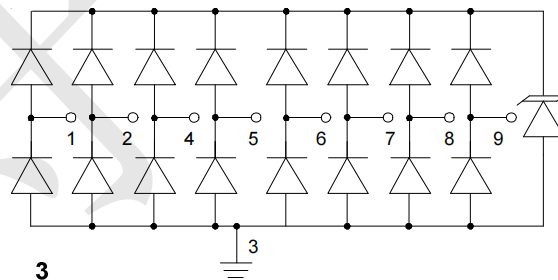
Applications

- 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 _{PP} | 4.5 | 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} = 4.5A (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

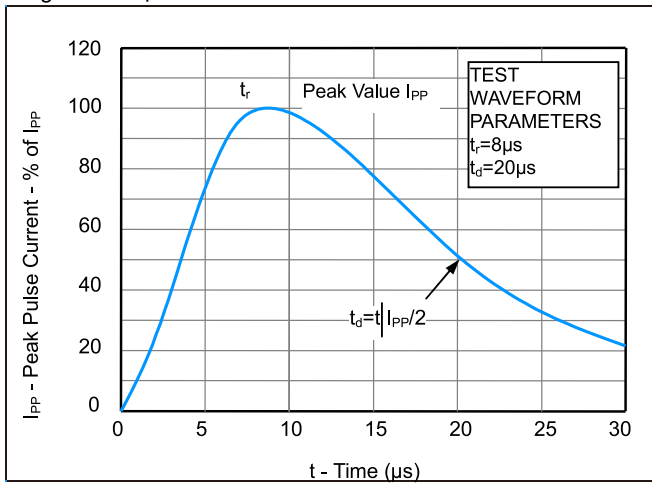


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

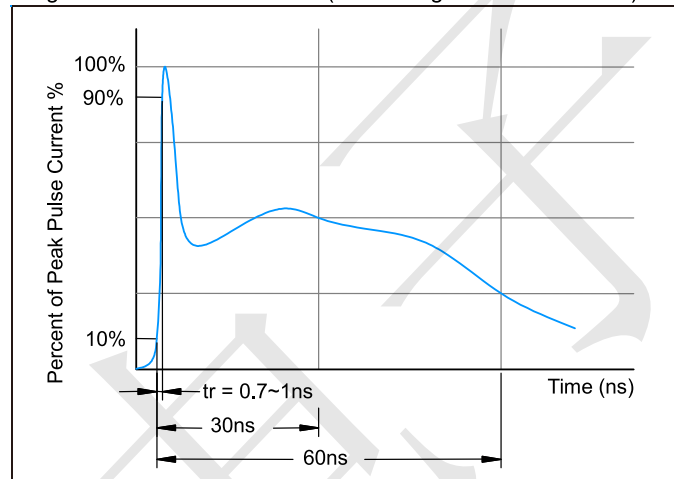
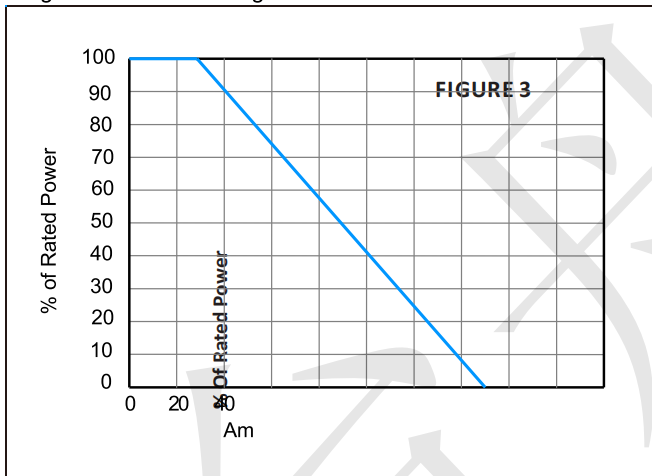
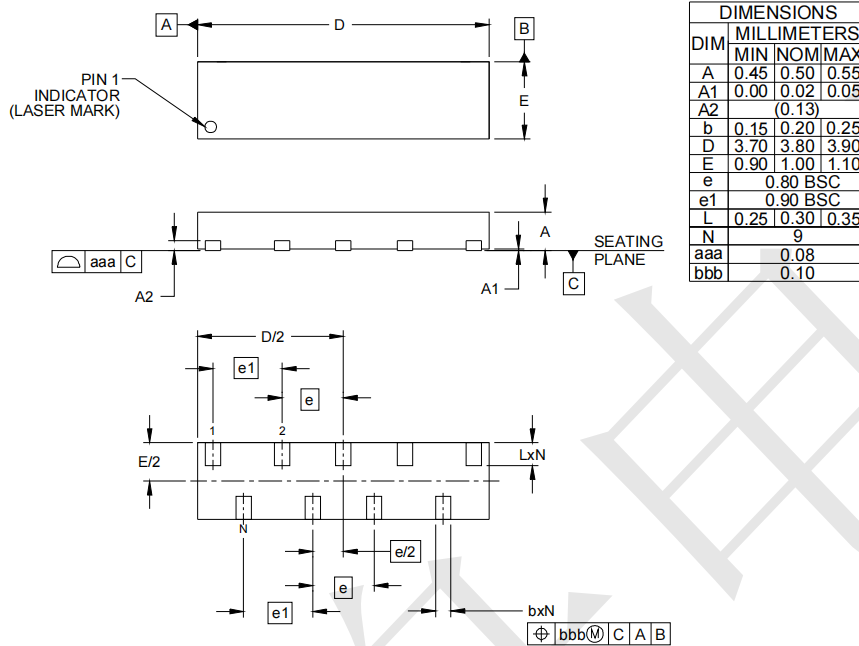


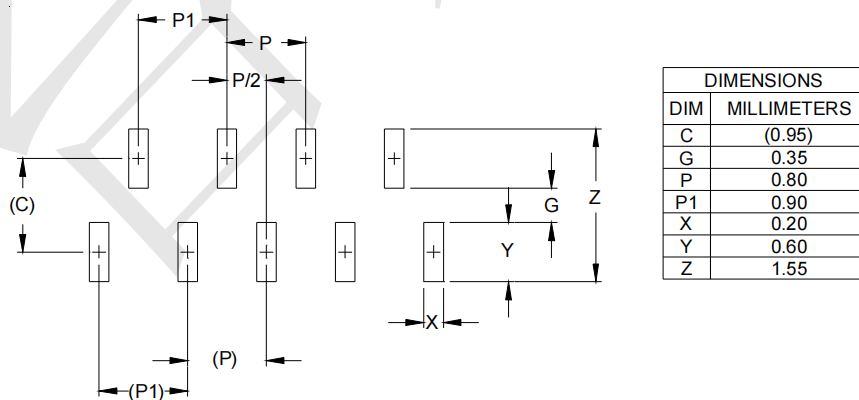
Fig3. Power Derating Curve



DFN3810-9 Package Outline Drawing



Land Pattern - DFN3810-9



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