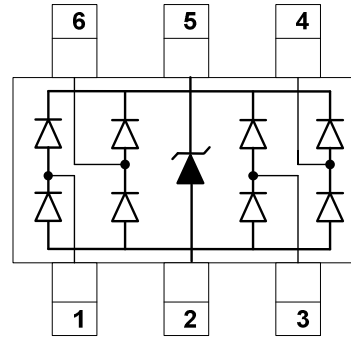


Features

- Ultra low capacitance: 0.35 pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- Up to 4 data lines and one power line protects
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ±25kV
 - Contact discharge: ±25kV
 - IEC61000-4-4 (EFT) 40A (5/50ns)



Circuit and Pin Schematic

Applications

- USB 2.0 and USB 3.0 Ports
- USB OTG
- Digital video interface(DVI)
- Monitor and Flat Panel Displays
- PCI Express and Serial SATA Ports
- Gigabit Ethernet
- Consumer products (STB, DVD, DSC, DVC...)

Absolute Maximum Ratings(T_{amb}=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---------------------------------|------------------|-------------|------|
| ESD per IEC 61000-4-2 (Air) | V _{ESD} | ±25 | kV |
| ESD per IEC 61000-4-2 (Contact) | | ±25 | |
| Operating Temperature Range | T _J | -55 to +125 | °C |
| Storage Temperature Range | T _{stg} | -55 to +150 | °C |

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

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|-------------------------|------------------|-----|------|-----|------|---|
| Reverse Working Voltage | V _{RWM} | | | 5 | V | Any I/O pin to ground |
| Breakdown Voltage | V _{BR} | 6 | | | V | I _T = 1mA, any I/O pin to ground |
| Reverse Leakage Current | I _R | | | 0.3 | μA | V _{RWM} = 5V, any I/O pin to ground |
| Clamping Voltage | V _C | | | 20 | V | I _{PP} = 3A (8 x 20μs pulse) any I/O pin to ground |
| Junction Capacitance | C _J | | 0.35 | 0.4 | pF | V _R = 0V, f = 1MHz, between I/O pins |
| Junction Capacitance | C _J | | | 0.8 | pF | V _R = 0V, f = 1MHz, any I/O pin to ground |

Note 1: I/O pins are Pin 1, 3, 4 and 6

Fig1. 8/20 μ s Pulse Waveform

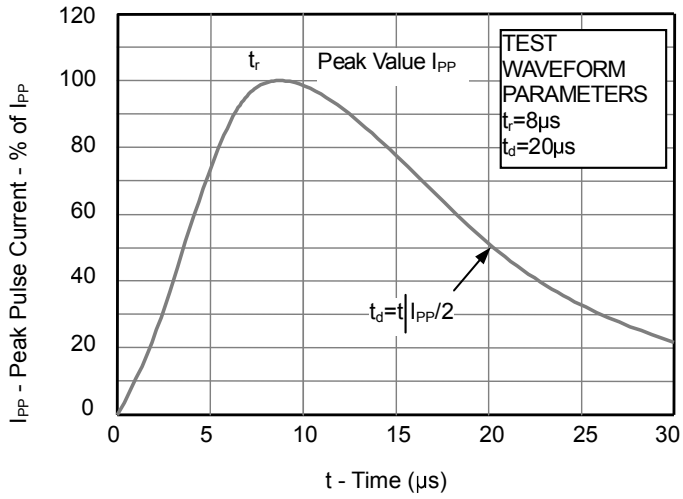


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

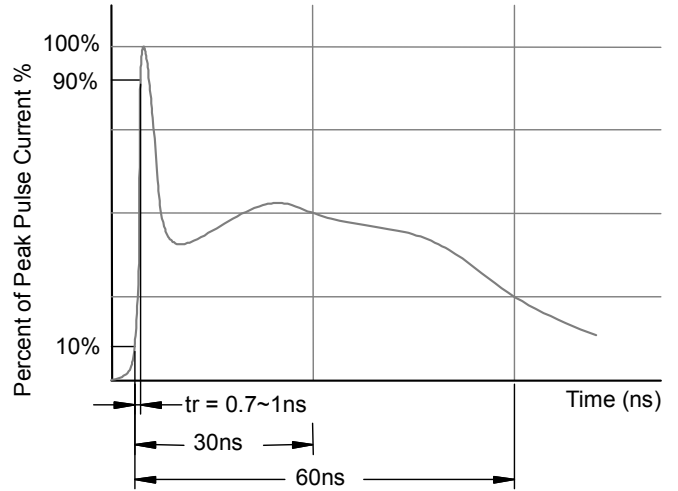
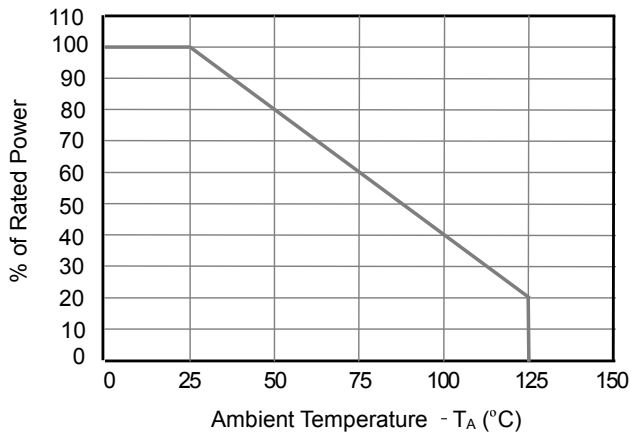
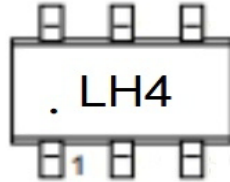


Fig3. Power Derating Curve



SOT23-6

Marking



Ordering information

| Order code | Package | Base qty | Delivery mode |
|------------------|---------|----------|---------------|
| UMW SP3050-04HTG | SOT23-6 | 3000 | Tape and reel |

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