

Features

- Ultra low capacitance: 0.3pF(IO to IO)
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- Protects one power line and four data lines
- Flow-through package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 25\text{kV}$
Contact discharge: $\pm 20\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 5A (8/20 μs)
- RoHS Compliant

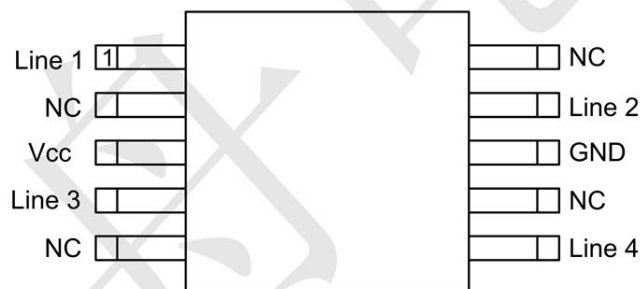
Mechanical Characteristics

- Package: MSOP-10
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Shipping Qty :3000pcs/13Inch Tape & Reel

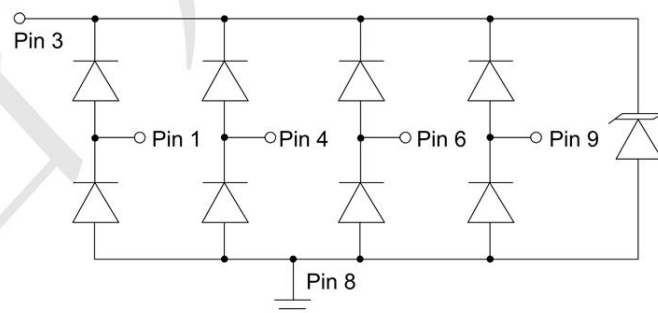
Applications

- DVI Ports
- HDMI Ports
- Set Top Box
- Projection TV
- Notebook Computers
- 10/100/1000 Ethernet

Dimensions and Pin Configuration



Marking: 514M



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

| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------------------|
| Peak Pulse Power (8/20 μs) | Ppk | 100 | W |
| Peak Pulse Current (8/20 μs) | 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 | $^\circ\text{C}$ |
| 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 | 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 | | | 1 | μA | V _{RWM} = 5V, any I/O pin to ground |
| Clamping Voltage | V _C | | | 14 | V | I _{PP} = 1A (8 x 20 μs pulse), any I/O pin to ground |
| Clamping Voltage | V _C | | | 20 | V | I _{PP} = 5A (8 x 20 μs pulse), any I/O pin to ground |
| Junction Capacitance | C _J | | 0.7 | 1 | pF | V _R = 0V, f = 1MHz, any I/O pin to ground |
| Junction Capacitance | C _J | | 0.3 | 0.6 | pF | V _R = 0V, f = 1MHz, between I/O pins |

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

Fig1. 8/20 μs Pulse Waveform

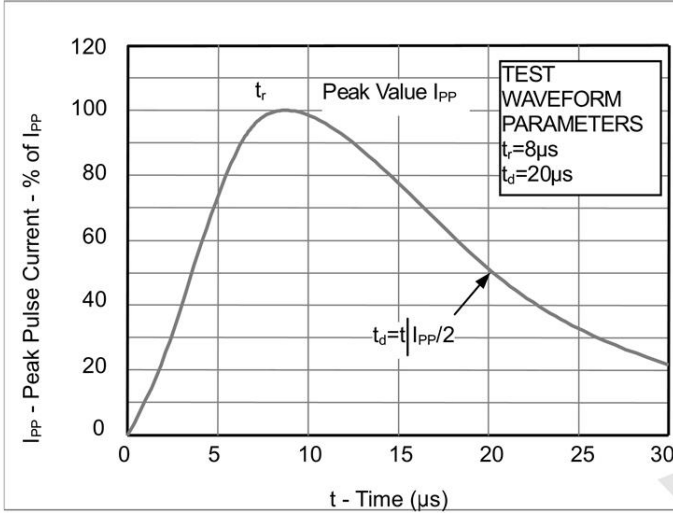


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

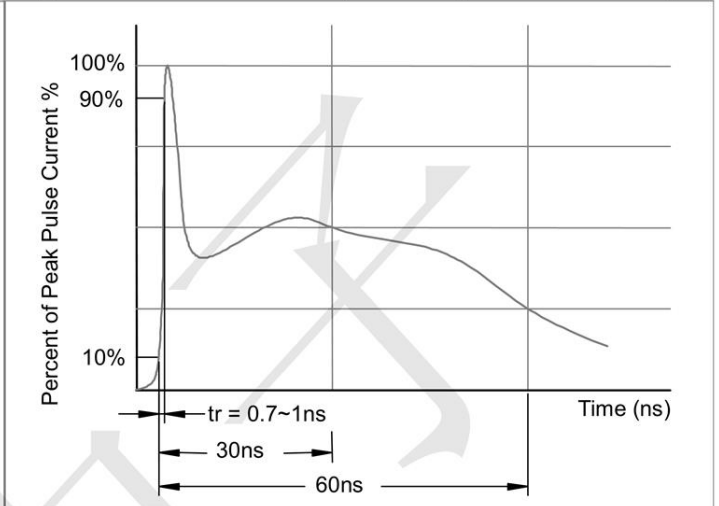
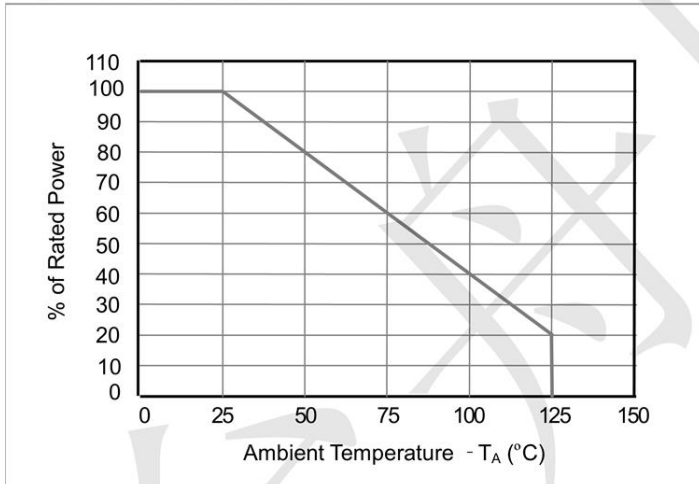
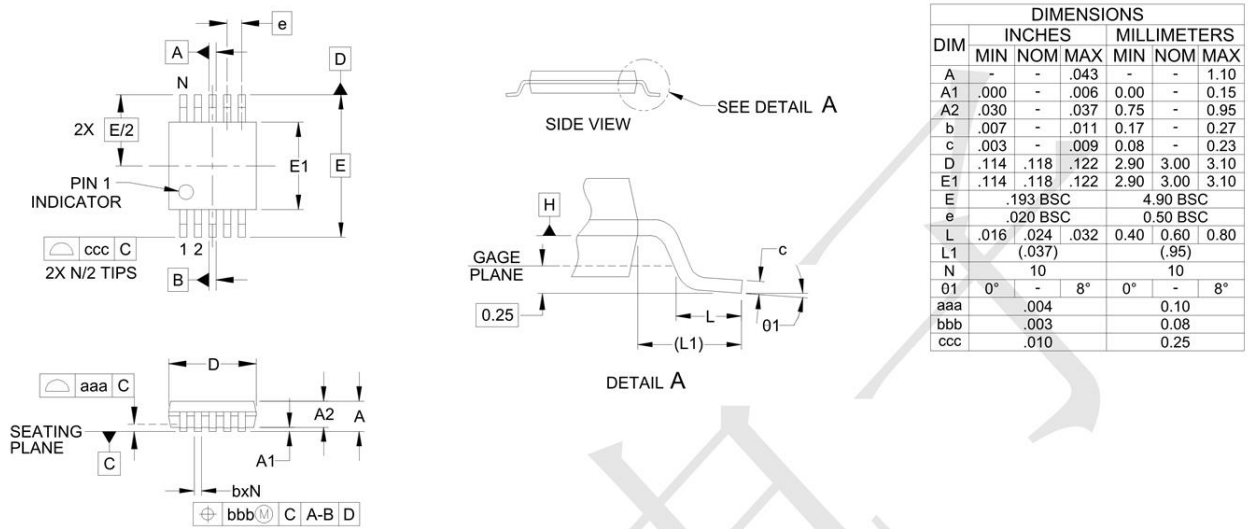


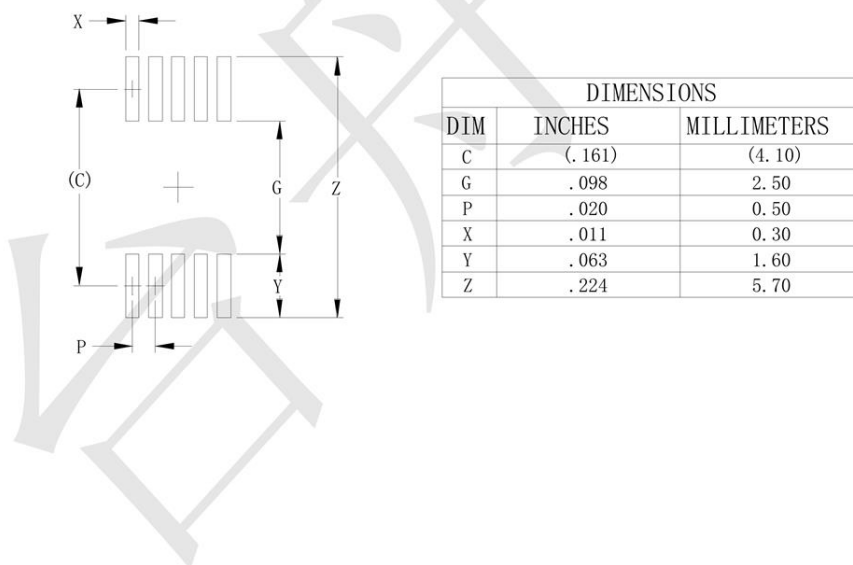
Fig3. Power Derating Curve



Outline Drawing -MSOP10



Land Pattern -MSOP-10



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