

MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



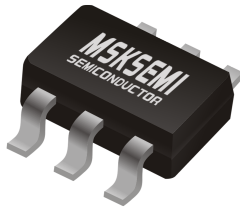
GDT



PLED

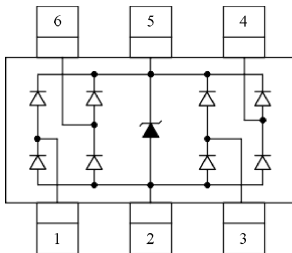
Product data sheet

PACKAGE OUTLINE



SOT-23-6

PIN CONFIGURATION



FEATURES

- ◇ Transient protection for high-speed data lines
IEC 61000-4-2(ESD) $\pm 20\text{KV}$ (Contact)
 $\pm 25\text{KV}$ (Air)
IEC 61000-4-4(EFT) 40A(5/50ns)
- ◇ Package optimized for high-speed lines
- ◇ Small package(2.9mm*2.8mm*1.1mm)
- ◇ Protects four data lines and one Vcc line
- ◇ Low capacitance: 0.20pF (I/O to I/O)
- ◇ Low leakage current
- ◇ Low clamping voltage
- ◇ Each I/O pin can withstand over 1000 ESD strikes for $\pm 8\text{KV}$ contact discharge

MACHANICAL DATA

- ◇ Flammability Rating: UL 94V-0
- ◇ Terminal: Matte tin plated.
- ◇ High temperature soldering guaranteed:
◇ 260°C/10s
- ◇ Packaging: Tape and Reel
- ◇ Reel size: 7 inch

APPLICATIONS

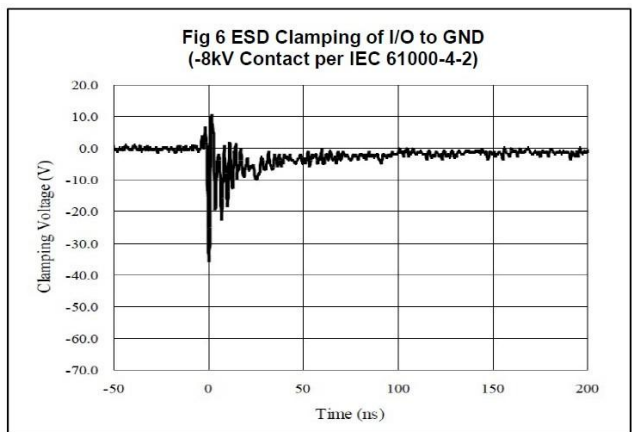
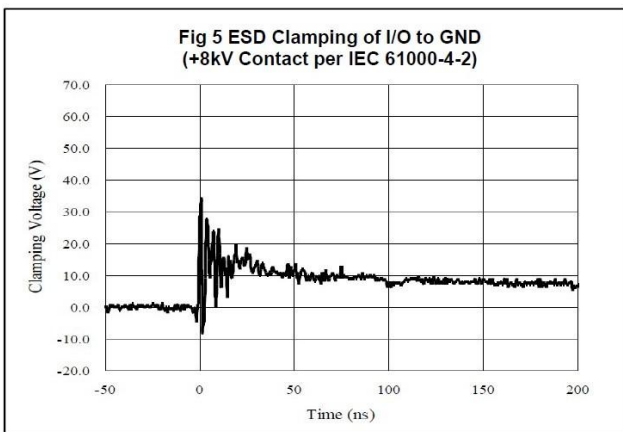
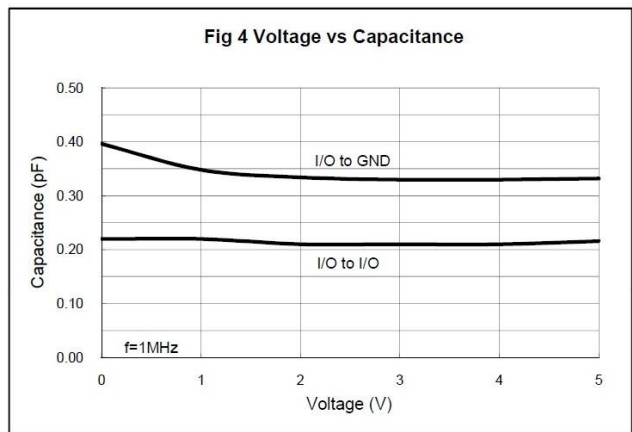
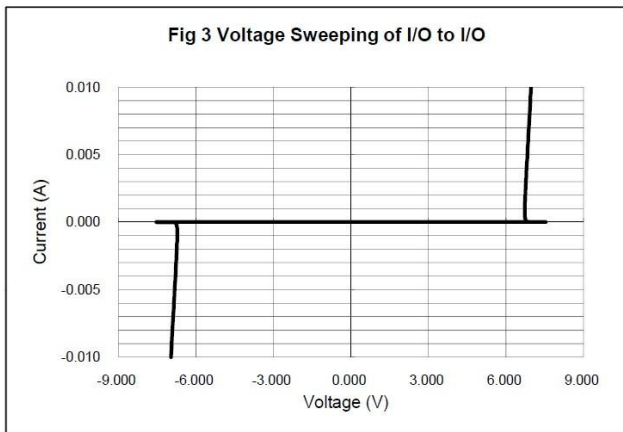
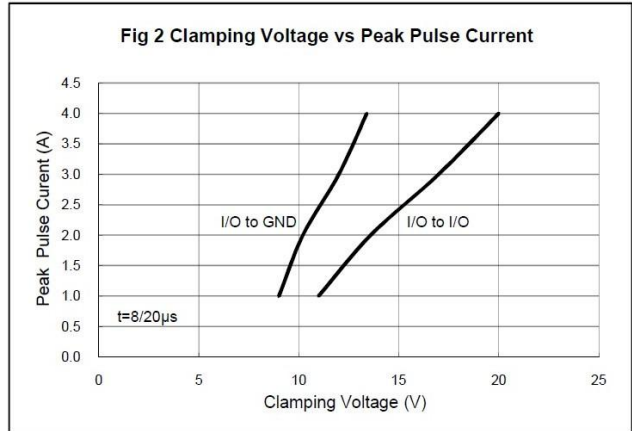
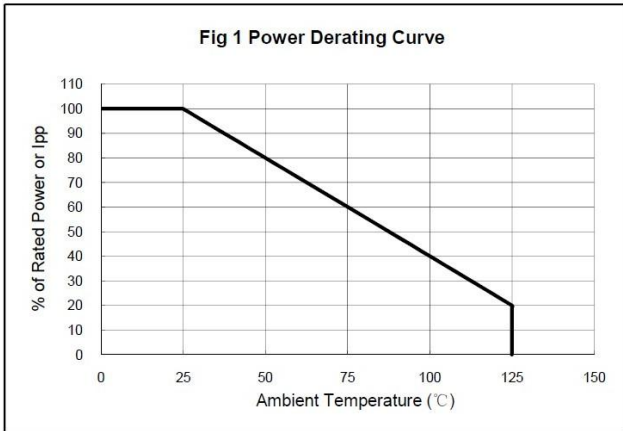
- ◇ Serial ATA
- ◇ MDDI Ports
- ◇ USB 2.0/3.0 Power and Data Line Protection
- ◇ Display Ports
- ◇ High Definition Multi-Media Interface (HDMI)
- ◇ Digital Visual Interface (DVI)

| ABSOLUTE MAXIMUM RATING | | | |
|-------------------------|--|------------|-------|
| Symbol | Parameter | Value | Units |
| P _{PP} | Peak Pulse Power (8/20μs) | 60 | W |
| V _{ESD} | ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air) | ±20 ±25 | kV |
| T _{OPT} | Operating Temperature | -55/+125 | °C |
| T _{STG} | Storage Temperature | -55/+150 | °C |

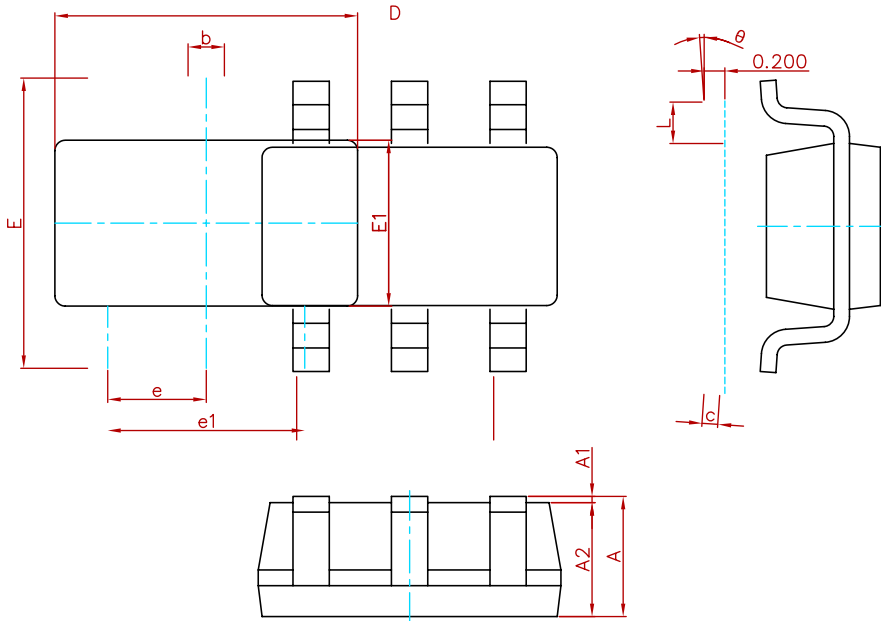
| ELECTRICAL CHARACTERISTICS (T _{amb} =25°C) | | | | | | |
|---|---------------------------|---|-----|------|------|-------|
| Symbol | Parameter | Test Condition | Min | Typ | Max | Units |
| V _{RWM} | Reverse Working Voltage | Any I/O pin to GND | | | 5.0 | V |
| V _{BR} | Reverse Breakdown Voltage | I _T = 1mA Any I/O pin to GND | 6.0 | | 9.0 | V |
| I _R | Reverse Leakage Current | V _{RWM} = 5V Any I/O pin to GND | | | 1.0 | μA |
| V _C | Clamping Voltage | I _{PP} = 1A, t _p = 8/20μs Any I/O pin to GND | | | 10 | V |
| | | I _{PP} = 4A, t _p = 8/20μs Any I/O pin to GND | | | 15 | V |
| | | I _{PP} = 8A, t _p = 8/20μs V _{CC} pin to GND | | | 15 | V |
| C _{ESD} | Parasitic Capacitance | V _R = 0V, f = 1MHz Between I/O and I/O | | 0.20 | 0.30 | pF |
| | | V _R = 0V, f = 1MHz Between I/O and GND | | 0.45 | 0.50 | pF |
| | | V _R = 0V, f = 1MHz Between V _{CC} and GND | | 0.80 | | pF |

Note: I/O Pins are pin 1,3,4,6. Pin 5 is Vcc. Pin 2 is GND.

ELECTRICAL CHARACTERISTICS CURVE

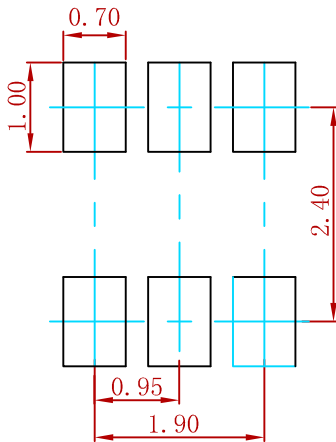


PACKAGE MECHANICAL DATA



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.050 | 1.250 | 0.041 | 0.049 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 1.050 | 1.150 | 0.041 | 0.045 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.100 | 0.200 | 0.004 | 0.008 |
| D | 2.820 | 3.020 | 0.111 | 0.119 |
| E1 | 1.500 | 1.700 | 0.059 | 0.067 |
| E | 2.650 | 2.950 | 0.104 | 0.116 |
| e | 0.950(BSC) | | 0.037(BSC) | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.300 | 0.600 | 0.012 | 0.024 |
| θ | 0° | 8° | 0° | 8° |

Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05mm.
 3. The pad layout is for reference purposes only.

REEL SPECIFICATION

| P/N | PKG | QTY |
|--------------|----------|------|
| ESDU5V0H4-MS | SOT-23-6 | 3000 |

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