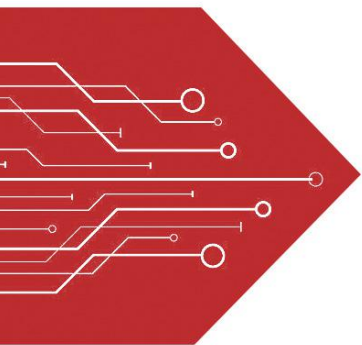


MSKSEMI

SEMICONDUCTOR



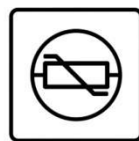
ESD



TVS



TSS



MOV



GDT

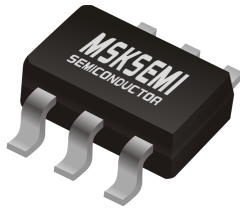


PLED

Product data sheet

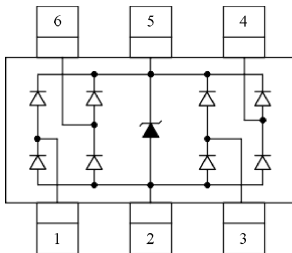
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PACKAGE OUTLINE



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

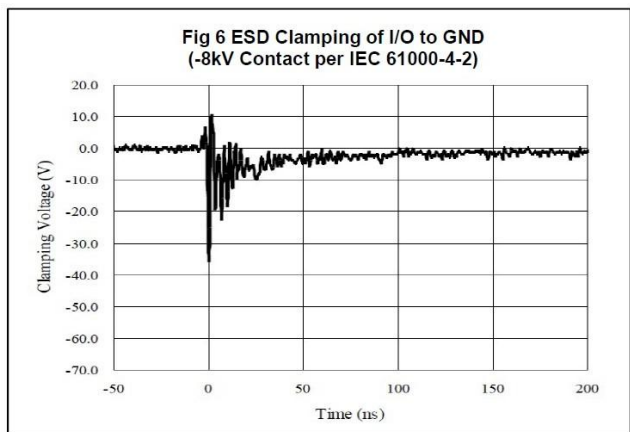
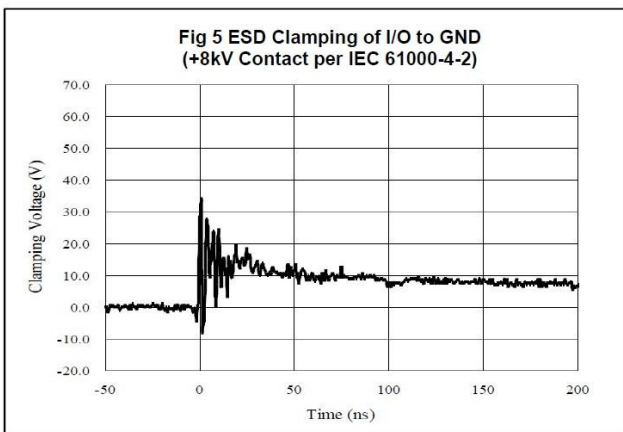
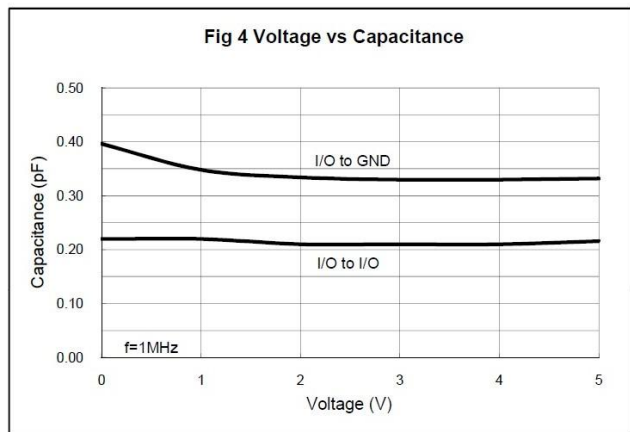
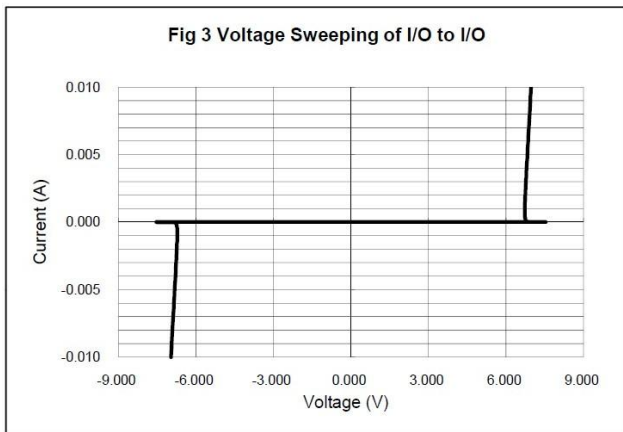
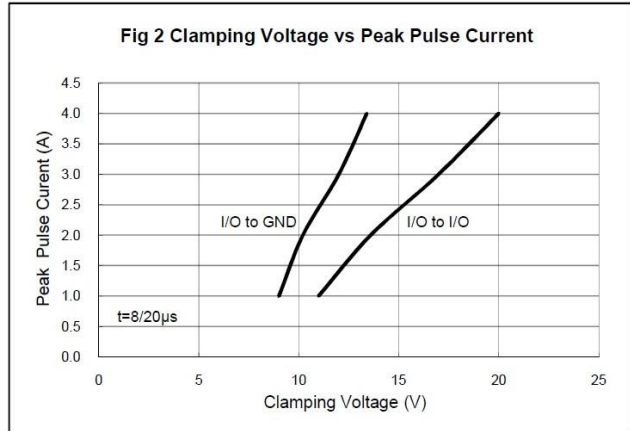
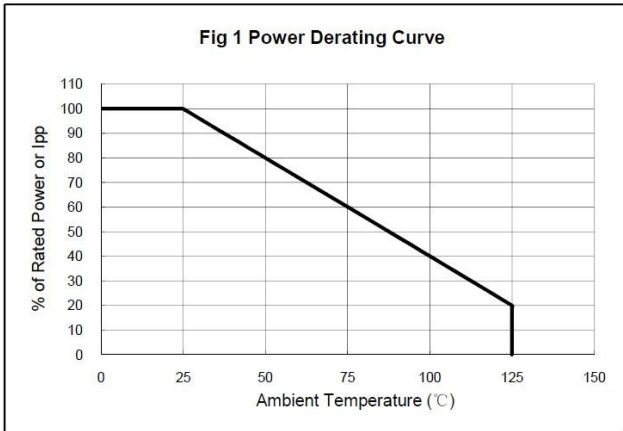
- ✧ Serial ATA
- ✧ MDDI Ports
- ✧ USB 2.0/3.0 Power and Data Line Protection
- ✧ Display Ports
- ✧ High Definition Multi-Media Interface (HDMI)
- ✧ Digital Visual Interface (DVI)

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

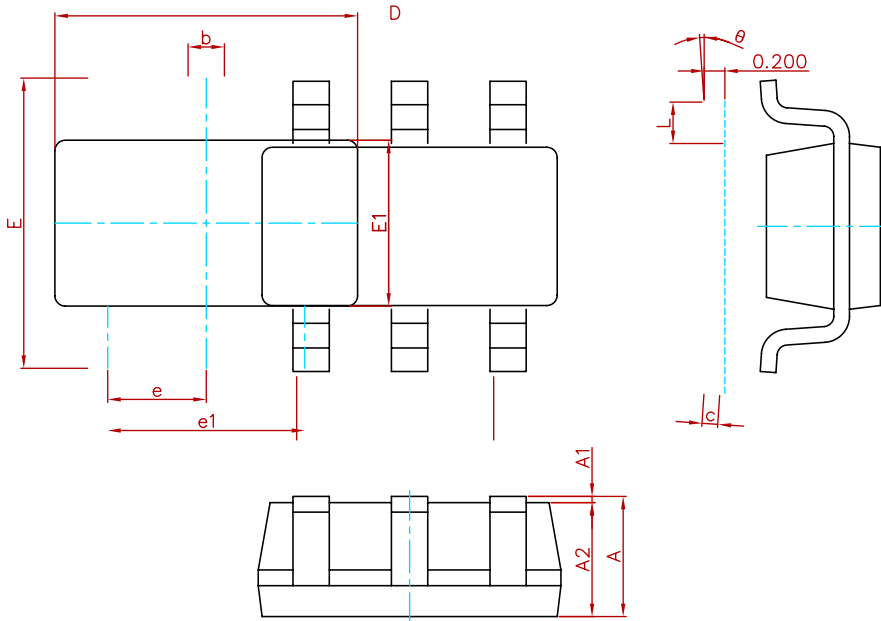
ELECTRICAL CHARACTERISTICS (T _{amb} =25°C)						
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V _{RWM}	Reverse Working Voltage	Any I/O pin to GND			5.0	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA Any I/O pin to GND	6.0		9.0	V
I _R	Reverse Leakage Current	V _{RWM} = 5V Any I/O pin to GND			1.0	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

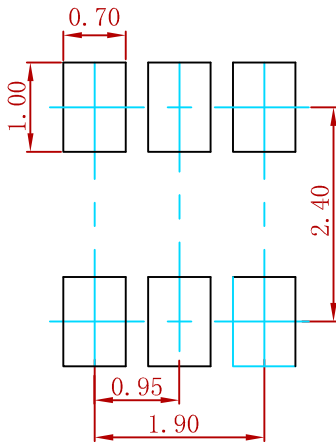


PACKAGE MECHANICAL DATA



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
theta	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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