

**DESCRIPTION**

The PESD0514M is available in MSOP10 package.

Applications

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

Mechanical Data

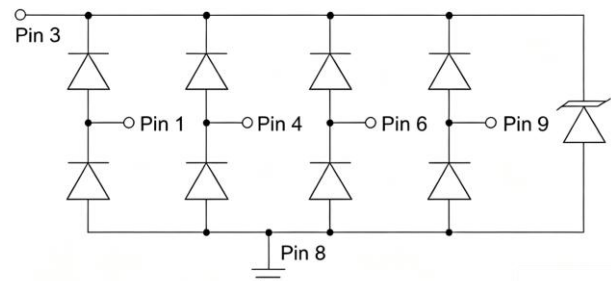
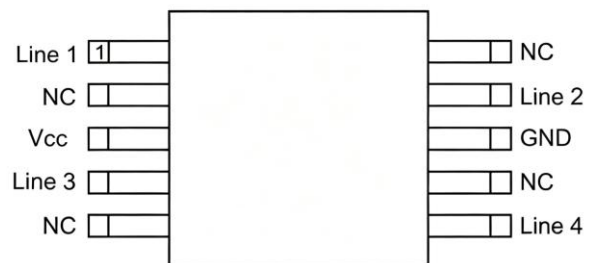
- Package: MSOP10
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

ORDERING INFORMATION

Package Type	Part Number
MSOP10	PESD0514M
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

FEATURE

- 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)

PIN DESCRIPTION



ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified

P _{PK} , Peak Pulse Power (tp=8/20μs)	100W
I _{PP} , Peak Pulse Current (8/20μs)	5A
V _{ESD} , ESD per IEC 61000-4-2 (Air)	±25kV
V _{ESD} , ESD per IEC 61000-4-2 (Contact)	±20kV
T _J , Operating Temperature Range	-55°C~+125°C
T _{STG} , Storage Temperature Range	-55°C~+150°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise specified

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
Reverse Working Voltage	V _{RWM}	Any I/O pin to ground	-	-	5	V
Breakdown Voltage	V _{BR}	I _T = 1mA, any I/O pin to ground	6	-	-	V
Reverse Leakage Current	I _R	V _{RWM} = 5V, any I/O pin to ground	-	-	1	μA
Clamping Voltage	V _C	I _{PP} = 1A (8 × 20μs pulse), any I/O pin to ground	-	-	14	V
		I _{PP} = 5A (8 × 20μs pulse), any I/O pin to ground	-	-	20	
Junction Capacitance	C _j	V _R = 0V, f = 1MHz, any I/O pin to ground	-	0.7	1	pF
		V _R = 0V, f = 1MHz, between I/O pins	-	0.3	0.6	



TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. 8/20 μ s Pulse Waveform

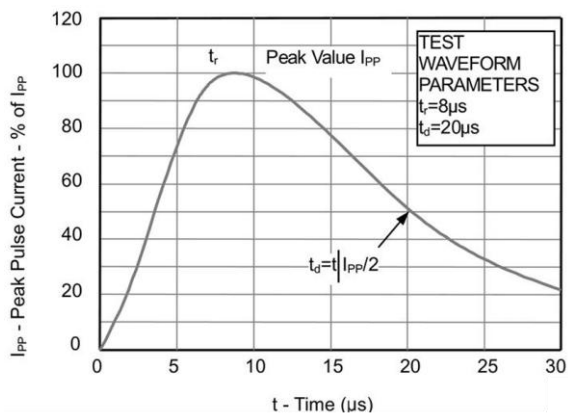


Fig 2. ESD Pulse Waveform

(According to IEC 61000-4-2)

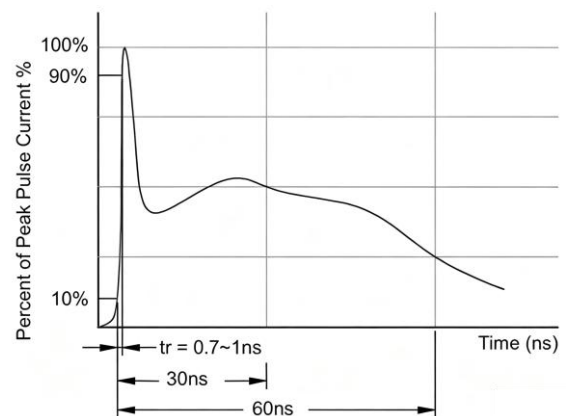
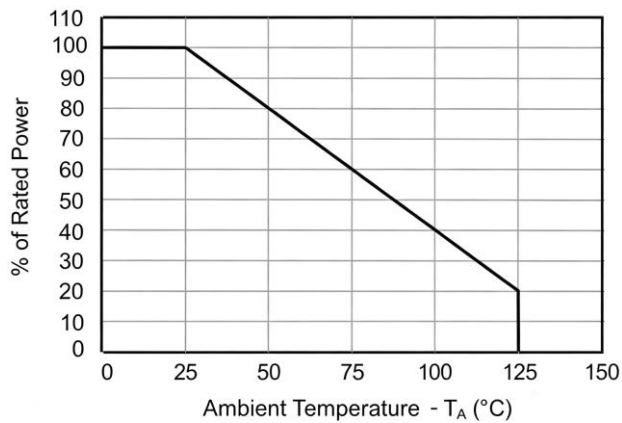


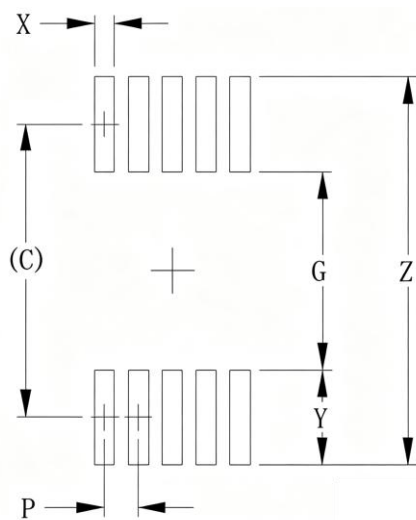
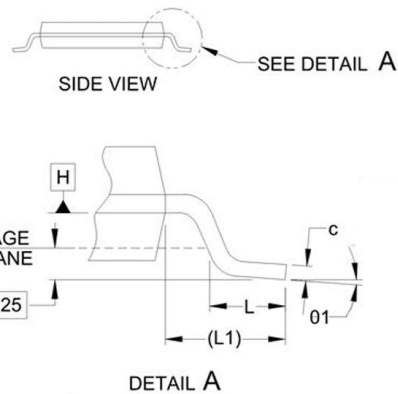
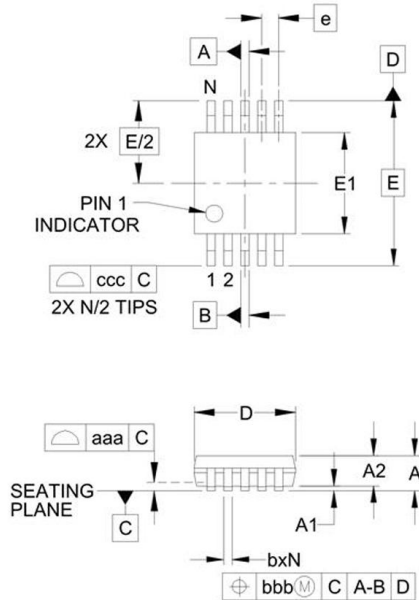
Fig 3. Power Derating Curve





PACKAGE INFORMATION

Dimension in MSOP10 Package (Unit: mm)



SUGGESTED LAND PATTERN

DIM	MILLIMETERS	
	MIN	MAX
A	-	1.100
A1	0.000	0.150
A2	0.750	0.950
aaa	0.100	
b	0.170	0.270
bbb	0.080	
C	4.100	
c	0.080	0.230
ccc	2.500	
D	2.900	3.100
E	4.900 BSC.	
E1	2.900	3.100
e	0.500 BSC.	
L	0.400	0.800
L1	0.950	
G	2.500	
P	0.500	
X	0.300	
Y	1.600	
Z	5.700	
N	10.000	
θ	0°	8°



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