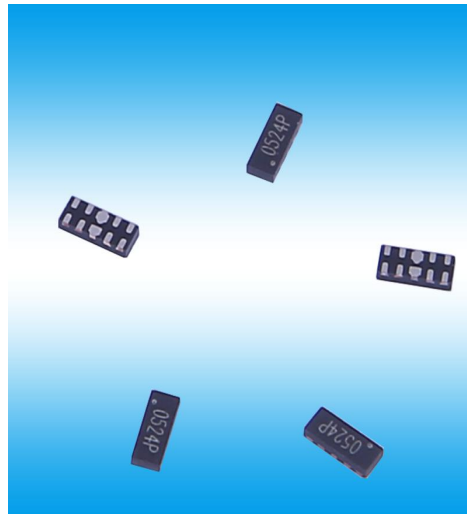


靜電保護元件ESD Protector

KESD0524P



**Description**

KESD0524P uses ultra-small DFN2510 package. Each KESD0524P device can protect four high-speed data lines. The combined features of ultra-low capacitance, ultra-small size and high ESD robustness make KESD0524P ideal for high-speed data ports and high-frequency lines (e.g., HDMI & DVI) applications. The low clamping voltage of the KESD0524P guarantees a minimum stress on the protected IC.

KESD0524P使用超小的DFN2510包。每台KESD0524P设备可保护4条高速数据线。KESD0524P具有超低电容、超小体积和高ESD鲁棒性的特点，是高速数据端口和高频线路(如HDMI)的理想选择(dvi)应用程序。KESD0524P的低箝位电压保证了对保护IC的最小应力。

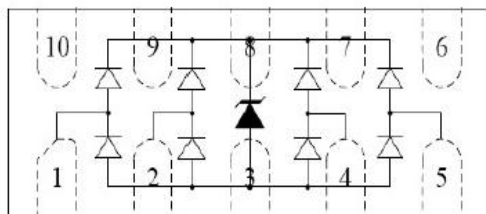
**Features产品特征**

- Transient protection for high-speed data lines IEC 61000-4-2 (ESD)  $\pm 25\text{kV}$  (Air)/ $\pm 17\text{kV}$  (Contact); IEC 61000-4-4 (EFT) 40A (5/50 ns); Cable Discharge Event (CDE)
- 高速数据线暂态保护IEC 61000-4-2 (ESD)  $\pm 25\text{kV}$  (Air)/ $\pm 17\text{kV}$ (接触);IEC61000 -4-4 (EFT) 40A(5/50ns); 电缆放电事件(CDE)
- Package optimized for high-speed lines  
适合高速线路的包装优化
- Protects four data lines  
保护四条数据线
- Ultra-small package (2.5mmX1.0mmX0.55mm)  
超薄包装(2.5毫米1.0毫米0.55毫米)
- Low capacitance: 0.45pF (I/O to GND)  
低电容:0.45pF (I/O to GND)
- Low clamping voltage  
低电压钳位
- Low leakage current:0.1uA@VRWM(Typical)  
低漏电流:0.1 ua@vrwm(典型的)

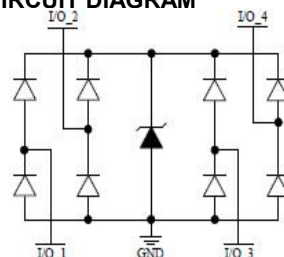
**Applications产品应用**

- Serial ATA; PCI Express  
串行ATA; 串行总线
- Desktops, Servers and Notebooks  
台式机、服务器和笔记本
- High Definition Multi-Media Interface (HDMI)  
高清多媒体接口(HDMI)
- MDDI Ports; Display Ports  
MDDI端口; 显示端口
- USB 2.0/3.0 Power and Data Line Protect  
USB 2.0/3.0电源和数据线保护
- Digital Visual Interface (DVI)  
数字可视接口(DVI)

**PIN CONFIGURATION**



**CIRCUIT DIAGRAM**



靜電保護元件ESD Protector

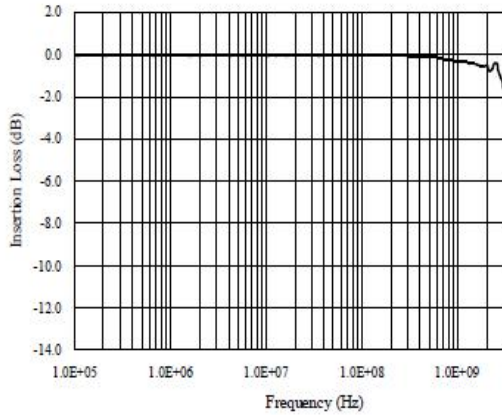
KESD0524P

ABSOLUTE MAXIMUM RATING			
Symbol	Parameter	Value	Units
P <sub>PP</sub>	Peak Pulse Power (8/20μs)	50	W
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±25 ±20	kV
T <sub>OPT</sub>	Operating Temperature	-55/+125	°C
T <sub>STG</sub>	Storage Temperature	-55/+150	°C

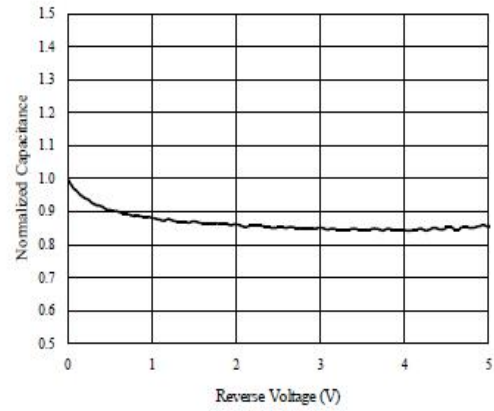
ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> =25°C)						
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V <sub>RWM</sub>	Reverse Working Voltage	Any I/O pin to GND			5.0	V
V <sub>BR</sub>	Reverse Breakdown Voltage	I <sub>T</sub> = 1mA Any I/O pin to GND	6.0		9.0	V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 5V Any I/O pin to GND			1.0	μA
V <sub>C</sub>	Clamping Voltage	I <sub>PP</sub> = 1A, t <sub>p</sub> = 8/20μs Any I/O pin to GND			10	V
C <sub>ESD</sub>	Parasitic Capacitance	V <sub>R</sub> = 0V, f = 1MHz Between I/O and GND		0.45	0.5	pF
C <sub>ESD</sub>	Parasitic Capacitance	V <sub>R</sub> = 0V, f = 1MHz Between I/O and I/O		0.2	0.3	pF

ELECTRICAL CHARACTERISTICS CURVE

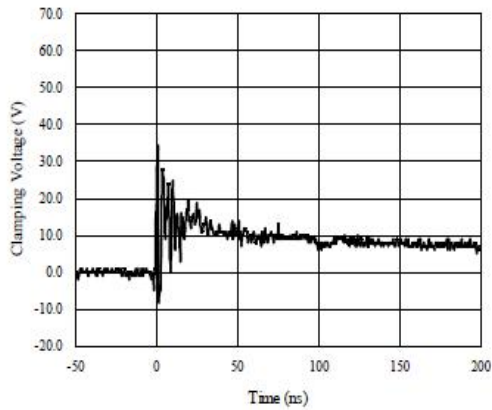
Insertion Loss S21 of I/O to GND



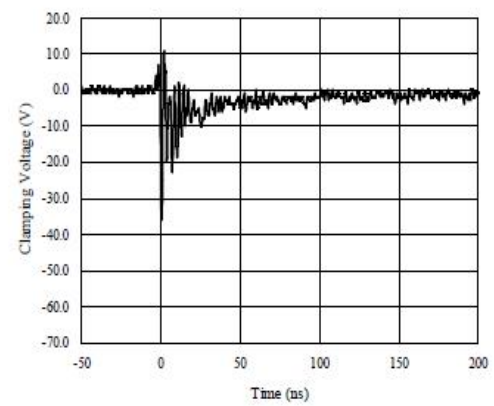
Normalized Capacitance vs. Reverse Voltage



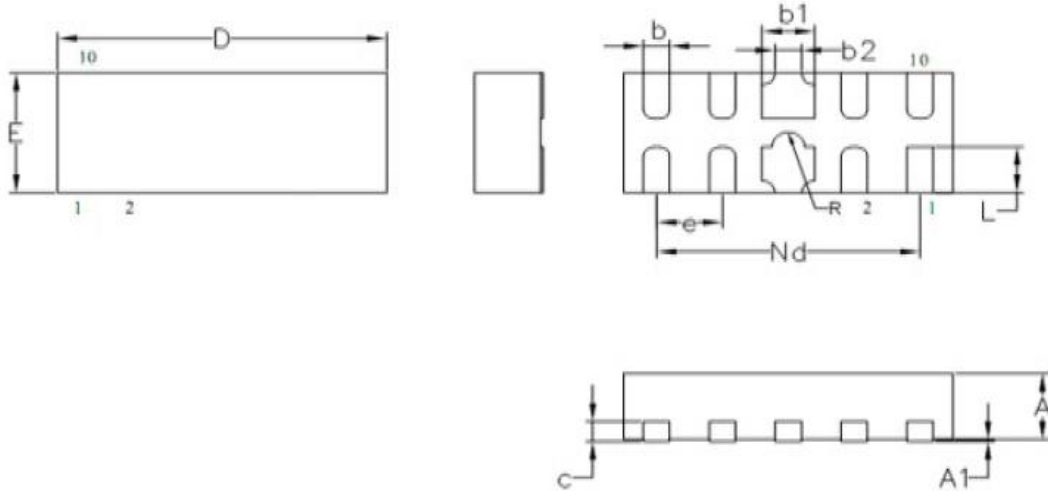
ESD Clamping  
(+8kV Contact per IEC 61000-4-2)



ESD Clamping  
(-8kV Contact per IEC 61000-4-2)



**DFN2510 PACKAGE OUTLINE DIMENSIONS**



Symbol	Dimensions (mm)		
	Min.	Nom.	Max.
D	2.45	2.50	2.55
E	0.95	1.00	1.05
b1	0.35	0.40	0.45
b2	0.20REF		
b	0.15	0.20	0.25
L	0.33	0.38	0.43
Nd	2.00BSC		
e	0.50BSC		
R	0.10	0.125	0.15
A	0.45	0.50	0.55
c	0.15REF		
A1	0.00	-	0.05