

1.Features

- Ultra low capacitance: 0.3pF typical(I/O to I/O)
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- Up to 4 data lines and one power line protects
- ROHS Compliant
- Complies with following standards
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 25\text{kv}$
 - Contact discharge: $\pm 20\text{kv}$
 - IEC 61000-4-4(EFT)40A(5/50ns)
 - IEC 61000-4-5(Lighning): 4A(8/20 μs)

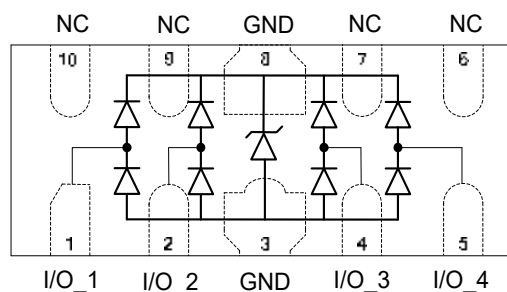
2.Applications

- Serial ATA
- PCI Express
- MDDI Ports
- Display Ports
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)

3.Mechanical Data

- DFN2510 package
- Flammability Rating: UL 94V-0
- Terminal: Matte tin plated
- Packaging: Tape and Reel
- High temperature soldering
guaranted: $260^{\circ}\text{C}/10\text{s}$
- Reel size: 7 inch

4.Pinning information



DFN2510



5. Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Peak Pulse Power (8/20μs)	P _{PP}	80	W
Peak Pulse Current (8/20μs)	I _{PP}	4	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±25	kV
ESD per IEC 61000-4-2 (Contact)		±20	kV
Junction Temperature	T _{OPT}	-55 to 125	°C
Storage Temperature	T _{STG}	-55 to 150	°C

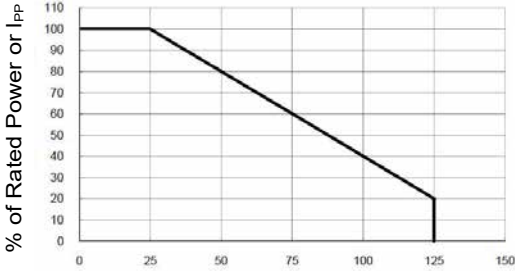
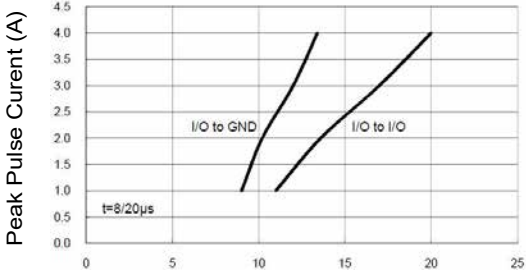
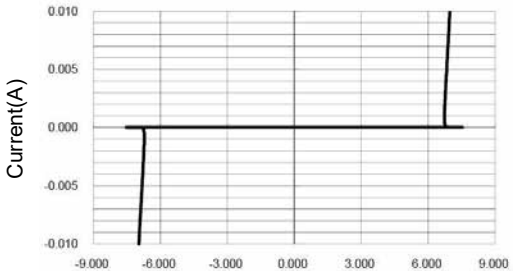
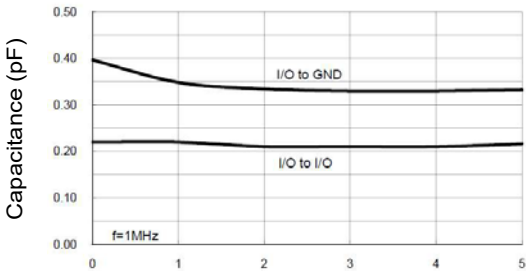
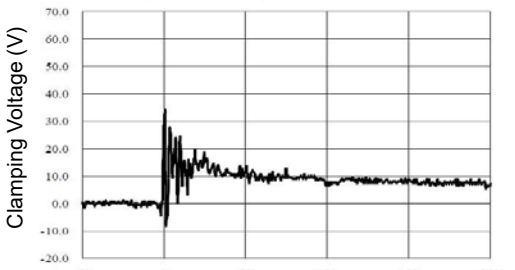
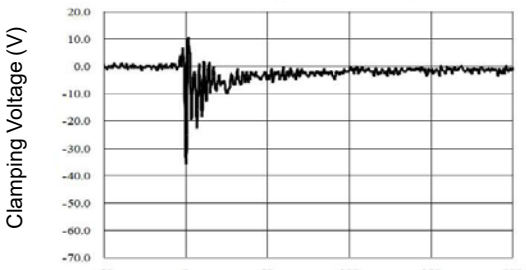


6. Electrical Characteristics ($T_{amb}=25^{\circ}\text{C}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_{RWM}	Any I/O pin to ground			5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$, Any I/O pin to ground	7	8	9.5	V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$, Any I/O pin to ground			0.1	μA
Clamping Voltage	V_C	$I_{PP}=1\text{A}$, $t_p=8/20\mu\text{s}$, Any I/O pin to ground			9	V
		$I_{PP}=4\text{A}$, $t_p=8/20\mu\text{s}$, Any I/O pin to ground			16	V
Junction Capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$, Between I/O pins		0.3	0.4	pF
		$V_R=0\text{V}$, $f=1\text{MHz}$, Between I/O pin to ground			0.8	pF

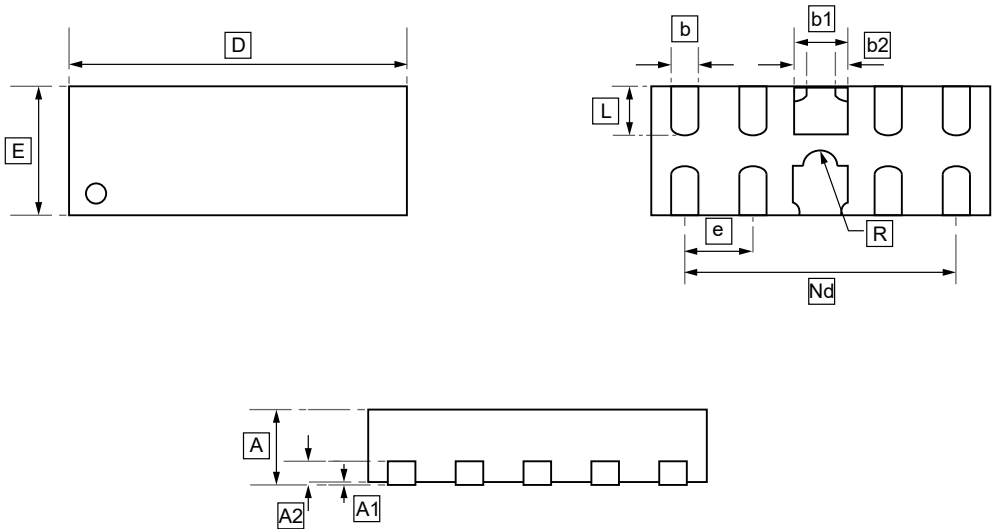


7. Typical characteristic

 % of Rated Power or I_{pp} Ambient Temperature ($^{\circ}\text{C}$)	 Peak Pulse Current (A) Clamping Voltage (V) $t=8/20\mu\text{s}$ I/O to GND I/O to I/O
Figure 1: Power Derating Curve	Figure 2: Clamping Voltage vs Peak Pulse Current
 Current(A) Voltage (V)	 Capacitance (pF) Voltage (V) $f=1\text{MHz}$ I/O to GND I/O to I/O
Figure 3: Voltage Sweeping of I/O to I/O	Figure 4: CVoltage vs Capacitance
 Clamping Voltage (V) Time (ns)	 Clamping Voltage (V) Time (ns)
Figure 5: ESD Clamping of I/O to GND (+8kV Contact per IEC 61000-4-2)	Figure 6: ESD Clamping of I/O to GND (-8kV Contact per IEC 61000-4-2)



8.DFN2510 Package Outline Dimensions

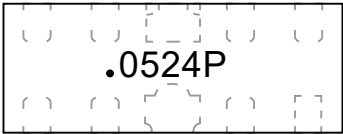


DIMENSIONS (mm are the original dimensions)

Symbol	D	E	b1	b2	b	L	Nd	e	R	A	A1	A2
Min	2.45	0.95	0.35	0.15	0.10	0.33	2.00	0.50	0.125	0.45	0.152	-
Max	2.55	1.05	0.45	0.25	0.20	0.43	BSC	BSC	BSC	0.55	REF	0.05



9.Ordering information



Order Code	Package	Base QTY	Delivery Mode
UMW ESD0524P	DFN2510	3000	Tape and reel



10.Disclaimer

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