

Features

- Uni-directional ESD protection of four lines
- 60Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Low capacitance: 0.2pF (I/O to I/O)
- Protects four data lines
- Low leakage current
- Low clamping voltage
- Each I/O pin can withstand over 1000 ESD strikes
- for $\pm 8KV$ contact discharge
- IEC 61000-4-2 $\pm 15kV$ contact $\pm 20kV$ air
- IEC 61000-4-5 (Lightning) 4.5A ($8/20\mu s$)

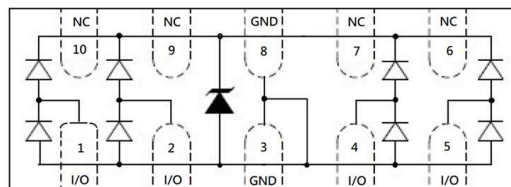
Mechanical Data

- Package: DFN2510-10L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Applications

- Serial ATA
- PCI Express
- Desktops, Servers and Notebooks
- MDDI Ports
- USB 2.0/3.0 Power and Data Line Protection
- Display Ports
- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
TPD4E05U06DQAR	DFN2510-10L	0524P	3000 Tape & Reel	7 inches

■ Absolute Maximum Rating($T_A=25^{\circ}\text{C}$ unless otherwise Specified)

Symbol	Parameter	Value	Units
PPP	Peak Pulse Power (8/20 μs)	60	W
VESD	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	± 20 ± 25	kV
TOPT	Operating Temperature	-55/+125	$^{\circ}\text{C}$
TSTG	Storage Temperature	-55/+150	$^{\circ}\text{C}$

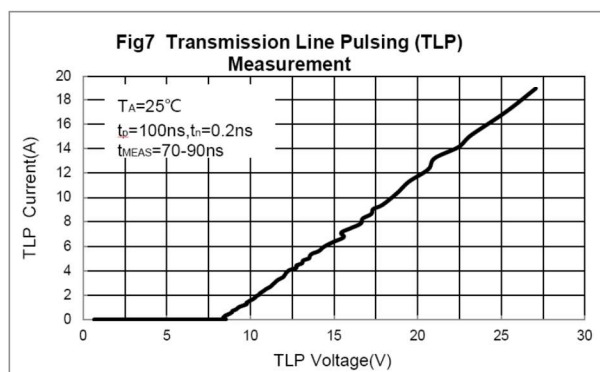
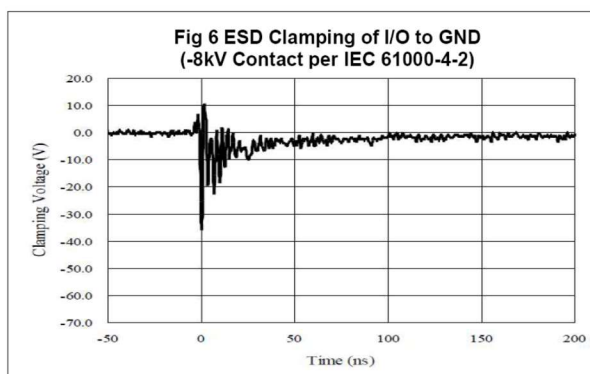
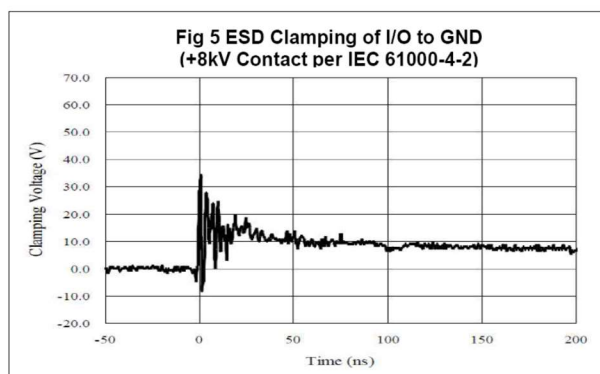
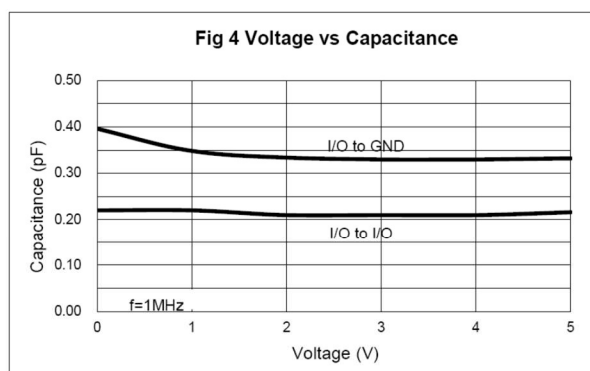
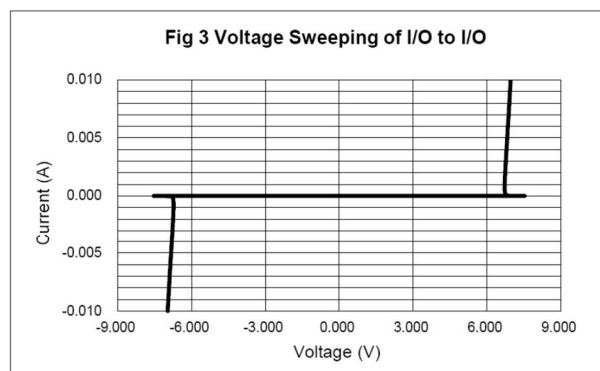
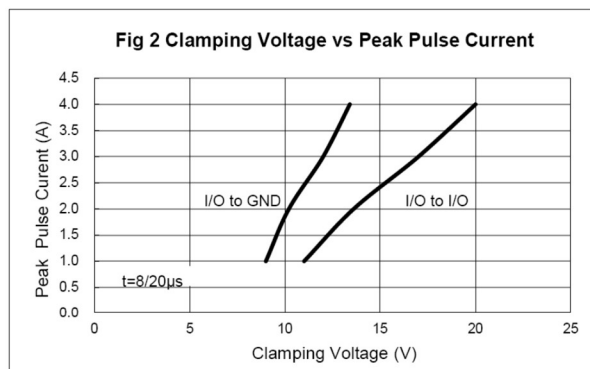
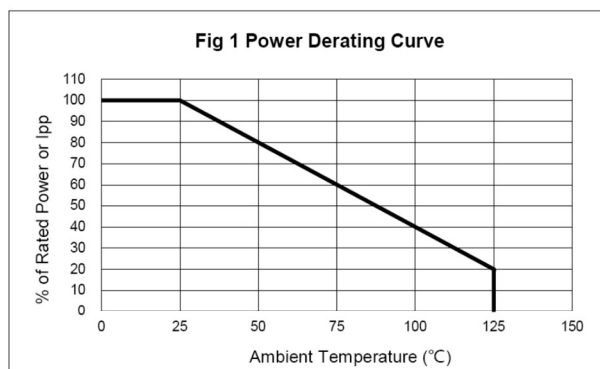
■ Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise Specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
VRWM	Reverse Working Voltage	Any I/O pin to GND			5.0	V
VBR	Reverse Breakdown Voltage	$I_T = 1\text{mA}$ Any I/O pin to GND	6.0		9.0	V
IR	Reverse Leakage Current	VRWM = 5V Any I/O pin to GND			1.0	μA
VC	Clamping Voltage	IPP = 1A, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			10	V
VC	Clamping Voltage	IPP = 4A, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			15	V
VCTLP	TLP Clamping Voltage	IPP = 8A IEC61000-4-2 Level 2 equivalent ($\pm 4\text{kV}$ Contact, $\pm 8\text{kV}$ Air) Between I/O and GND		16		V
		IPP = 16A IEC61000-4-2 Level 4 equivalent ($\pm 8\text{kV}$ Contact, $\pm 16\text{kV}$ Air) Between I/O and GND		23		V
CESD	Parasitic Capacitance	VR = 0V, $f = 1\text{MHz}$ Between I/O and GND		0.4	0.5	pF
CESD	Parasitic Capacitance	VR = 0V, $f = 1\text{MHz}$ Between I/O and I/O		0.2	0.3	pF

Note: I/O pins are pin 1,2,4,5, GND pins are pin 3,8.

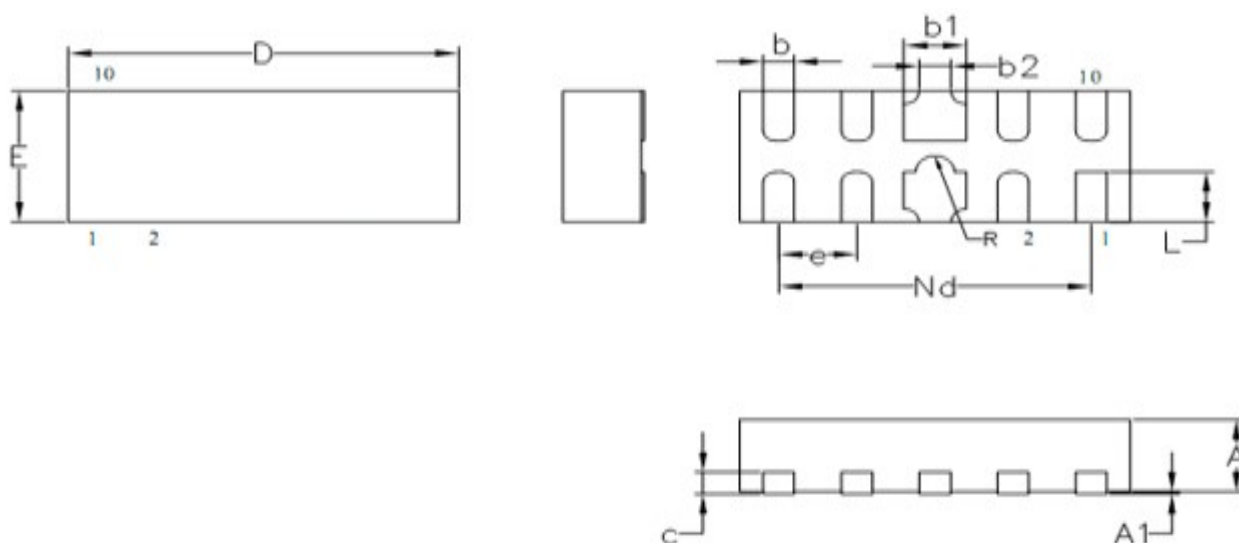


■ Typical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise Specified)





■ Outline Drawing – DFN2510-10L



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