



DW05-4R2P-AT-S ESD Protection Diode

Feature

- Uni-directional ESD protection of four I/O lines
- 60Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5.0V
- Junction Capacitance: 0.2pF(Typ Between I/O and I/O)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 $\pm 20kV$ contact $\pm 25kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4A (8/20 μs)

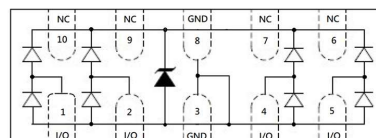
Application

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

Mechanical Data

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

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	QTY per Reel	Reel Size
DW05-4R2P-AT-S	DFN2510-10L	0524P 5R2P 5UE	3000 pcs	7 inches



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

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (8/20 μs)	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	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

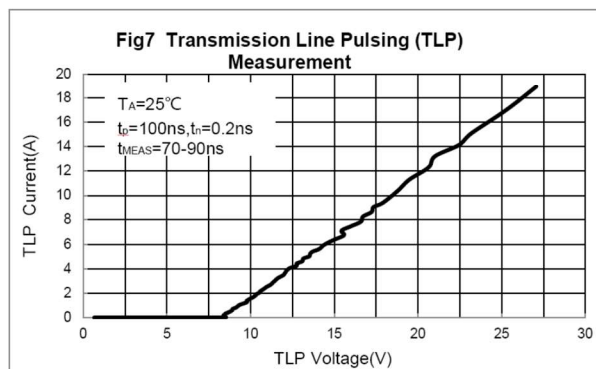
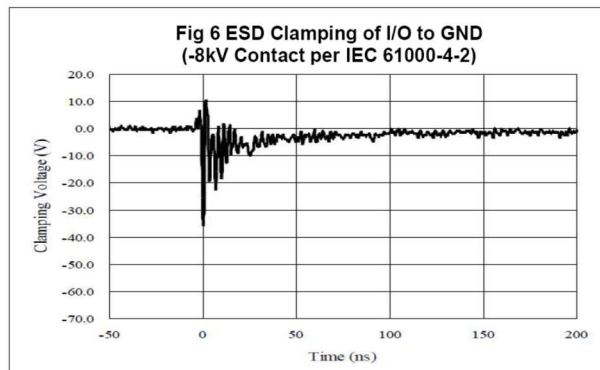
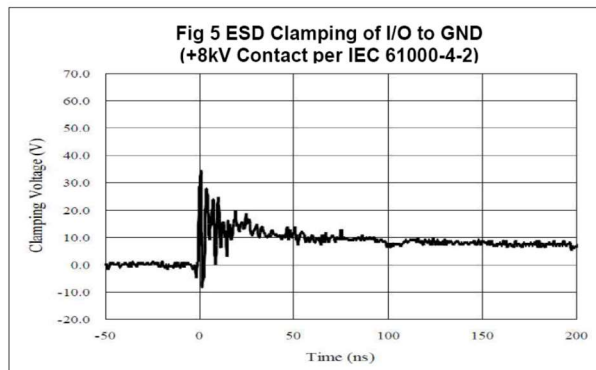
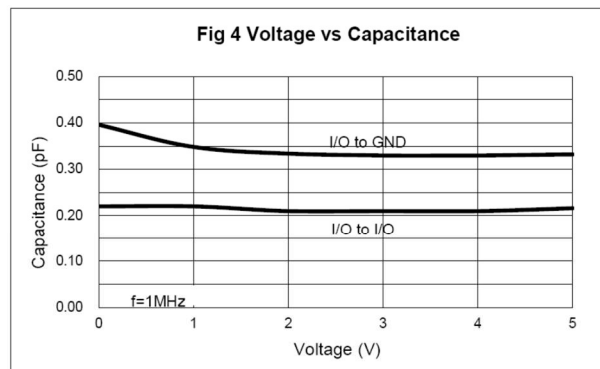
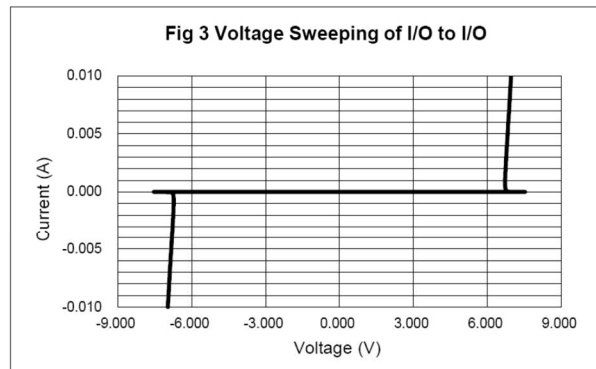
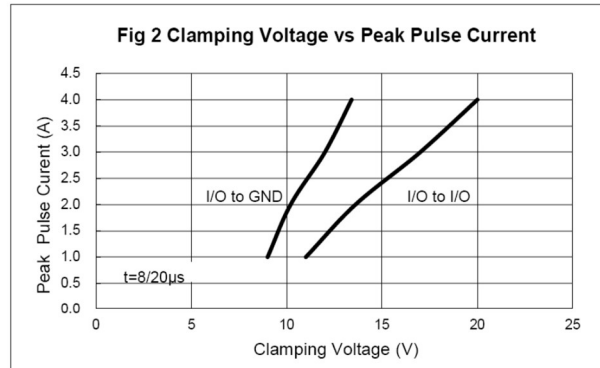
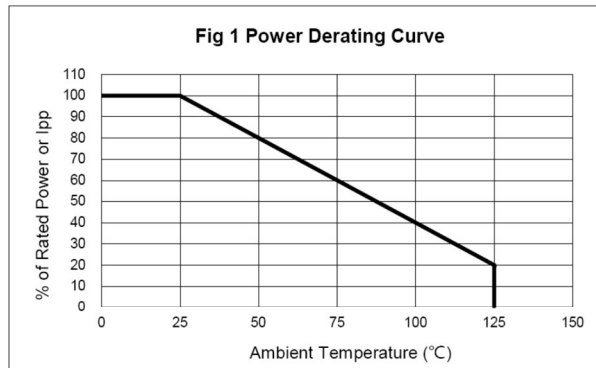
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage	Any I/O pin to GND			5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1\text{mA}$ Any I/O pin to GND	6.0		9.0	V
I_R	Reverse Leakage Current	$V_{RWM} = 5\text{V}$ Any I/O pin to GND			1.0	μA
V_C	Clamping Voltage	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			10	V
V_C	Clamping Voltage	$I_{PP} = 4\text{A}$, $t_p = 8/20\mu\text{s}$ Any I/O pin to GND			15	V
V_{CTLP}	TLP Clamping Voltage	$I_{PP} = 8\text{A}$ IEC 61000-4-2 Level 2 equivalent ($\pm 4\text{kV}$ Contact, $\pm 8\text{kV}$ Air) Between I/O and GND		16		V
		$I_{PP} = 16\text{A}$ IEC 61000-4-2 Level 4 equivalent ($\pm 8\text{kV}$ Contact, $\pm 16\text{kV}$ Air) Between I/O and GND		23		V
C_{ESD}	Parasitic Capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$ Between I/O and GND		0.4	0.5	pF
C_{ESD}	Parasitic Capacitance	$V_R = 0\text{V}$, $f = 1\text{MHz}$ 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.

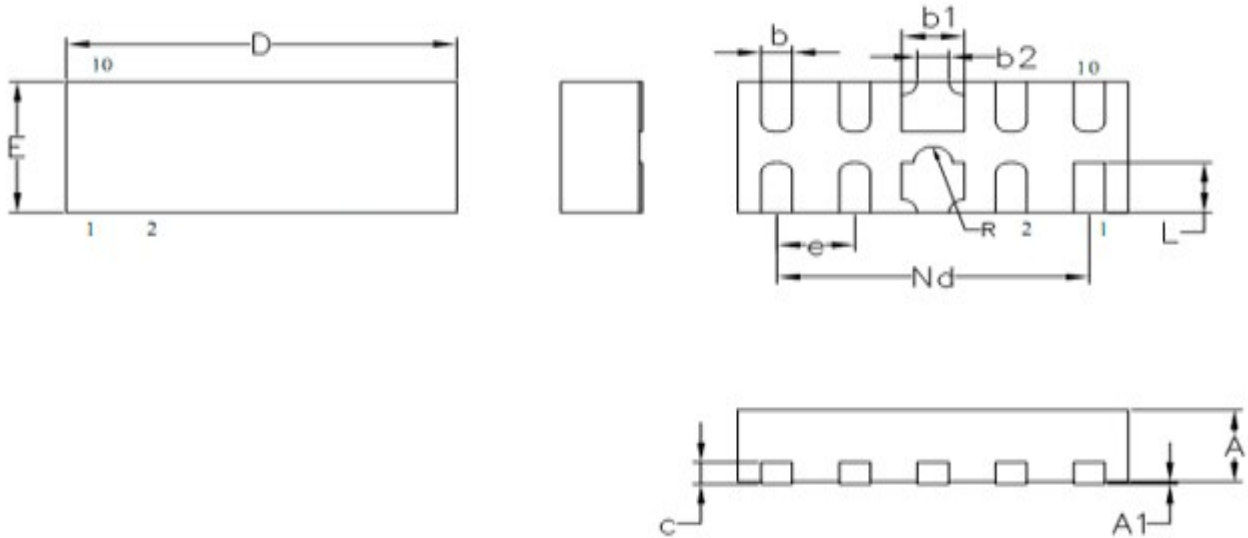


Typical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)





DFN2510-10L Outline Drawing



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