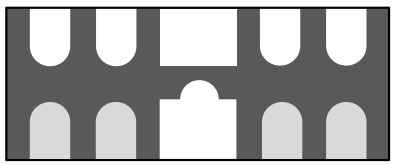
DW05-4R2PC-S

Features

- Solid-state silicon-avalanche technology
- Low operating and clamping voltage
- Up to four I/O Lines of Protection
- Ultra low capacitance: 0.25pF typical(I/O to I/O)
- Low Leakage
- Low operating voltage:5V
- Flow-Through design



DFN2.5x1-10L

IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) ±25kV (air), ±15kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4.5A (8/20μs)

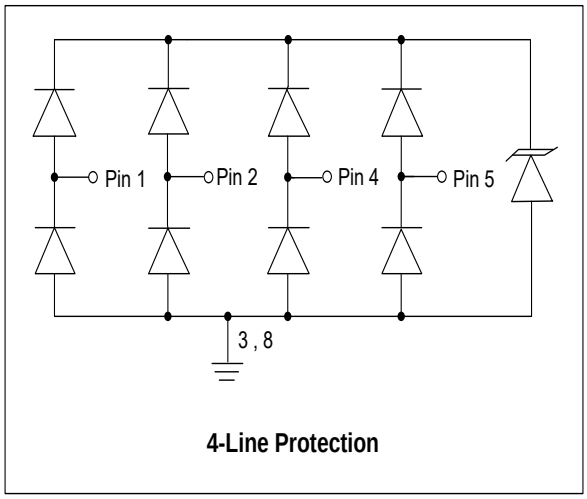
Mechanical Characteristics

- DFN-10L package (2.5×1.0×0.58mm)
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Applications

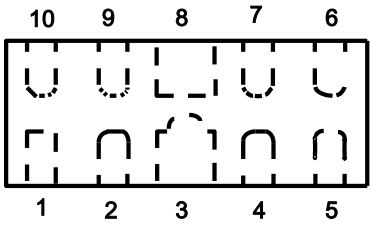
- USB3.0/USB3.1
- HDMI 2.0
- Digital Visual Interface(DVI)
- MDDI Ports
- DisplayPortTM Interface
- PCI Express
- eSATA Interfaces

Circuit Diagram



4-Line Protection

Schematic & PIN Configuration



Pin	Identificaion
1,2,4,5	Input Lines
6,7,9,10	Output Lines (No Internal Connection)
3,8	Ground

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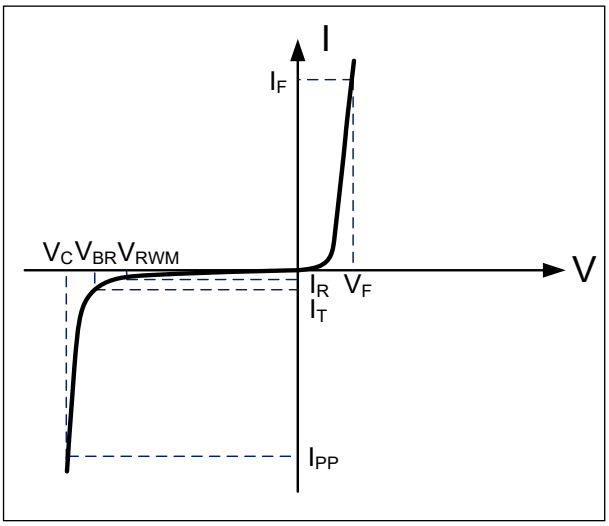
Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	85	Watts
Peak Pulse Current (t_p =8/20μs)	I_{pp}	4.5	A
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}	Any I/O pin to ground			5.0	V
Reverse Breakdown Voltage	V_{BR}	I_t = 1mA Any I/O pin to ground	6.0			V
Reverse Leakage Current	I_R	V_{RWM} = 5V, T=25℃ Any I/O pin to ground			200	nA
Clamping Voltage	Vc	I_{pp}=1A, t_p=8/20μs Any I/O pin to ground			9	V
Clamping Voltage	Vc	I_{pp}=4.5A, t_p=8/20μs Any I/O pin to ground			19	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz I/O pin to GND		0.5	0.6	pF
		V_R = 0V, f = 1GHz I/O pin to GND		0.4	0.5	pF
		V_R = 0V, f = 1MHz Between I/O pins		0.25	0.3	pF
		V_R = 0V, f = 1GHz Between I/O pins		0.2	0.25	pF

Typical Characteristics

Figure 1: Non-Repetitive Peak Pulse Power vs. Pulse Time

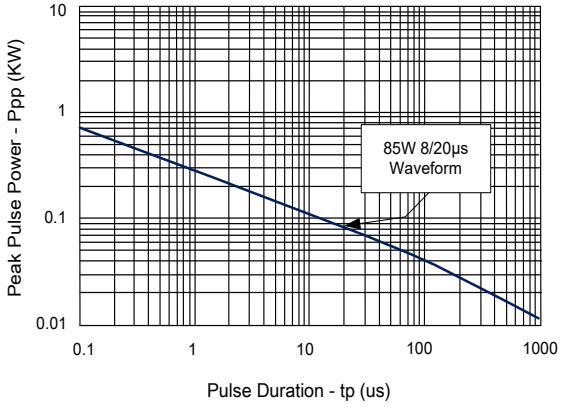


Figure 2: Power Derating curve

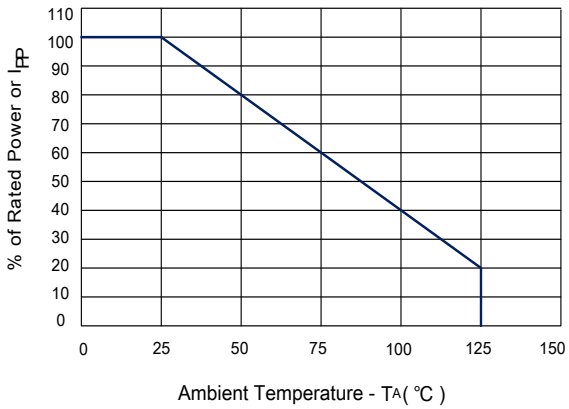


Figure 3: Pulse Waveform

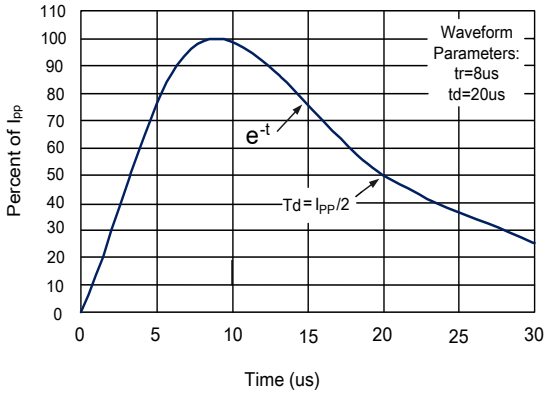


Figure 4: Clamping Voltage vs.Peak Pulse Current

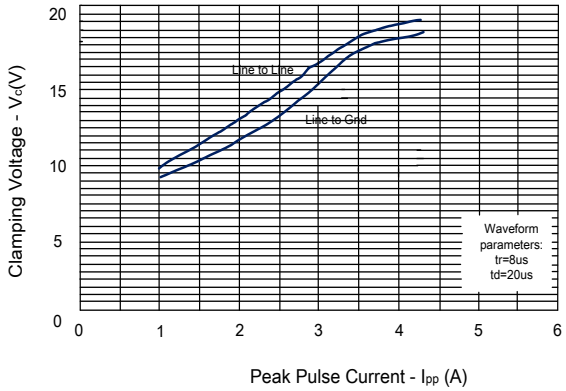


Figure 5: Normalized Capacitance vs. Reverse Voltage

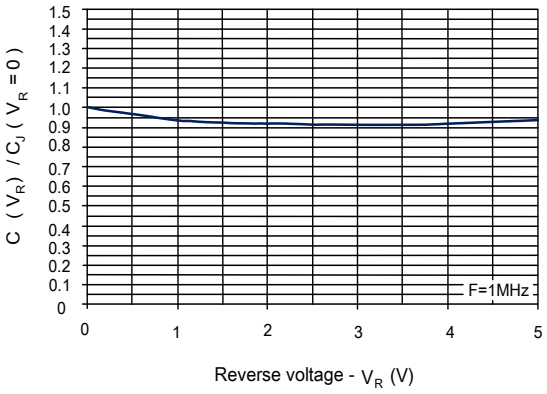


Figure 6: Insertion Loss S21 - I/O to GND

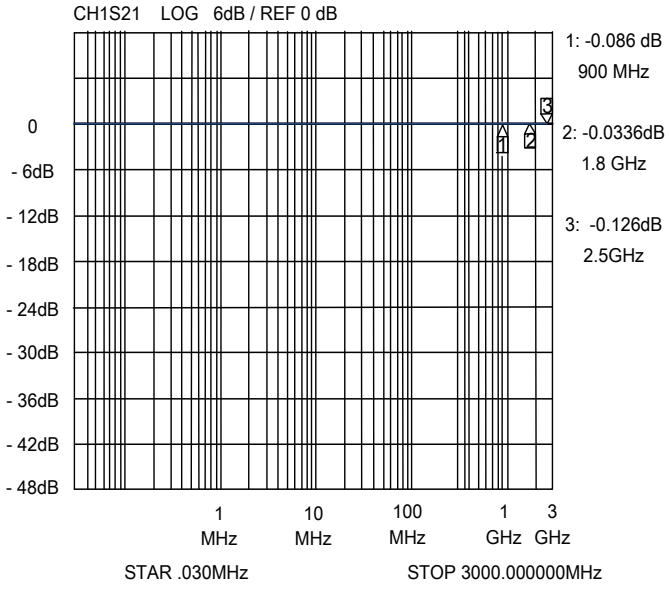


Figure 7: Positive TLP I-V Curve

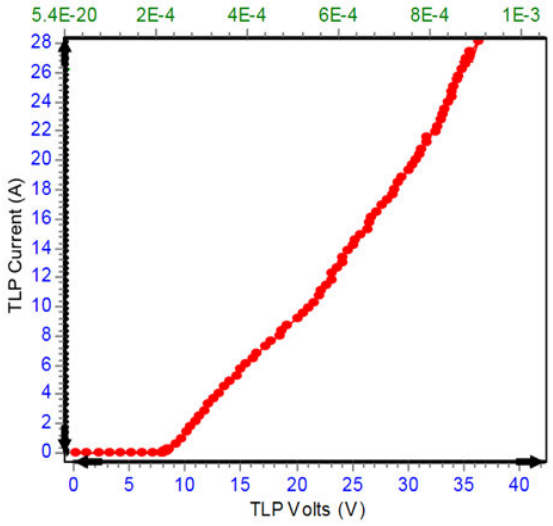
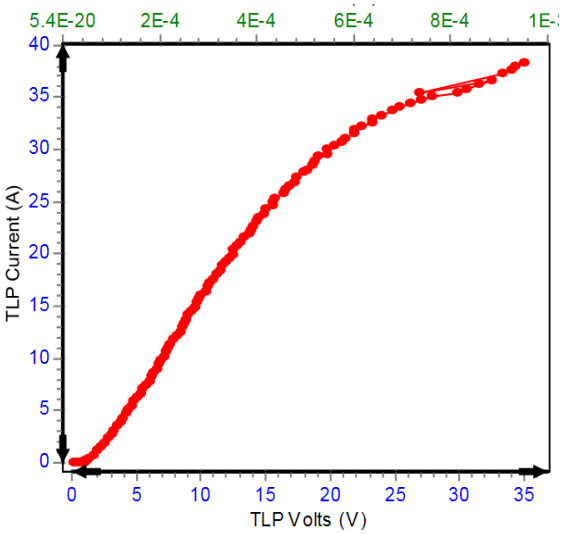
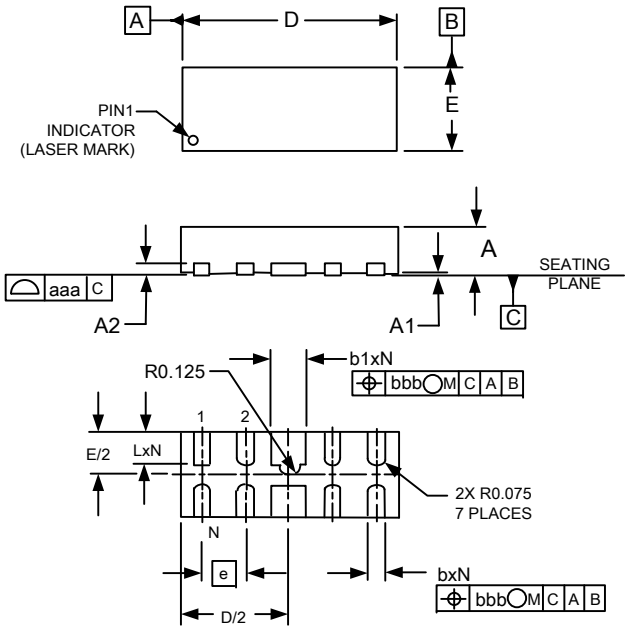


Figure 8: Negative TLP I-V Curve

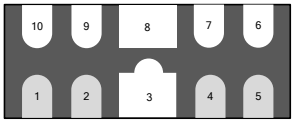


Outline Drawing –DFN-10L



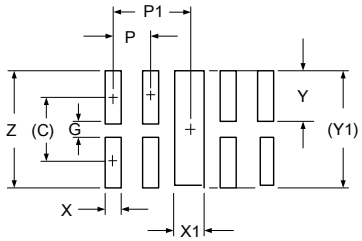
NOTES:

1.CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).



DFN2.5x1-10L

DIMENSIONS						
DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.020	.023	.026	0.50	0.58	0.65
A1	0.00	.001	.002	0.00	0.03	0.05
A2		(0.005)			(0.13)	
b	.006	.008	.010	0.15	0.20	0.25
b1	.014	.016	.018	0.35	0.40	0.45
D	.094	.098	.102	2.40	2.50	2.60
E	.035	.039	.043	0.90	1.00	1.10
e		.020 BSC			0.50 BSC	
L	.012	.015	.017	0.30	0.38	0.425
N		8			8	
aaa		0.003			0.08	
bbb		0.004			0.10	



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.034)	(0.875)
G	.008	0.20
P	.020	0.50
P1	.039	1.00
X	.010	0.25
X1	.018	0.45
Y	.027	0.675
Y1	(.061)	(1.55)
Z	.061	1.55

NOTES:

1.CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).

2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING TO ENSURE YOUR COMPANYS MANNUFACTURING GUIDELINES ARE MET.

Marking Codes

Part Number	DW05-4R2PC-S	Marking Code	5R2P

Package Information

Qty：3k/Reel