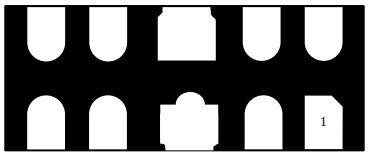
DW05-4R3P-S

Features

- Solid-state silicon-avalanche technology
- Low operating and clamping voltage
- Up to four I/O Lines of Protection
- Ultra low capacitance: 0.2pF typical(I/O to I/O)
- Low Leakage
- Low operating voltage:5V



DFN2.5x1-10L

IEC Compatibility (EN61000-4)

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

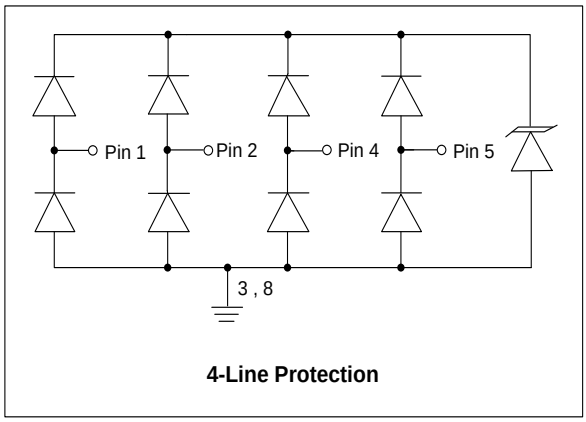
Mechanical Characteristics

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

Applications

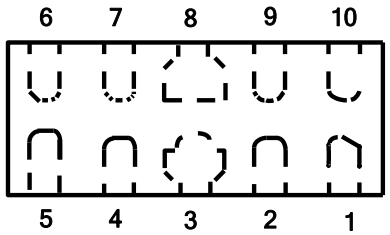
- Digital Visual Interface(DVI)
- MDDI Ports
- DisplayPortTM Interface
- PCI Express
- High Definition Multi-Media Interface(HDMI)
- eSATA Interfaces

Circuit Diagram



4-Line Protection

Schematic & PIN Configuration



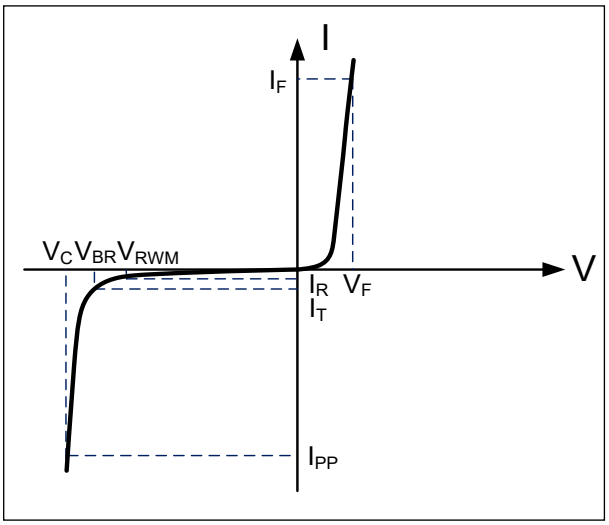
Pin	Identificaion
1,2,4,5	Input Lines
6,7,9,10	Output Lines (No Internal Connection)
3,8	Ground

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	50	Watts
Peak Pulse Current (t_p =8/20μs)	I_{pp}	4.5	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(contact)	V_{ESD}	+/-20 +/-15	kV
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}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	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

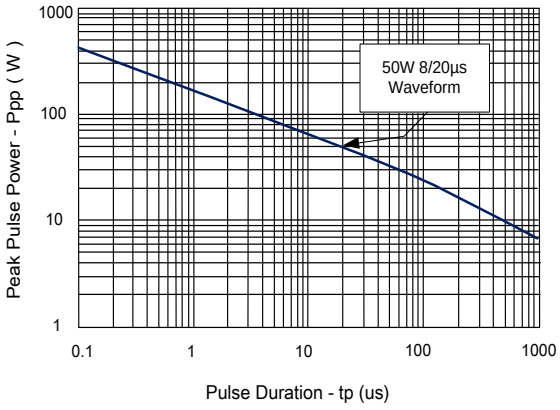


Electrical Characteristics

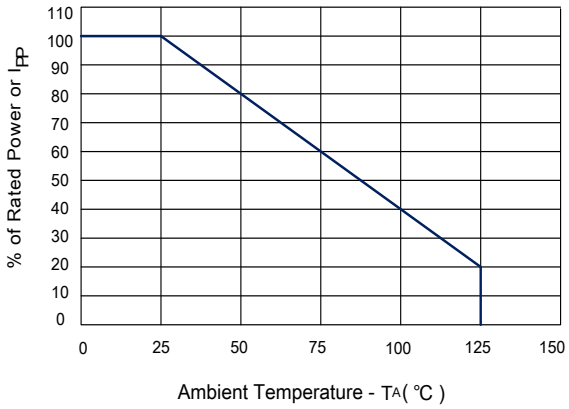
Parameter	Symbol	Conditions	Min	TYP	MAX	Units
Reverse Stand-Off Voltage	V_{RWM}	Any I/O pin to ground			5.0	V
Reverse Breakdown Voltage	V_{BR}	I_t = 1mA Any I/O pin to ground	6.0			V
Reverse Leakage Current	I_R	V_{RWM} = 5V, T=25℃ Any I/O pin to ground			0.2	μA
Clamping Voltage	Vc	I_{pp}=1A, t_p=8/20μs 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			12	V
Junction Capacitance	C_j	Vpin3,8=0, V_R = 0V, f =1MHz I/O pin to GND		0.5	0.6	pF
		Vpin3,8=0,V_R = 0V, f = 1MHz Between I/O pins		0.2	0.3	pF

Typical Characteristics

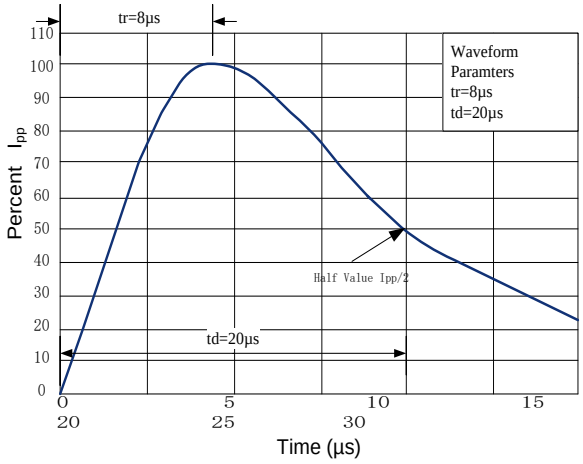
Non-Repetitive Peak Pulse Power vs. Pulse Time



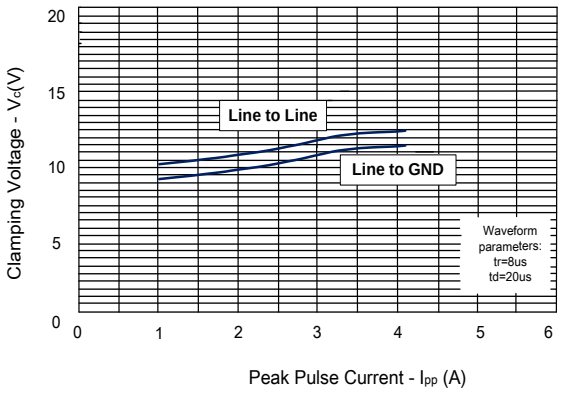
Power Derating curve



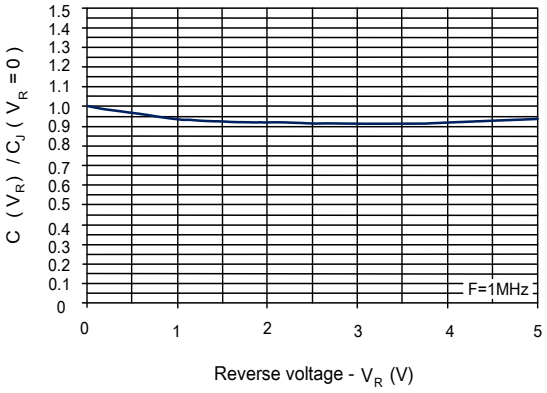
Pulse Waveform



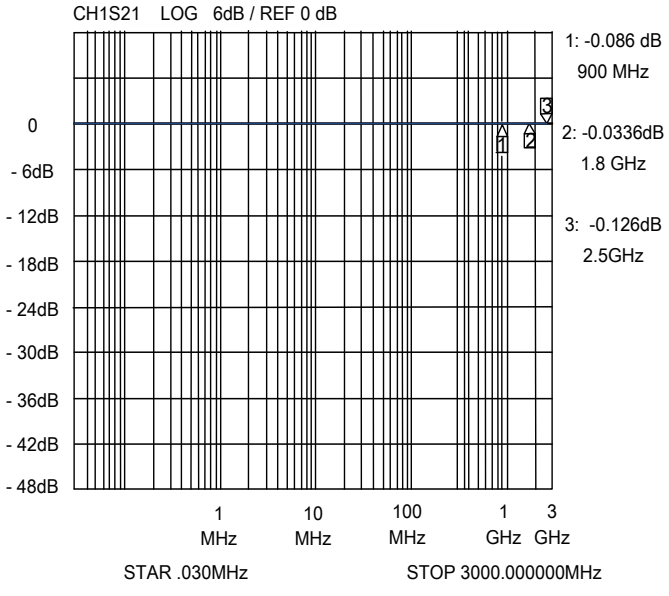
Clamping Voltage vs.Peak Pulse Current



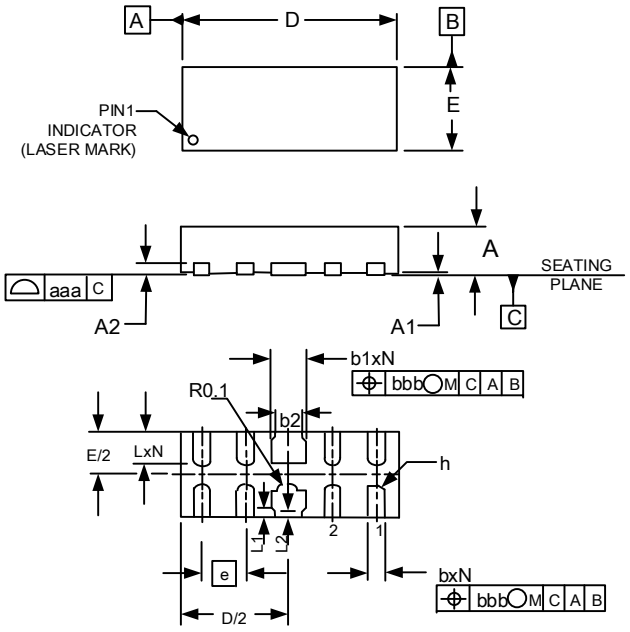
Normalized Capacitance vs. Reverse Voltage



Insertion Loss S21 - I/O to GND



Outline Drawing –DFN-10L



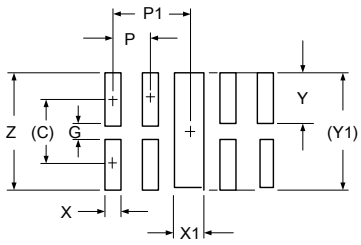
NOTES:

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

DFN2.5x1-10L

DIMENSIONS

DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.017	.020	.022	0.45	0.50	0.55
A1	.000	.001	.002	0.00	0.02	0.05
A2		(.006)			(0.15)	
b	.006	.008	.010	0.15	0.20	0.25
b1	.014	.016	.018	0.35	0.40	0.45
b2	.008	.010	.018	0.20	0.25	0.45
D	.096	.098	.100	2.45	2.50	2.55
E	.037	.039	.041	0.95	1.00	1.05
e		.020 BSC			0.50 BSC	
L	.014	.016	.018	0.35	0.40	0.45
L1	.000	.003	.004	0.00	0.075	0.10
L2	.000	.002	.003	0.00	0.05	0.08
h	.000	.005	.006	0.00	0.12	0.15
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	DW05-4R3P-S	Marking Code	5R3P

Package Information

Qty：3k/Reel