



DW2.5-4R1PA-S ESD Protection Diode

Feature

- Bi-directional ESD protection of two lines
- 100Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 3.3V
- Junction Capacitance: 0.8pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 25kV$ contact $\pm 25kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 10A (8/20 μs)

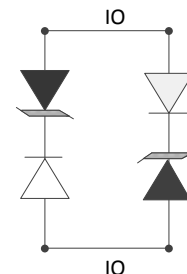
Application

- 10/100/1000 Ethernet
- Integrated magnetics/RJ-45 connectors
- LAN/WAN Equipment
- Security Cameras
- Industrial Controls
- Peripherals
- Notebooks & Desktop Computers

Mechanical Data

- Package: DFN2010-8L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DW2.5-4R1PA-S	DFN2010-8L	U33	3000 Tape & Reel	7 inches



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	100	W
Peak Pulse Current (8/20 μs)	I _{PP}	10	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	± 25 ± 25	kV
Lead Soldering Temperature	T _L	260 (10sec.)	$^{\circ}\text{C}$
Junction Temperature	T _J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T _{stg}	-55 to +125	$^{\circ}\text{C}$

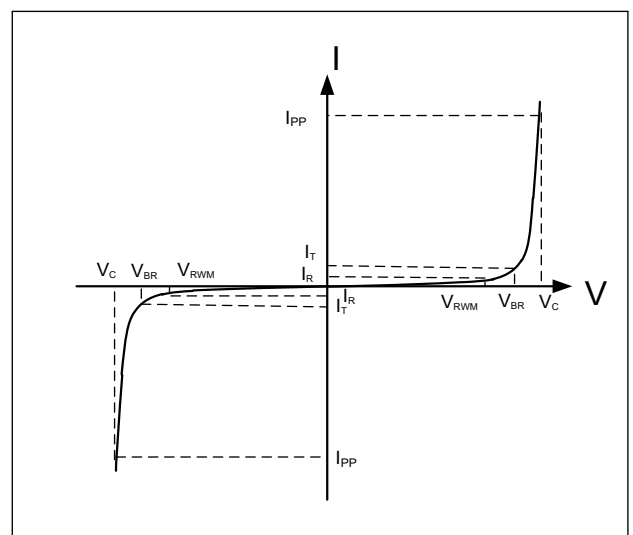
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V _{RWM}				3.3	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	4.0	5.0		V
Reverse Leakage Current	I _R	V _{RWM} =3.3V, T=25 $^{\circ}\text{C}$		50	500	nA
Clamping Voltage	V _C	I _{PP} =10A, t _p =8/20 μs		10		V
Junction Capacitance	C _j	V _R = 0V, f = 1MHz IO to IO		0.8	1.0	pF

Electrical Parameters

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

Note: 8/20 μs pulse waveform.





Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

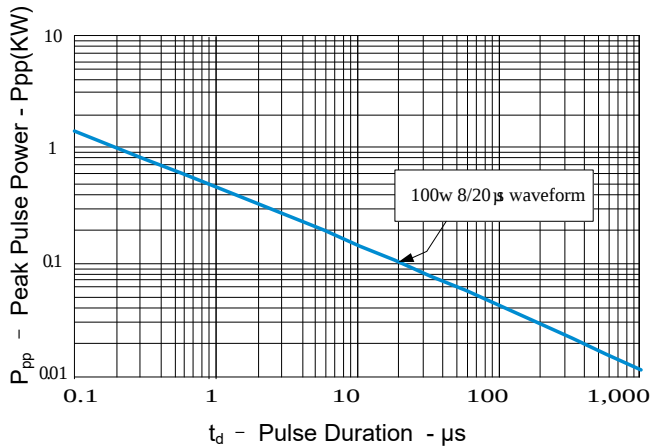


Figure 2: Power Derating Curve

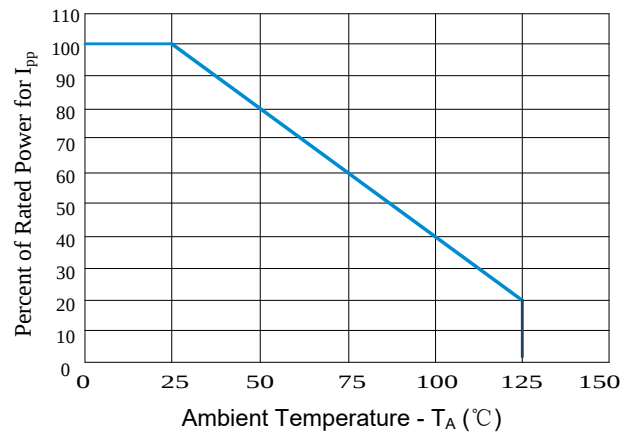


Figure3: Pulse Waveform

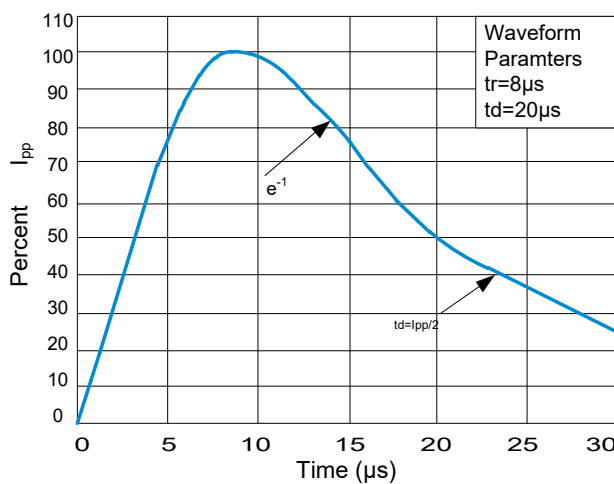


Figure 4: Clamping Voltage vs. Ipp

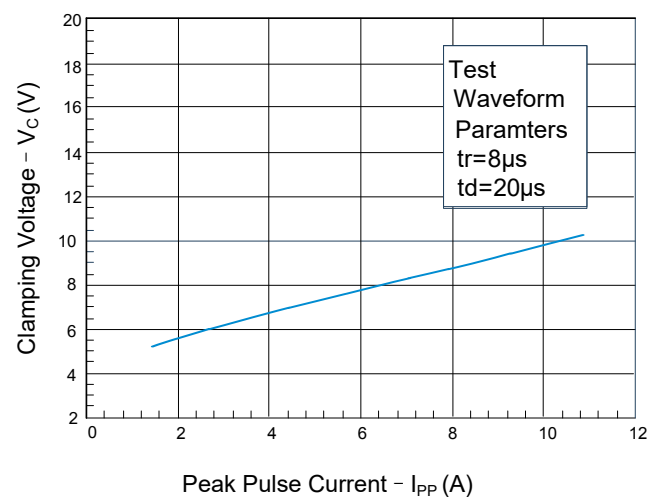


Figure 5: Normalized Junction Capacitance vs. Reverse Voltage

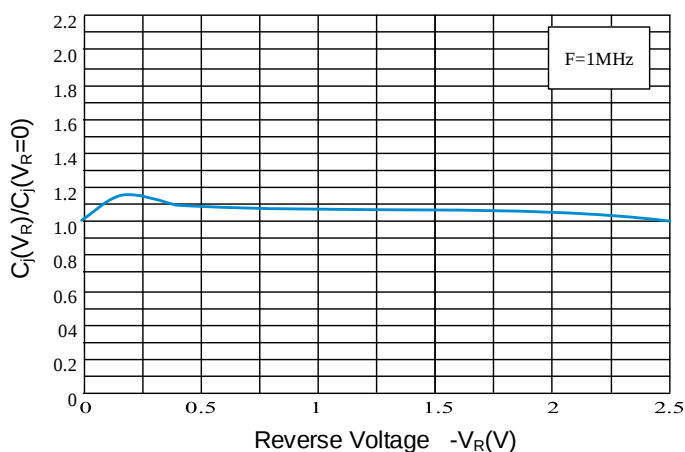
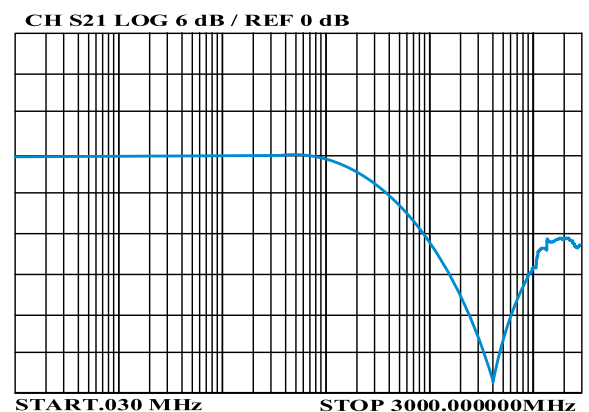
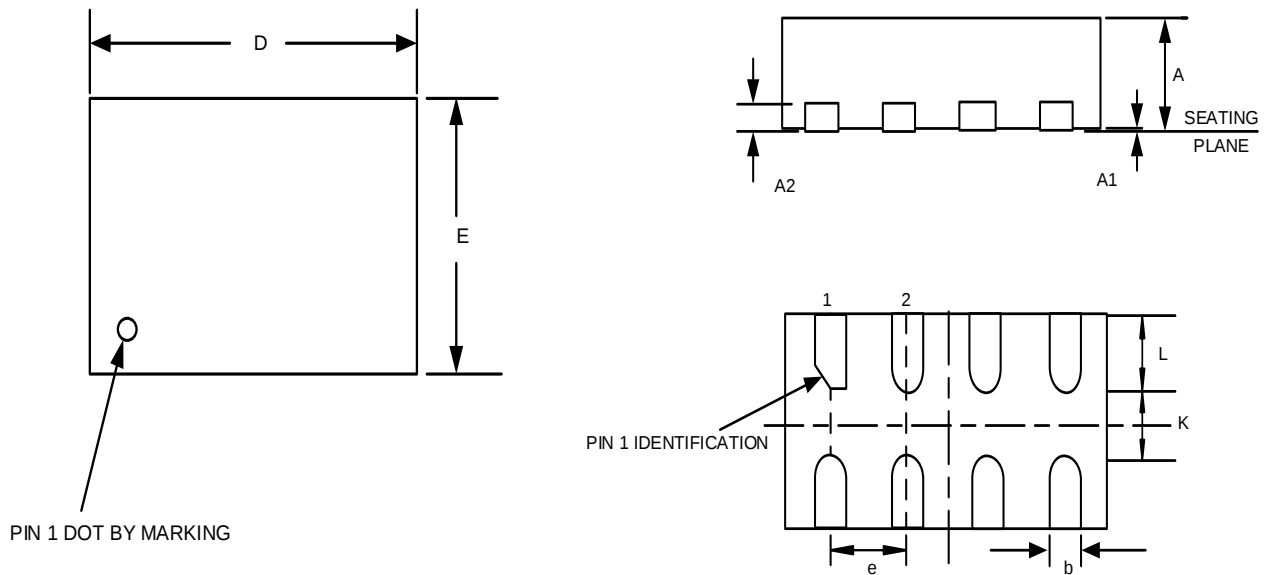


Figure 6: Insertion Loss





DFN2010-8L Outline Drawing



DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.45	0.55	0.018	0.022
A1	0.00	0.046	0.000	0.002
A2	0.110REF		0.005REF	
b	0.200	0.300	0.008	0.012
D	1.924	2.076	0.076	0.082
E	0.924	1.076	0.036	0.042
e	0.500TYP		0.020TYP	
L	0.274	0.426	0.011	0.017
K	0.200MIN		0.008MIN	