



DW3.3-4R2P-AT-S ESD Protection Diode

Feature

- Uni-directional ESD protection of four lines
- 50Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 3.3V
- Junction Capacitance: 0.3pF(Typ IO-IO)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 $\pm 20kV$ contact $\pm 25kV$ air
- IEC 61000-4-5 (Lightning) 4.5A (8/20 μs)

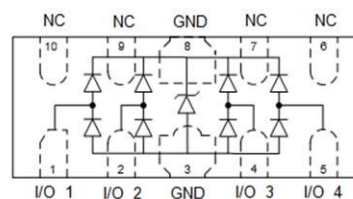
Application

- HDMI 1.4& 2.0, USB 2.0 & 3.0 and MDDI ports
- Monitors and flat panel displays
- Set-top box and Digital TV
- Video graphics cards
- Digital Video Interface (DVI)
- Notebook Computers
- PCI Express and Serial SATA Ports

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
DW3.3-4R2P-AT-S	DFN2510-10L	3R2P 34EL 3324	3000 pcs	7 inches



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

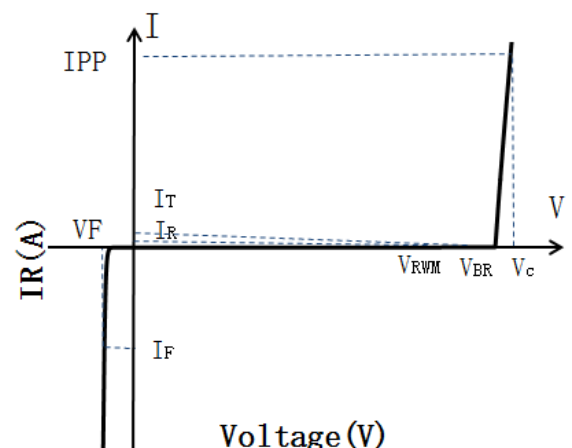
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{PK}	50	W
Peak Pulse Current (8/20 μs)	I_{PP}	4.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 25 ± 20	KV
Operating Temperature Range	T_J	-55 to $+125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to $+150$	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	4.0	5.3	6.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			0.1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)			7.5	V
Clamping Voltage	V_C	$I_{PP} = 4.5\text{A}$ (8 x 20 μs pulse)		9.5	11.0	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, IO-GND		0.6	0.7	pF
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, IO-IO		0.3	0.35	pF

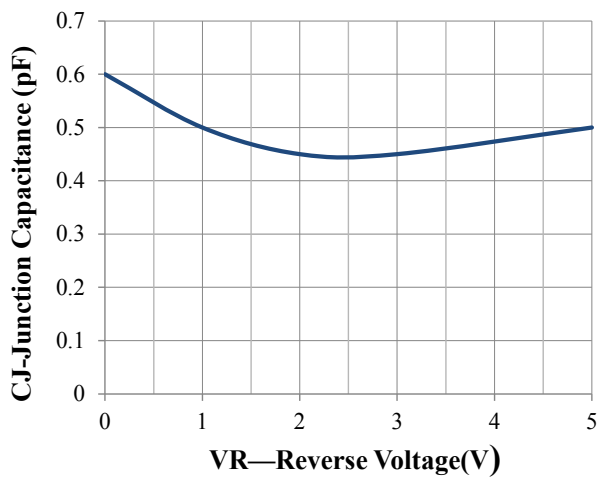
Portion Electronics Parameter

Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C

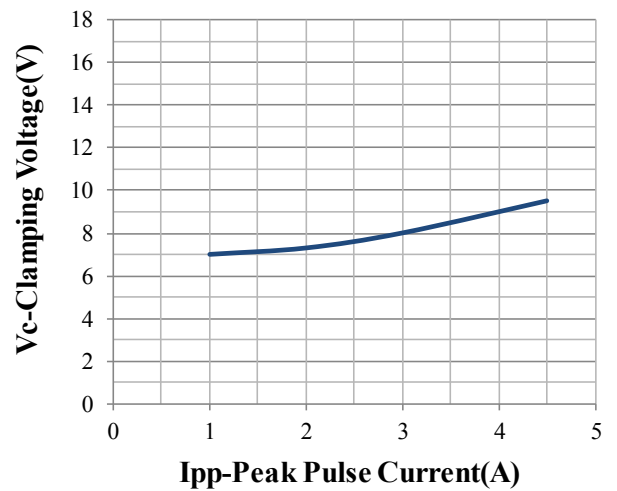




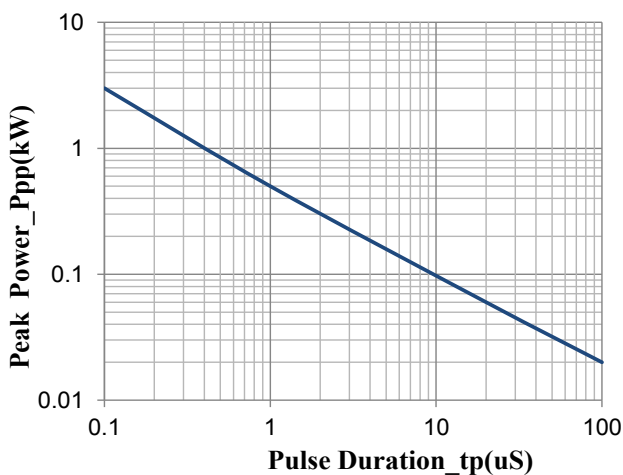
Typical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



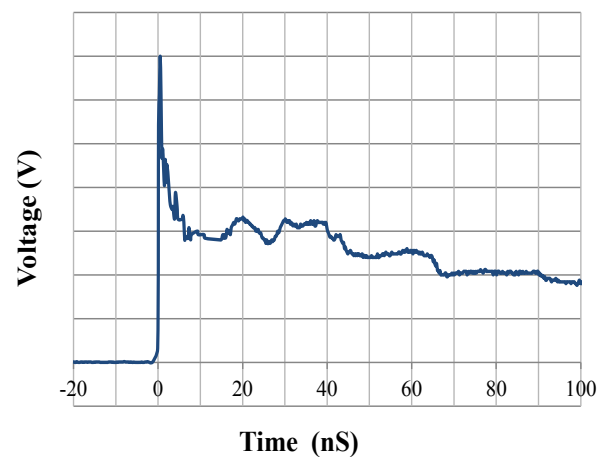
Junction Capacitance vs. Reverse Voltage



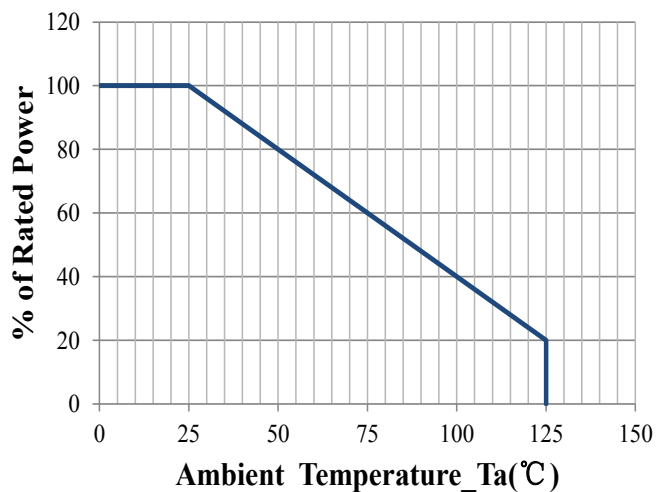
Clamping Voltage vs. Peak Pulse Current



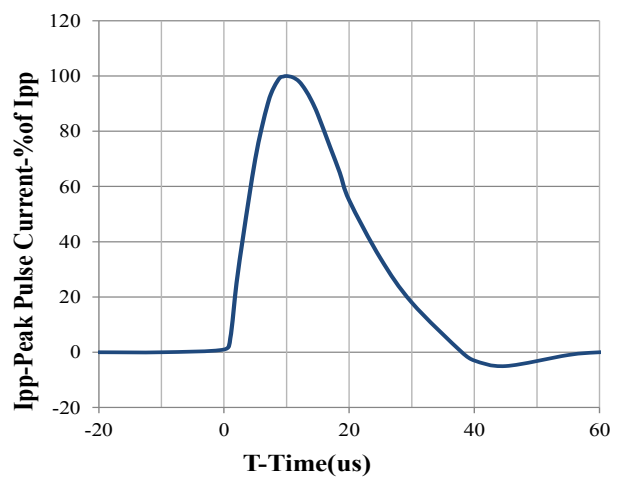
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



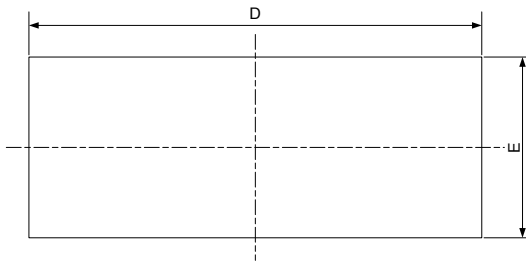
Power Derating Curve



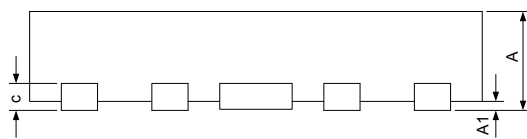
8 X 20us Pulse Waveform



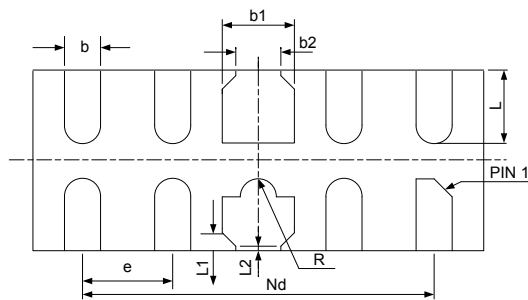
DFN2510-10L Outline Drawing



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Sym	Dimensions					
	Millimeters			Inches		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.15	0.20	0.25	0.006	0.008	0.010
b1	0.35	0.40	0.45	0.014	0.016	0.018
b2	0.20	0.25	0.30	0.008	0.010	0.012
c	0.10	0.15	0.20	0.004	0.006	0.008
D	2.45	2.50	2.55	0.098	0.100	0.102
e	0.50BSC			0.020BSC		
Nd	2.00BSC			0.080BSC		
E	0.95	1.00	1.05	0.038	0.040	0.042
L	0.35	0.40	0.45	0.014	0.016	0.018
L1	0.075REF			0.003REF		
L2	0.050REF			0.002REF		
h	0.08	0.12	0.15	0.003	0.005	0.006
R	0.05	0.10	0.15	0.002	0.004	0.006