



DWS24NPAH-Q ESD Protection Diode

Feature

- Uni-directional ESD protection of one line
- 2400Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 24V
- Junction Capacitance: 218pF(Typ)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
- IEC 61000-4-5 (Lightning) 80A ($8/20\mu s$)

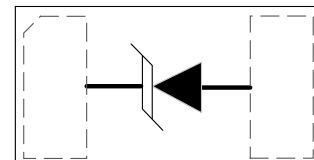
Application

- Handsets and Accessories
- Personal Digital Assestants(PDA's)
- Portable Instrumentation
- Notebooks, Desktops, and Servers
- Industrial equipment

Mechanical Data

- Package: DFN1610-2L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DWS24NPAH-Q	DFN1610-2L		10000 Tape & Reel	7 inches



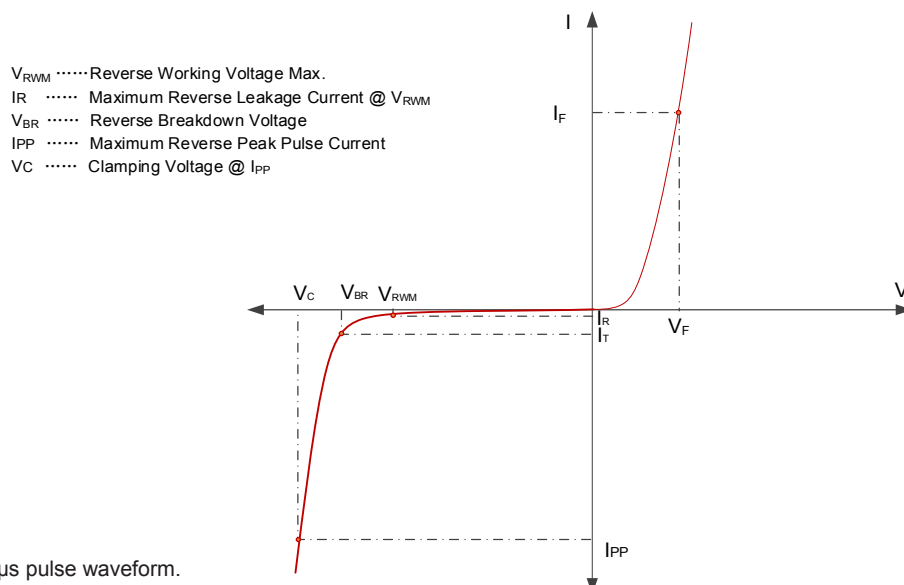
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	2400	Watts
Peak Pulse Current ($t_p=8/20\mu\text{s}$) (note1)	I_{pp}	80	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to + 125	$^{\circ}\text{C}$
Storage Temperature	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}				24	V
Reverse Leakage Current	I_R	$V_{RWM}=24\text{V}, T=25^{\circ}\text{C}$			1	μA
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	26.7			
Clamping Voltage	V_{CL}	$I_{PP}=80\text{A}, t_p=8/20\mu\text{s}$		28	30	V
ESD Clamping Voltage	V_C	$I_{TLP}=16\text{A}, t_p=100\text{ns}$		31		V
ESD Dynamic resistance	R_{DYN}	$T_{amb}=25^{\circ}\text{C}, t_p=100\text{ns}$		0.065		Ω
Junction Capacitance	C_j	$V_R = 0\text{V}, f = 1\text{MHz}$		218		pF

Electrical Parameters

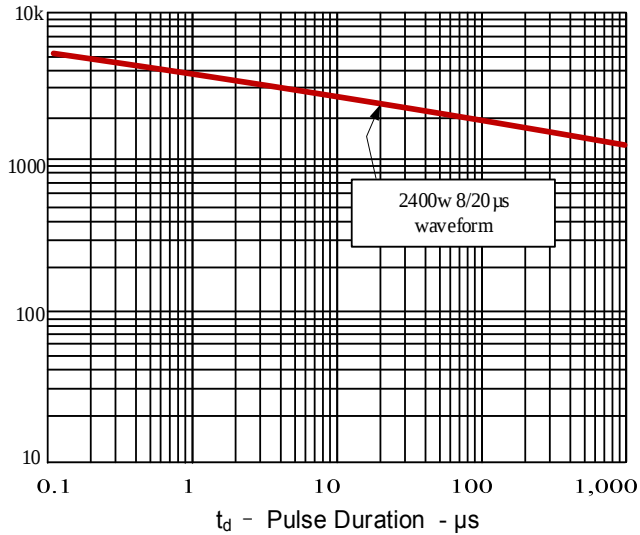


Note1: 8/20 μs pulse waveform.

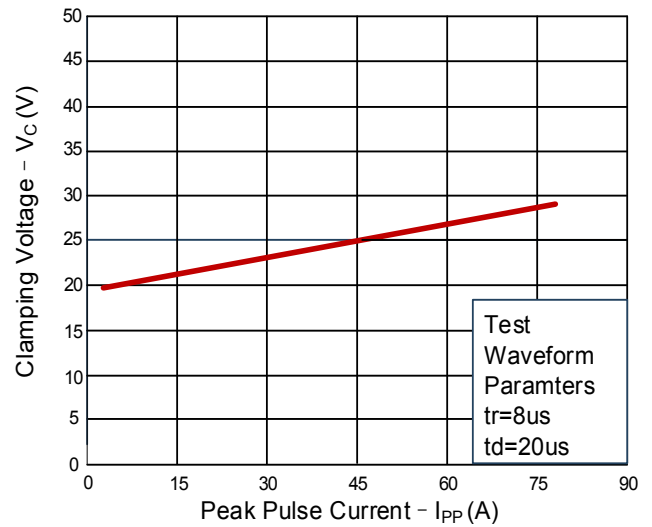


Typical Characteristics

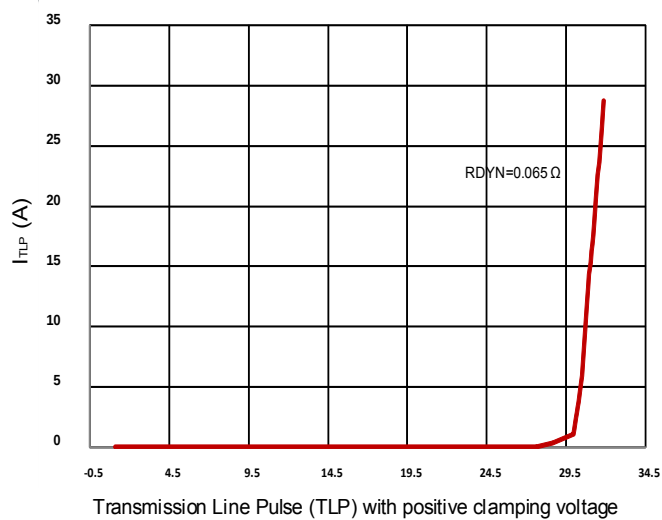
Peak Pluse Power vs. Pluse Time



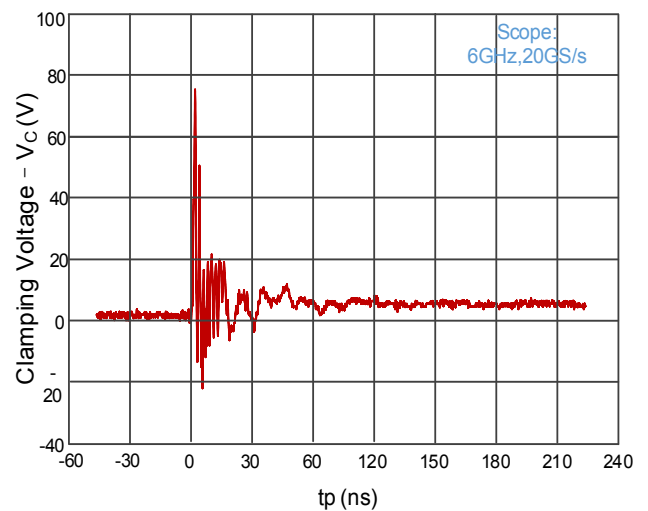
Reverse Clamping Voltage vs. Peak Pulse Current



Positive Clamping voltage (TLP)

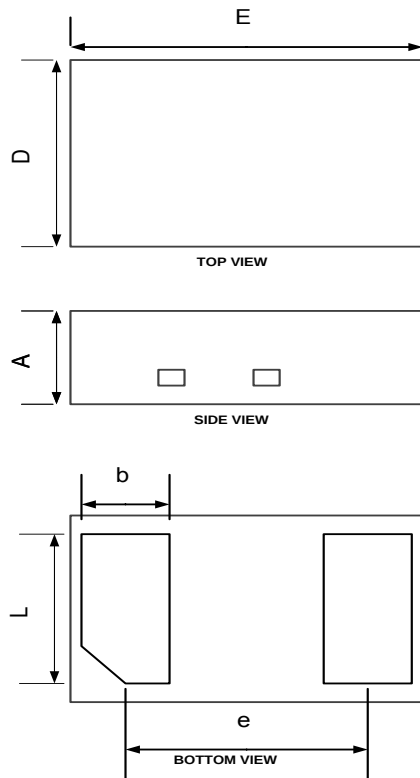


IEC61000-4-2 : 8 kV positive pulse





DFN1610-2L Outline Drawing



COMMON DIMENSION (mm)			
PKG	DFN1610		
REF.	MIN.	NOM.	MAX.
A	0.450	0.500	0.55
D	0.95	1.00	1.05
E	1.55	1.60	1.65
b	0.35	0.4	0.45
e	1.10BSC		
L	0.75	0.80	0.85