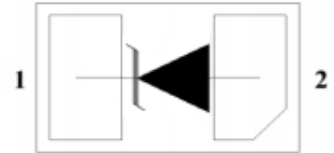


Features

- ESD / transient protection of high speed data lines
- IEC 61000-4-2 (ESD): $\pm 30\text{kV}$ (air), $\pm 30\text{ kV}$ (contact)
- IEC 61000-4-4 (EFT): 40A (5/50ns)
- IEC 61000-4-5 (Lightning): 50A (8/20 μs)
- Low reverse stand-off voltage: $V_{\text{RWM}} = 4.5\text{V}$
- Protects one I/O or power line
- Low clamping voltage
- Low leakage current
- RoHS compliant with Halogen-free

HF



DFN1610-2L

Mechanical Data

- Case: DFN1610-2L
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin-Plated Leads, Solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
ESD4V5DH	DFN1610-2L	10000 pcs / Tape & Reel	4V5D

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

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air)	$V_{\text{ESD-A}}$	± 30	kV
IEC 61000-4-2; ESD (Contact)	$V_{\text{ESD-C}}$	± 30	kV
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	1000	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	105	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Junction Temperature	T_J	$-55 \sim +125$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	V_{RWM}		-	-	4.5	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_T = 1\text{mA}$	5.5	-	7.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 4.5\text{V}$	-	-	0.5	μA
Clamping Voltage	V_C	$I_{PP} = 50\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	8	V
		$I_{PP} = 105\text{A}$, $t_p = 8/20\mu\text{s}$	-	-	10	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$	-	330	-	pF

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

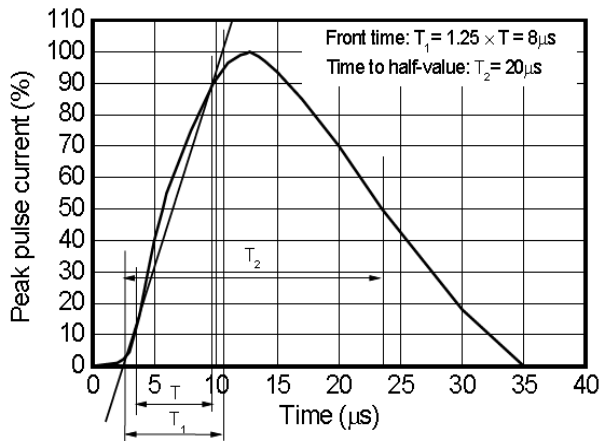


Fig 1 8/20 μs waveform per IEC61000-4-5

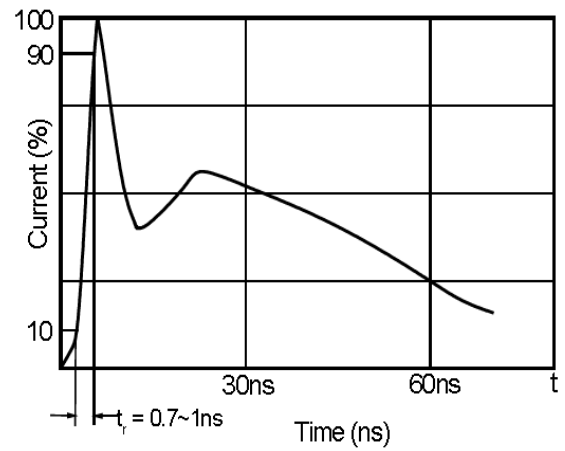


Fig 2 ESD pulse waveform according to IEC61000-4-2

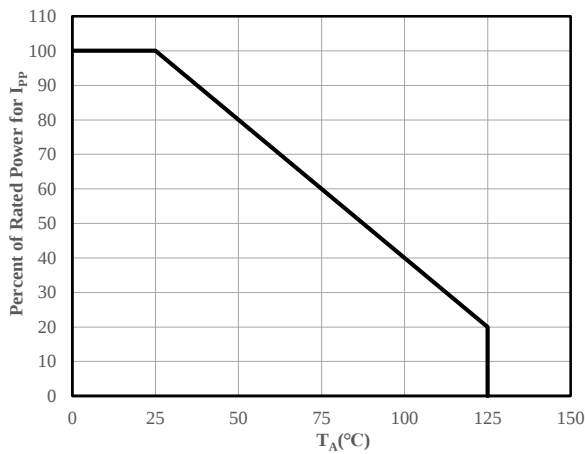


Fig 3 Power Derating Curve

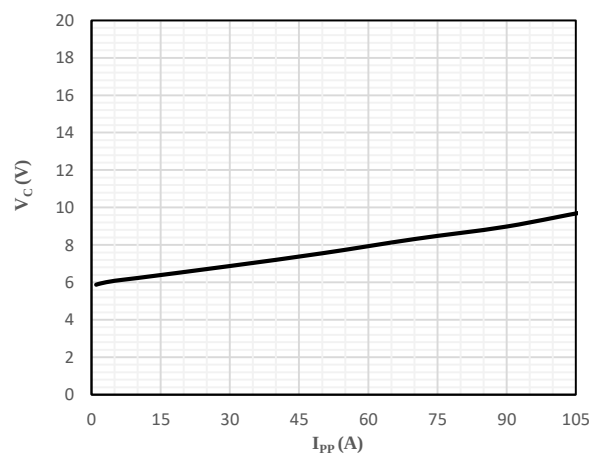


Fig 4 Clamping Voltage vs. Peak Pulse Current

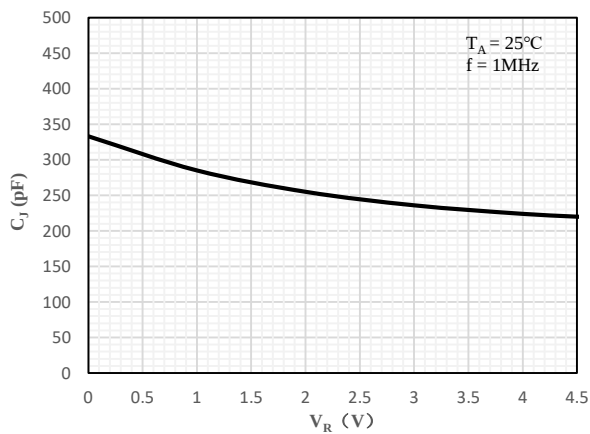
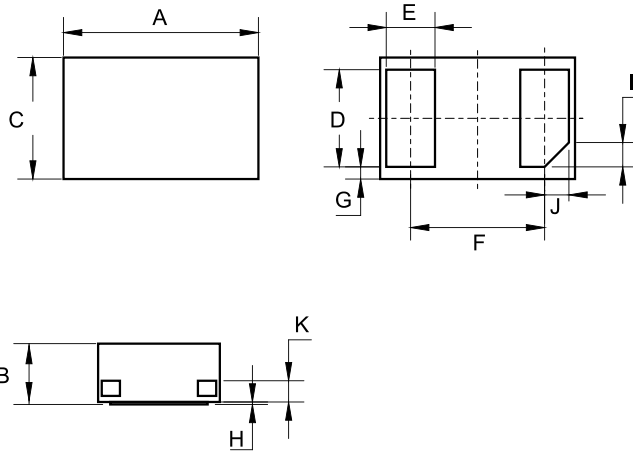


Fig 5 Junction Capacitance vs. Reverse Voltage

Package Outline Dimensions (Unit: mm)



DFN1610-2L			
Dimension	Min.	Typ.	Max.
A	1.550	1.600	1.650
B	0.450	0.500	0.550
C	0.950	1.000	1.050
D	0.750	0.800	0.850
E	0.350	0.400	0.450
F	1.00	1.100	1.200
G	0.050	0.100	0.150
H	0.000	0.020	0.050
I	0.150	0.200	0.250
J	0.150	0.200	0.250
K	0.100	0.150	0.200

Package Outline Dimensions (Unit: mm)

DFN1610-2L

