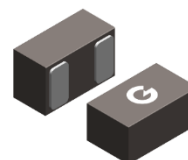


Features

- ESD / transient protection of high speed data lines
 - IEC 61000-4-2 (ESD): $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- 500 Watts peak pulse power ($t_p = 8/20\mu\text{s}$)
- Low clamping voltage
- Working voltage: $V_{RWM} = 4.5\text{V}$
- Low reverse clamping voltage
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF



DFN1006-2

Mechanical Data

- Case: DFN1006-2
- 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
TPSD4V5BL	DFN1006-2	10000 pcs / Tape & Reel	P45

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

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air)	V_{ESD-A}	± 30	kV
IEC 61000-4-2; ESD (Contact)	V_{ESD-C}	± 30	kV
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	500	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	40	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Junction Temperature Range	T_J	$-55 \sim +150$	$^\circ\text{C}$
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	$V_{(BR)}$	$I_T = 1\text{mA}$	4.7	-	-	V
Reverse Leakage Current	I_R	$V_{RWM} = 4.5\text{V}$	-	-	50	nA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$	-	5.5	8	V
		$I_{PP} = 34\text{A}, t_p = 8/20\mu\text{s}$	-	10.2	12.5	V
		$I_{PP} = 40\text{A}, t_p = 8/20\mu\text{s}$	-	12.5	15	V
		$I_{PP} = 16\text{A}, t_p = 100\text{ns}$	-	6.0	-	V
Dynamic Resistance	R_{DYN}	$t_p = 100\text{ns}$	-	0.1	-	Ω
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$	-	66	75	pF

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

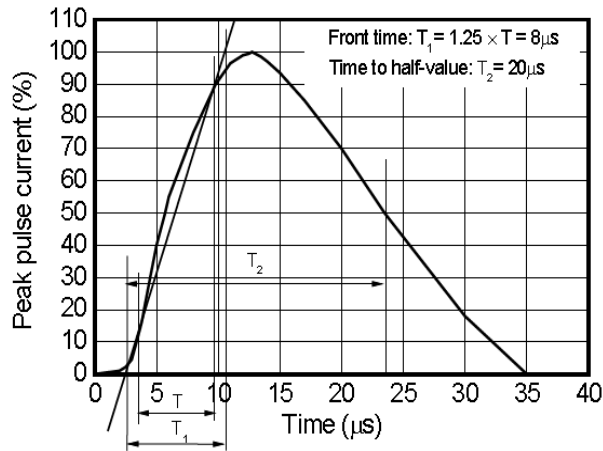


Fig 1 8/20 μs waveform per IEC61000-4-5

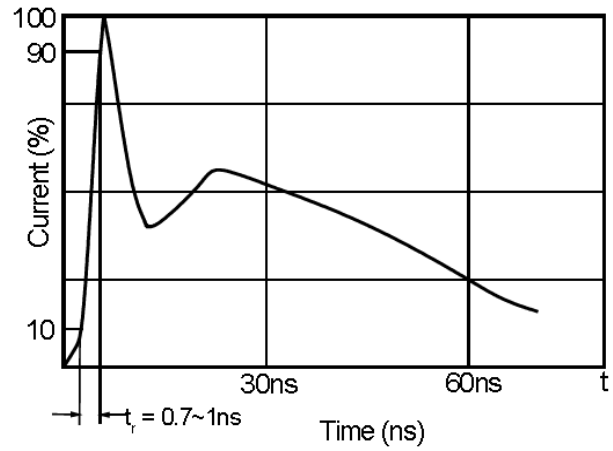


Fig 2 ESD pulse waveform according to IEC61000-4-2

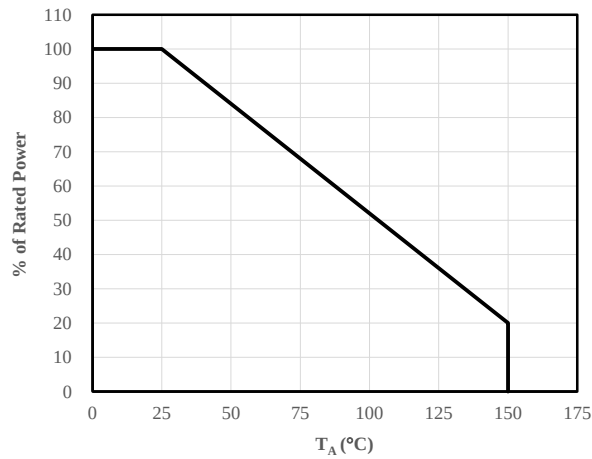


Fig 3 Power Derating Curve

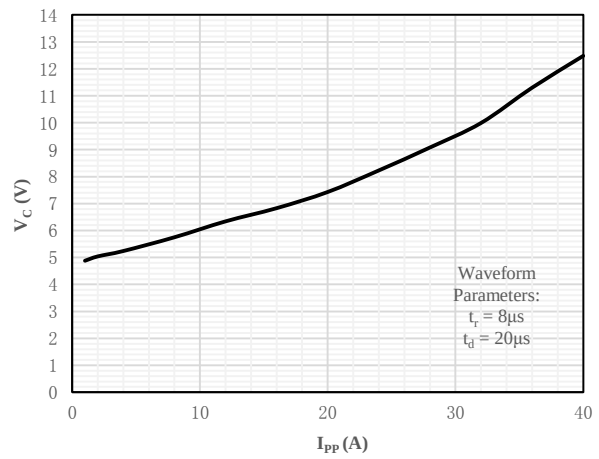


Fig 4 Clamping Voltage vs. Peak Pulse Current

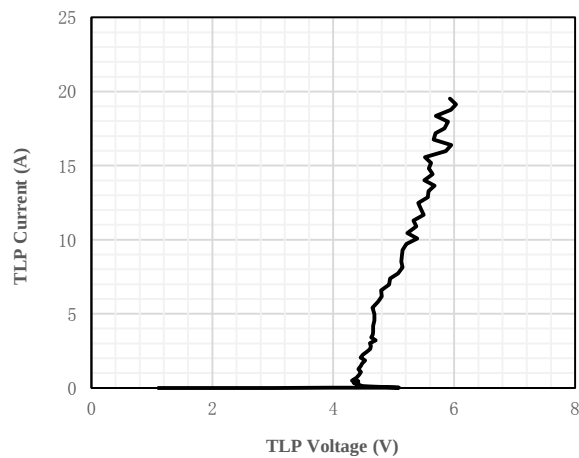
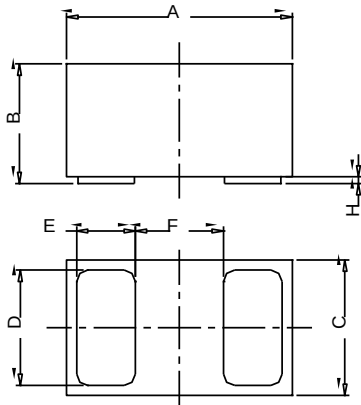


Fig 5 TLP Measurement

Package Outline Dimensions (Unit: mm)



DFN1006-2			
Dimension	Min.	Typ.	Max.
A	0.95	1.00	1.075
B	0.45	0.50	0.55
C	0.55	0.60	0.675
D	0.45	0.50	0.55
E	0.20	0.25	0.30
F	-	0.40	-
H	0	0.03	0.05

Package Outline Dimensions (Unit: mm)

DFN1006-2

