

Features

- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 20\text{kV}$
 - Contact discharge: $\pm 15\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 6A (8/20 μs)
- RoHS Compliant

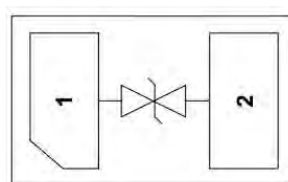
Dimensions DFN1006



Applications

- USB3.0 and USB3.1
- HDMI1.3, HDMI1.4 and HDMI2.0
- Sensitive interface lines
- Antenna applications
- Digital Visual Interface(DVI)

Pin Configuration



Mechanical Characteristics

- Package: DFN1006
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 10,000pcs
- Reel Size: 7 inch
- Device Marking: T3

Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	40	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 20	kV
ESD per IEC 61000-4-2 (Contact)		± 15	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STJ}	-55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}		-3.3		3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	4	7.8		V
Reverse Leakage Current	I_R	$V_{RWM}=\pm 3.3V$			0.2	μA
Reverse Holding Voltage	V_H	$I_T=I_H$	2.0		3.3	V
Clamping Voltage	V_C	$I_{PP}=6A, t_p=8/20\mu s$		5.5	6.5	V
ESD Clamping Voltage ⁽¹⁾	V_C	$I_{TLP}=4A, t_p=0.2/100ns$		5.8		V
ESD Clamping Voltage	V_C	$I_{TLP}=16A, t_p=0.2/100ns$		9.4	11.8	V
ESD Dynamic Resistance ⁽²⁾	R_{DYN}	$TLP=0.2/100ns$		0.3	0.5	Ω
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		0.22	0.32	pF

Electrical Parameters (TA=25°C unless otherwise specified)

V_{RWM} Reverse Working Voltage Max.

I_R Maximum Reverse Leakage Current @ V_{RWM}

V_T Trigger Voltage

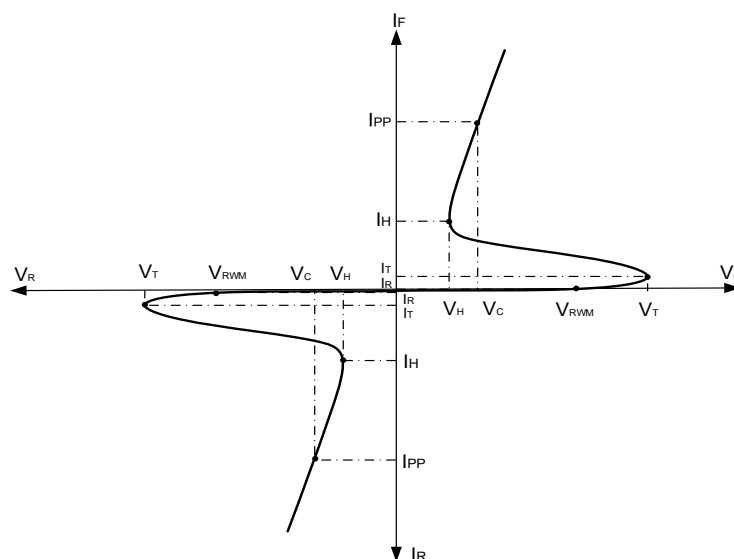
V_H Holding Voltage

I_H Holding Current

V_{BR} Reverse Breakdown Voltage

I_{PP} Maximum Reverse Peak Pulse Current

V_C Clamping Voltage @ I_{PP}

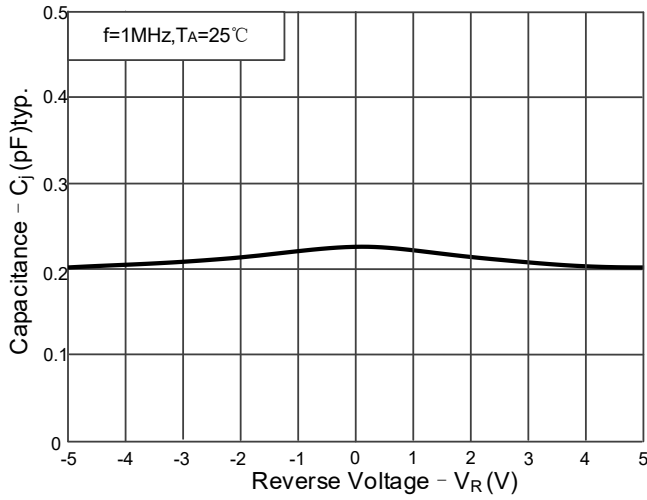


Note(1): TLP Setting: I_{TLP} and V_{TLP} sample window: $t_1=70ns$ to $t_2=90ns$.

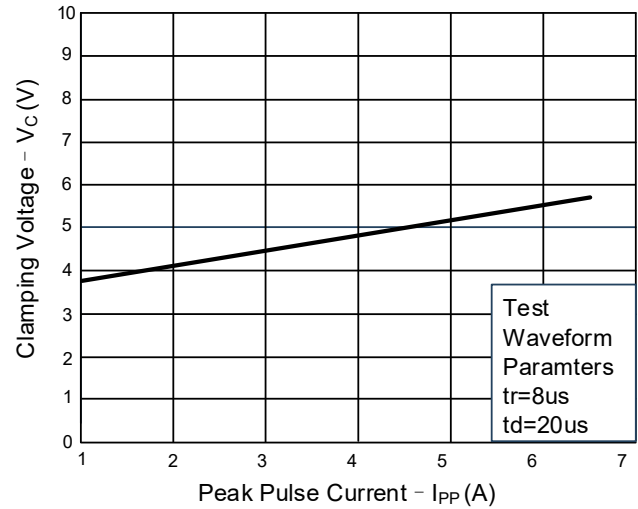
Note(2): Dynamic resistance calculated from $I_{PP}=4A$ to $I_{PP}=16A$

Typical Performance Characteristics (TA=25°C unless otherwise specified)

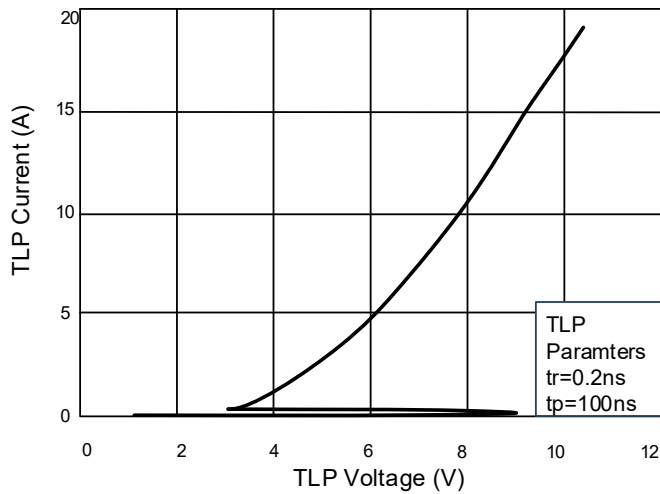
Capacitance vs. Reverse Voltage



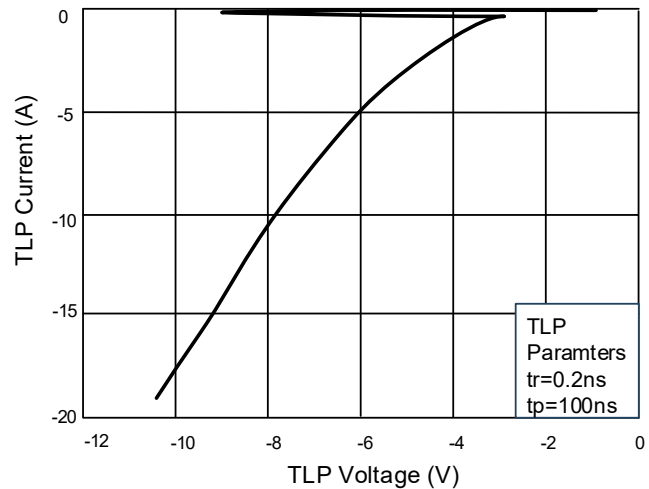
Reverse Clamping Voltage vs. Peak Pulse Current



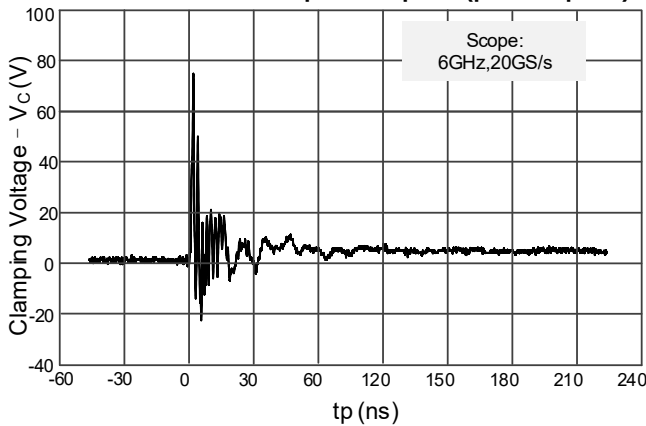
TLP Positive I-V Curve



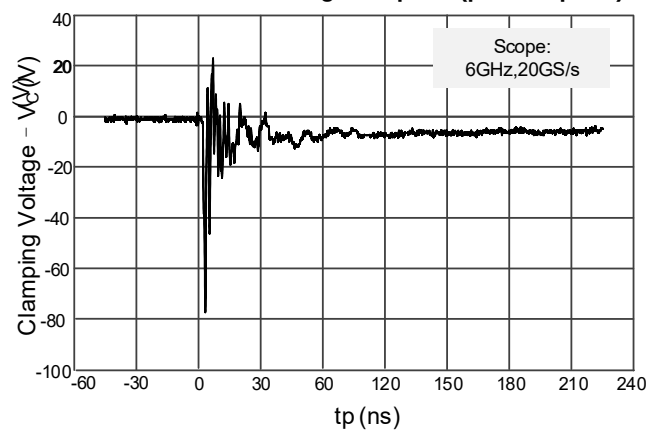
TLP Negative I-V Curve



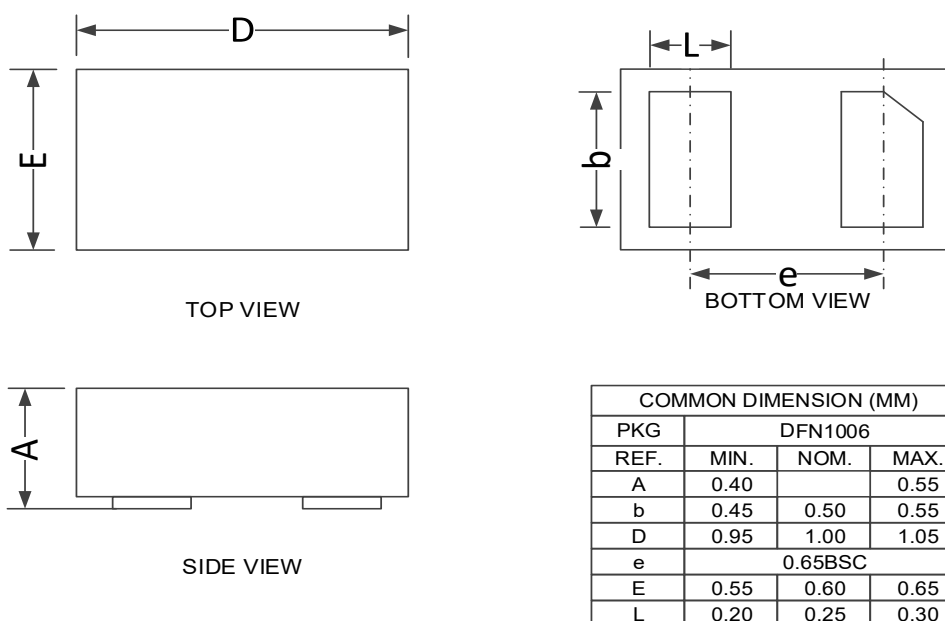
IEC61000-4-2 : 8 kV positive pulse(pin 1 to pin 2)



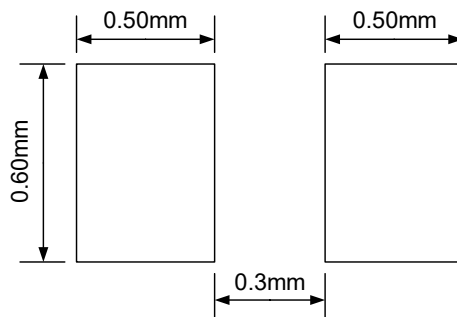
IEC61000-4-2 : 8 Kv negative pulse(pin 2 to pin 1)



DFN1006Package Outline Drawing



Suggested Land Pattern



* This Land Pattern is For Reference Purposes Only

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