

ULTRA LOW CAPACITANCE TVS DIODE ARRAY

APPLICATIONS

- USB 3.0 / USB 3.1 Interfaces
- HDMI 1.4 / HDMI 2.0 Interfaces
- Video Graphics Cards
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Industrial Controls
- Peripherals

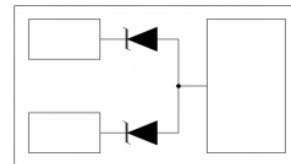
Dimensions DFN1006P3



Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000 -4- 2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000 -4-4 (EFT) 40A (5/50ns)
- RoHS Compliant

Pin Configuration



Applications

- USB 2.0 power and data line
- Set -top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

Mechanical Characteristics

- Package: DFN1006P3
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V -0
- Quantity Per Reel: 3,000 pcs
- Reel Size: 7 inch

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

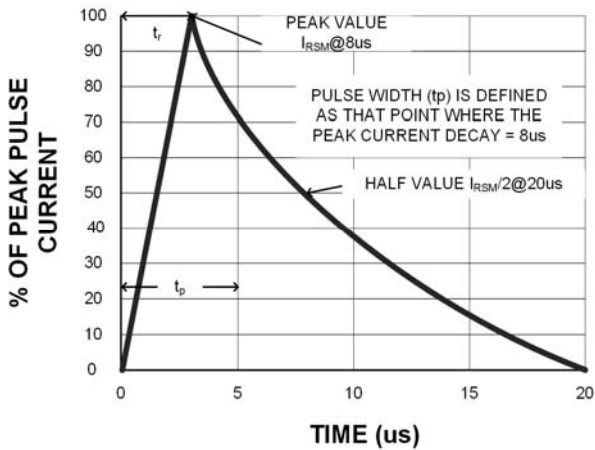
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	300	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 15	Kv
ESD per IEC 61000-4-2 (Contact)		± 8	
Operating Temperature Range	T _J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T _{STJ}	-55 to +150	$^{\circ}\text{C}$

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

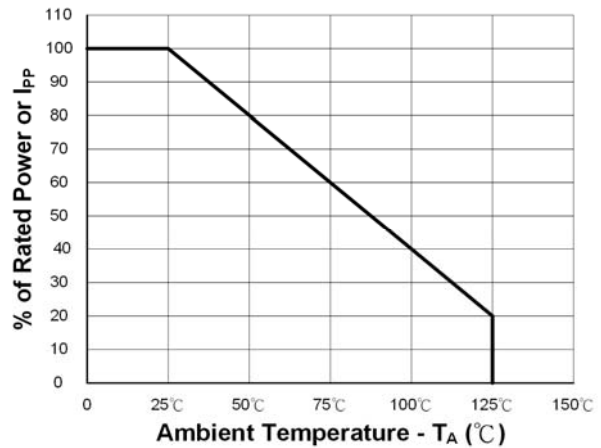
Part Number	Device Marking	V _{RWM} (V)	V _{BR} (V)	I _T (mA)	V _C @1A	V _C		I _R μA (Max)	C (Pf) (Typ.)
						(Max)	(@A)		
ULC0542P3	PD	5	6	1	12	19	4	1	0.45

TYPIC CHARACTERISTICS

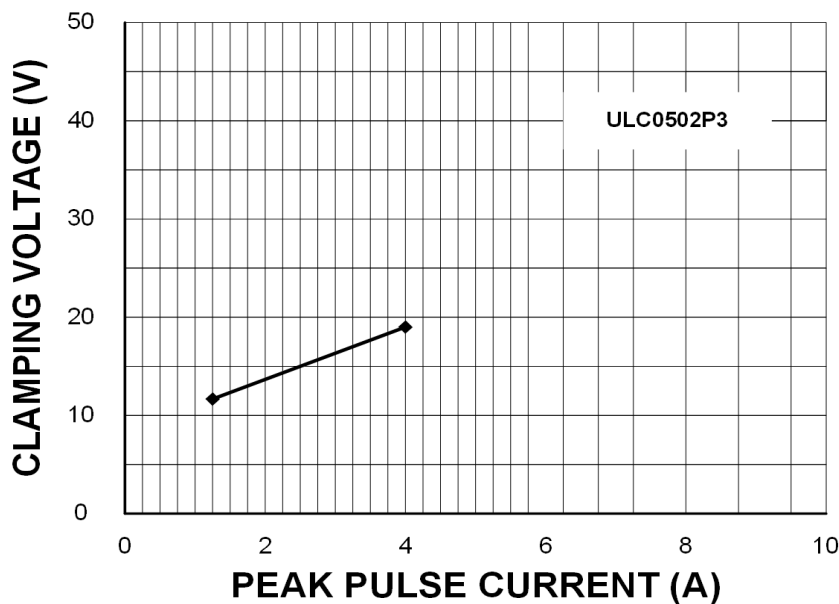
8 x 20 μs Waveform



Power Derating Curve

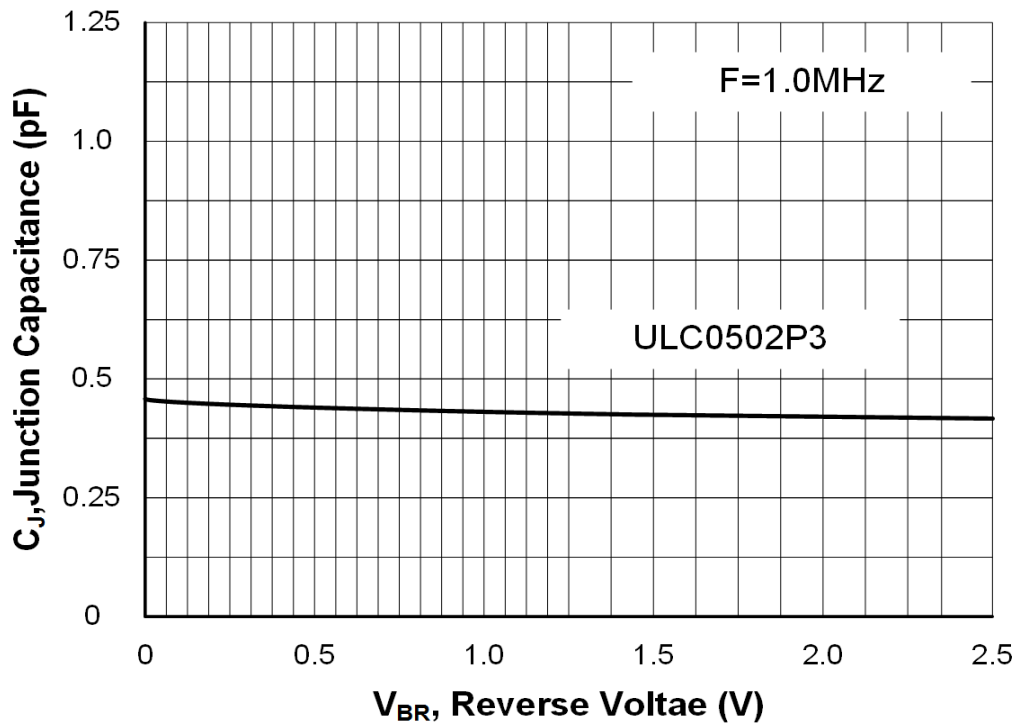


Clamping Voltage vs. Peak Pulse Current (tp=8/20us)

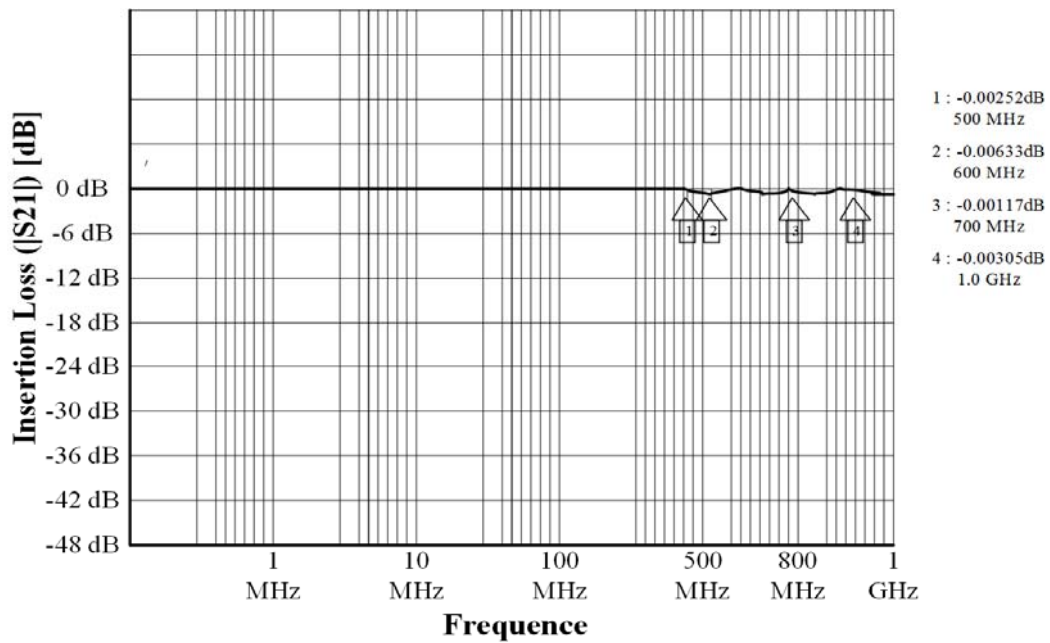


TYPIC CHARACTERISTICS

Typic Capacitance vs. Reverse Voltage

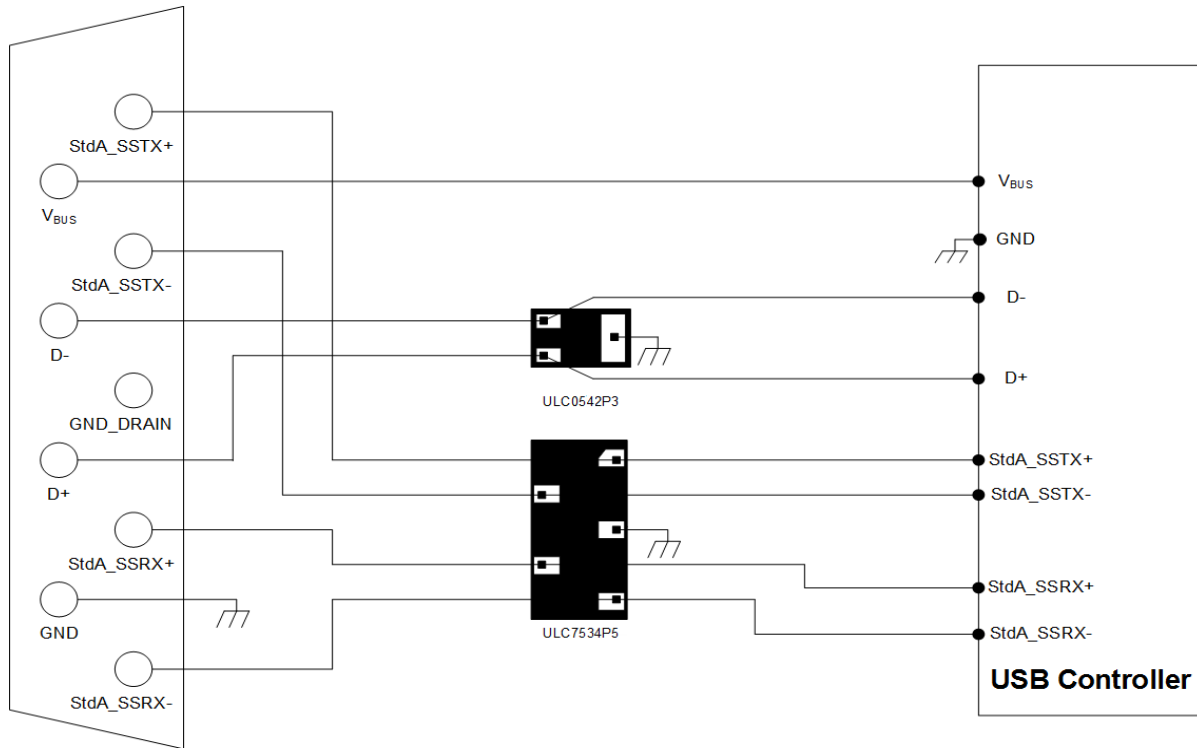


Insertion Loss (S21)

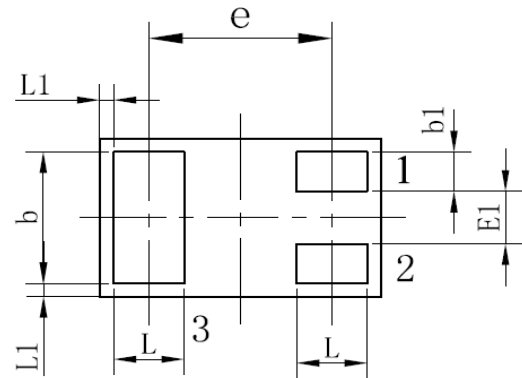
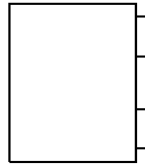
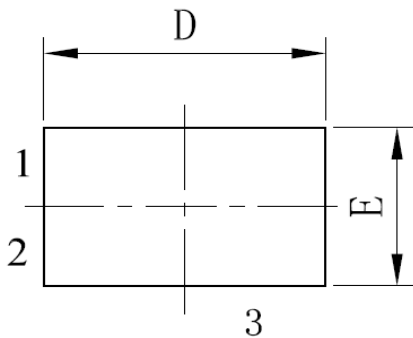


Layout Diagrams

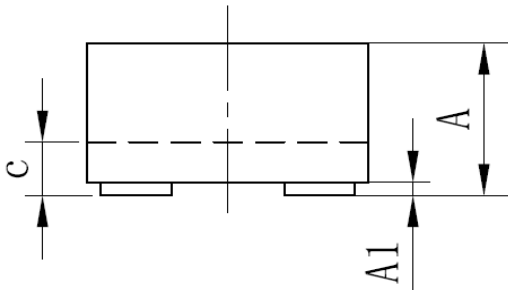
USB Layout Diagram



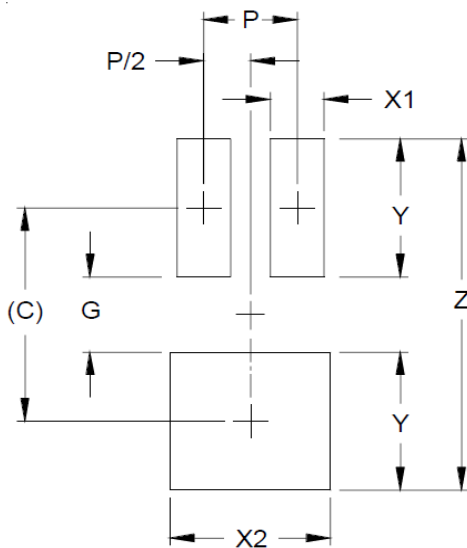
DFN1006P3 PACKAGE OUTLINE & DIMENSIONS



BOTTOM VIEW



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.45	0.50	0.55
A1	0	0.02	0.05
b	0.45	0.50	0.55
b1	0.10	0.15	0.20
c	0.12	0.15	0.18
D	0.95	1.00	1.05
e	0.65BSC		
E	0.55	0.60	0.65
E1	0.15	0.20	0.25
L	0.20	0.25	0.30
L1	0.05REF		



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.033)	(0.85)
G	.012	0.30
P	.014	0.35
X1	.008	0.20
X2	.024	0.60
Y	.022	0.55
Z	.055	1.40