

### Features

- Ultra small package: 0.6x0.3x0.3mm
- Ultra low capacitance: 0.12 pF typical
- Ultra low leakage: nA level
- Low operating voltage:  $\pm 5V$
- Low clamping voltage
- 2-pin leadless package
- - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 18kV$   
Contact discharge:  $\pm 8 kV$   
– IEC61000-4-5 (Lightning) 4 A (8/20 $\mu s$ )
- These are Pb-Free Devices
- Response Time is Typically  $< 1 ns$

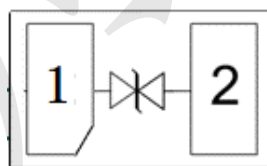
### Mechanical Characteristics

- Package: DFN0603-2 (0201)
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty : 10000/7Inch Tape & Reel

### Applications

- HDMI 1.3/1.4 and HDMI 2.0
- USB 2.0 and USB 3.0/3.1/4.0
- MHL
- LVDS Interfaces
- FM Antenna
- PCI Express
- eSATA Interfaces

### Dimensions and Pin Configuration



Marking:

**T\***

“T” is part number, fixed

“X” is the internal code

### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

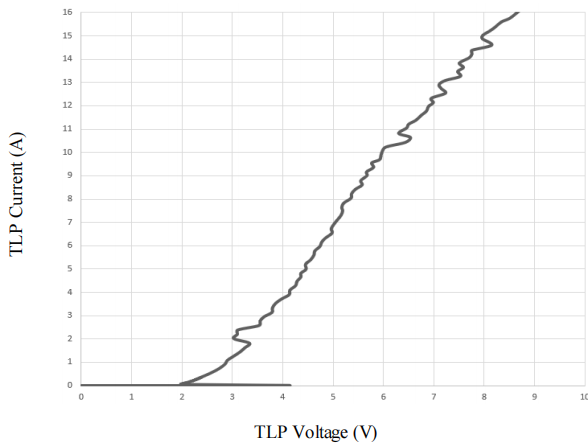
Rating	Symbol	Value	Units
Peak Pulse Power (tp = 8/20μs)	P <sub>pk</sub>	25	W
Peak Pulse Current (tp = 8/20μs)	I <sub>PP</sub>	4	A
ESD per IEC 61000-4-2 (Air) <sup>1</sup> ESD per IEC 61000-4-2 (Contact) <sup>1</sup>	V <sub>ESD</sub>	±18 ±8	kV
Operating Temperature	T <sub>J</sub>	-55 to +125	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C

### Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)

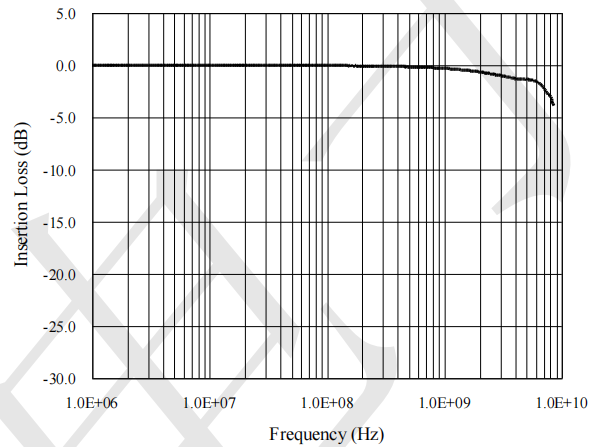
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V <sub>RWM</sub>				1.0	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>t</sub> = 1mA	1.2			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> = 1.0V, T=25°C			0.1	μA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 1A, tp = 8/20μs			3.5	V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 4A, tp = 8/20μs			5	V
Clamping Voltage	V <sub>C</sub>	I <sub>TLP</sub> = 8A, tp = 100ns		5.5		
Clamping Voltage	V <sub>C</sub>	I <sub>TLP</sub> = 16A, tp = 100ns		8.5		
Dynamic Resistance <sup>2, 3, 4</sup>	R <sub>D</sub>	tp = 100ns		0.35		Ohms
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> = 0V, f = 1MHz		0.13		pF

**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**

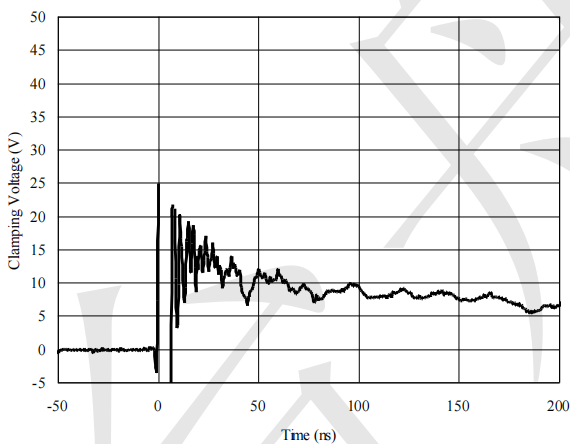
**TLP Measurement of I/O to I/O**



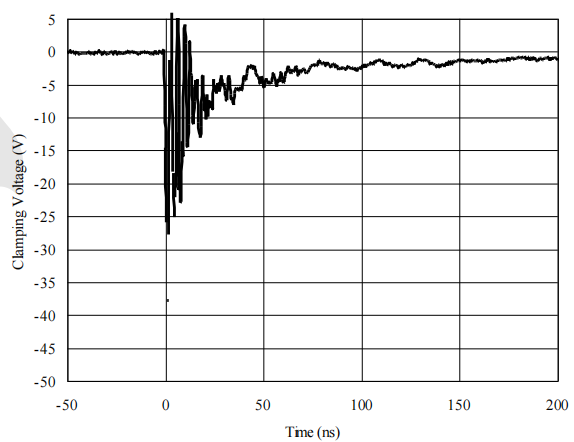
**Insertion Loss S21 of I/O to I/O**



**ESD Clamping of I/O to GND  
(+8kV Contact per IEC 61000-4-2)**

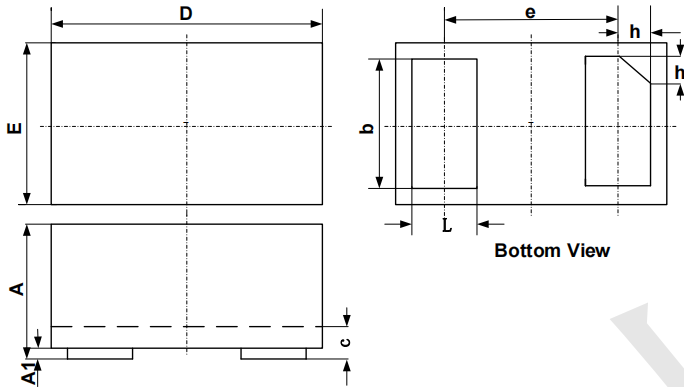


**ESD Clamping of I/O to GND  
(-8kV Contact per IEC 61000-4-2)**



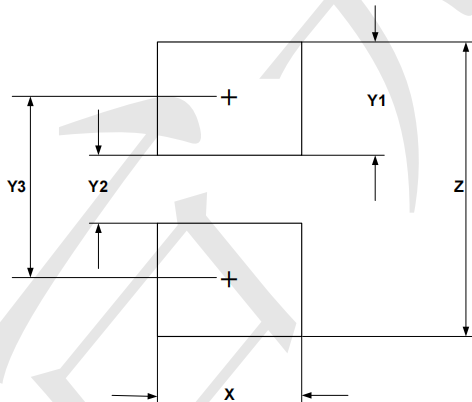


**DFN0603-2 Package Outline Drawing (0201)**



SYM	DIMENSIONS		
	MILLIMETERS		
	MIN	NOM	MAX
A	0.230	0.300	0.330
A1	0.000	0.020	0.050
b	0.215	0.245	0.275
c	0.120	0.150	0.180
D	0.550	0.600	0.650
e	0.355 BSC		
E	0.250	0.300	0.350
L	0.160	0.190	0.220
h	0.079 BSC		

**Suggested Land Pattern**



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.30	0.012
Y1	0.25	0.010
Y2	0.15	0.006
Y3	0.40	0.016
Z	0.65	0.026