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ESDL2011PFCT5G

1-Line Bi-directional Low capactiance TVS Diode

www.sot23.com.tw

Features

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

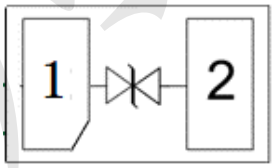
Mechanical Characteristics

- 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 (Tamb=25°C unless otherwise specified)

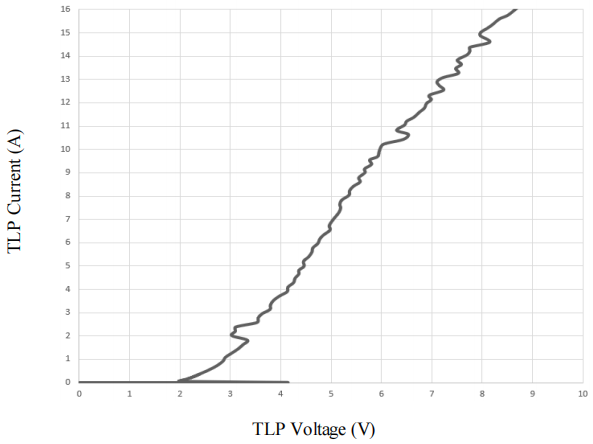
Rating	Symbol	Value	Units
Peak Pulse Power (tp = 8/20μs)	Ppk	25	W
Peak Pulse Current (tp = 8/20μs)	I_{PP}	4	A
ESD per IEC 61000-4-2 (Air) [1] ESD per IEC 61000-4-2 (Contact) [1]	V_{ESD}	±18 ±8	kV
Operating Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

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

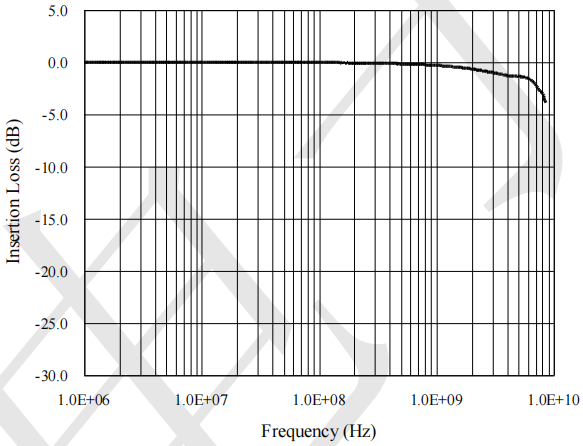
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				1.0	V
Reverse Breakdown Voltage	V_{BR}	I_t= 1mA	1.2			V
Reverse Leakage Current	I_R	V_{RWM} = 1.0V, T=25°C			0.1	μA
Clamping Voltage	V_C	I_{PP} = 1A, tp = 8/20μs			3.5	V
Clamping Voltage	V_C	I_{PP} = 4A, tp = 8/20μs			5	V
Clamping Voltage	V_C	I_{TLP}= 8A, tp =100ns		5.5		
Clamping Voltage	V_C	I_{TLP}= 16A, tp =100ns		8.5		
Dynamic Resistance [2, 3, 4]	R_D	tp = 100ns		0.35		Ohms
Junction Capacitance	C_j	V_R = 0V, f = 1MHz		0.13		pF

Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

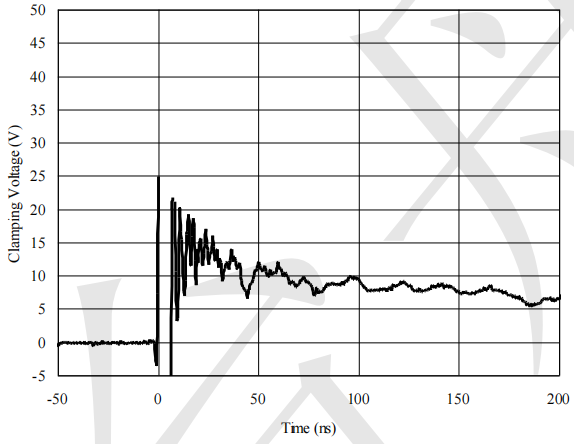
TLP Measurement of I/O to I/O



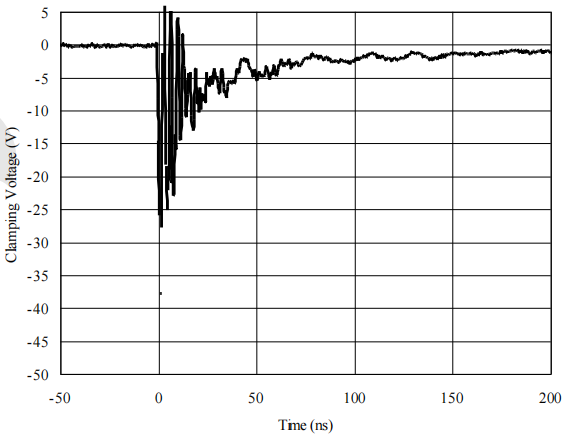
Insertion Loss S21 of I/O to I/O



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)



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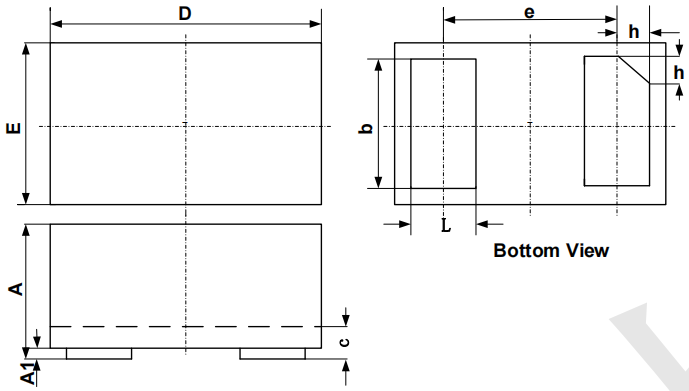
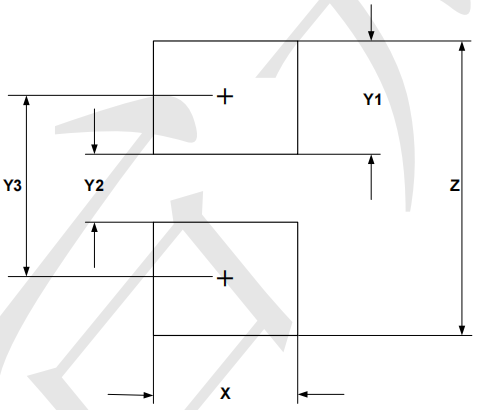
DFN0603-2 Package Outline Drawing (0201)



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