JEU03SC

ESD Protection Diode Array

»Features

- 25Watts peak pulse power (tp = 8/20μs)
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (Cj=0.3pF typ. I/O to I/O)
- IEC 61000-4-2 ±10kV contact ±12kV air
- Low clamping voltage: VCL = 5.3V typ @ IPP =16A (TLP)
- IEC 61000-4-5 (Lightning) 5A (8/20μs)

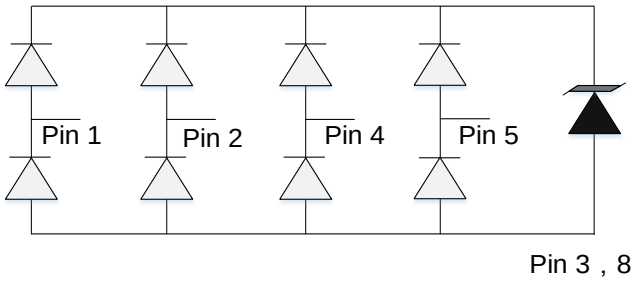
»Applications

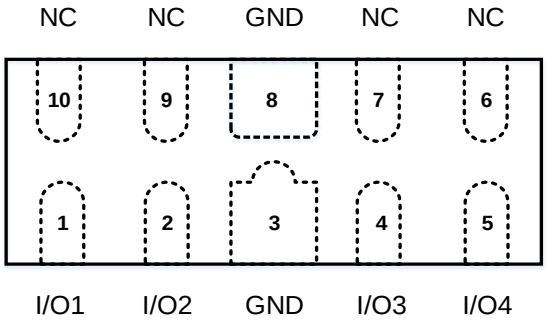
- USB 3.0 and USB3.1
- HDMI1.3,HDMI1.4 and HDMI2.0
- Very sensitive interface lines
- Notebooks, Desktops, and Servers
- Industrial equipment

»Mechanical Data

- Tiny DFN10L(2.5mmx1.0mm) package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

»Schematic & PIN Configuration





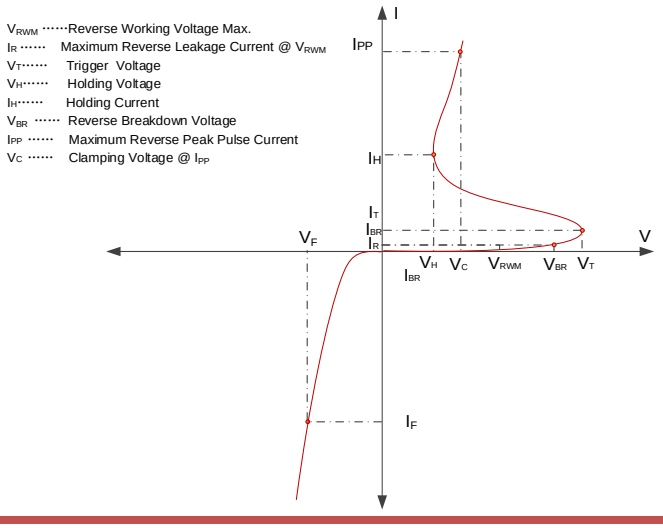
»Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	25	Watts
Peak Pulse Current (t_p =8/20μs) (note1)	I_{PP}	5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	12 10	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{stg}	-55 to + 125	℃

»Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				3.3	V
Holding Voltage	V_H		2.0		3.3	V
Reverse Leakage Current	I_R	V_{RWM}=3.3V,T=25℃			500	nA
Trigger Voltage	V_T			8.0		
Clamping Voltage	V_{CL}	I_{PP}=16A,t_p=100ns		5.3	6	V
Clamping Voltage	V_C	I_{PP}=5A,t_p=8/20μs			5	V
dynamic resistance	R_{dyn}	T_{amb}=25℃, I_R=10A		0.3	0.4	Ω
Junction Capacitance	C_j	V_R = 0V, f = 1MHz I/O to I/O		0.3		pF
		V_R = 0V, f = 1MHz I/O to GND		0.55		pF

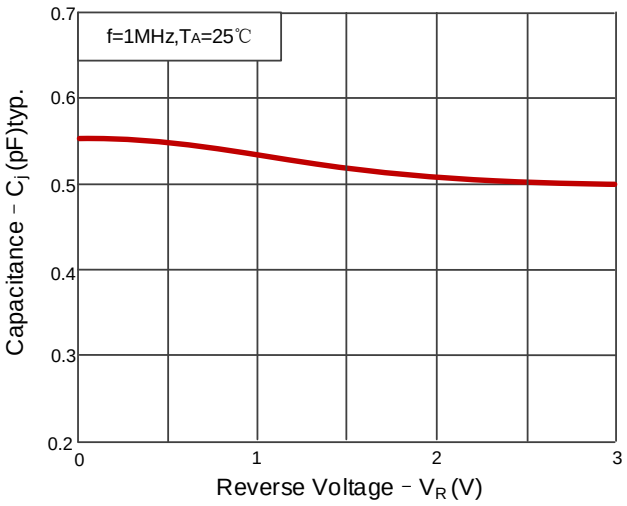
»Electrical Parameters (I/O to GND,TA = 25°C unless otherwise noted)



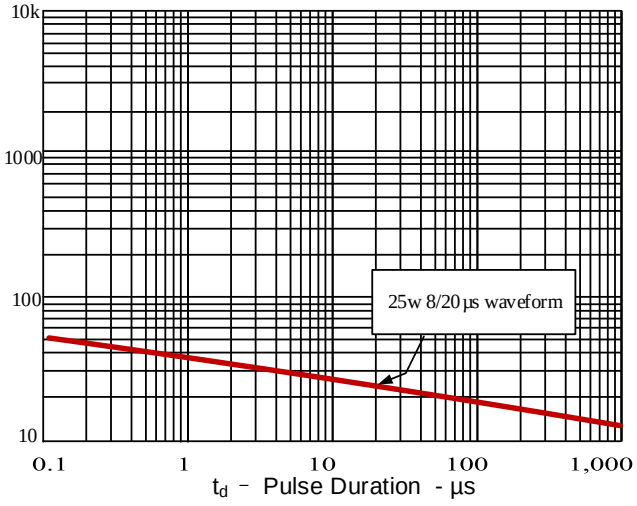
Note: 8/20μs pulse waveform.

»Typical Characteristic Curves

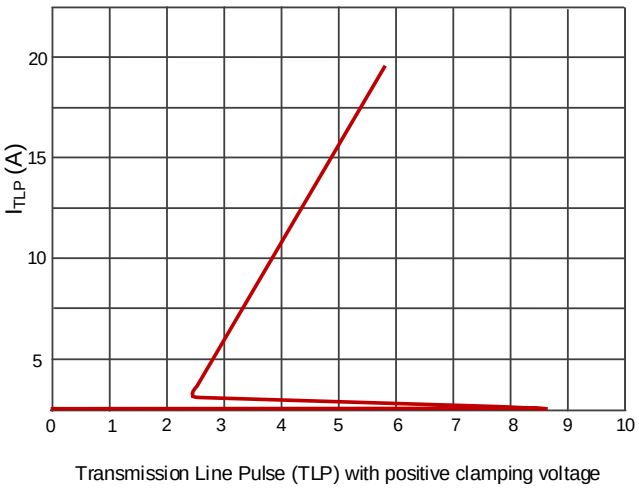
Capacitance vs. Reverse Voltage



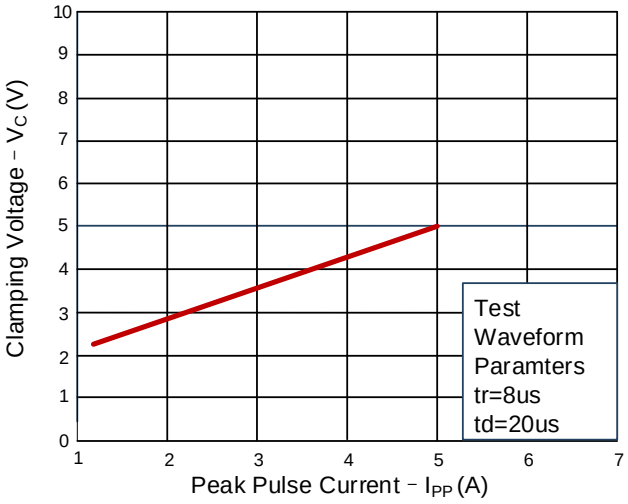
Peak Pluse Power vs. Pluse Time



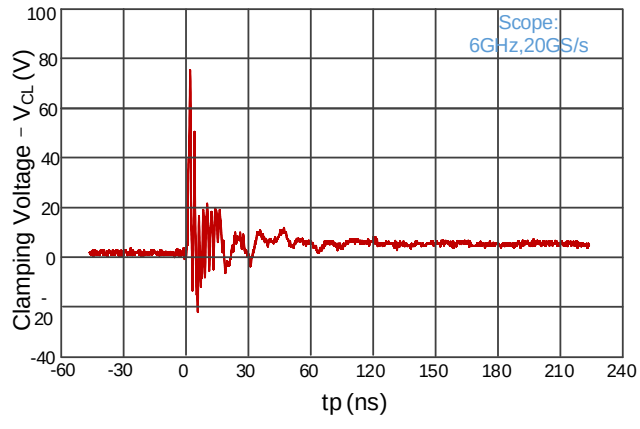
Positive Clamping voltage (TLP)



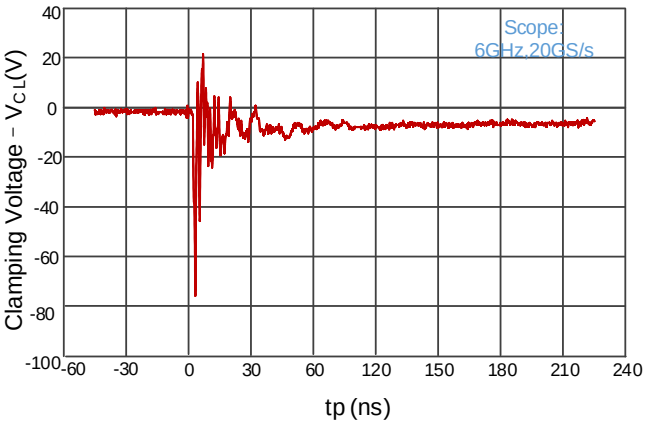
Reverse Clamping Voltage vs. Peak Pulse Current



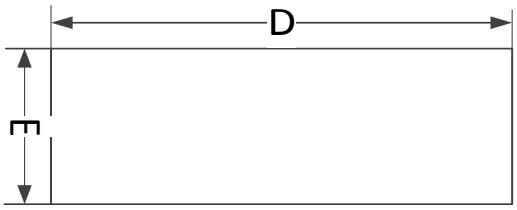
IEC61000-4-2 : 8 kV positive pulse(I/O to GND)



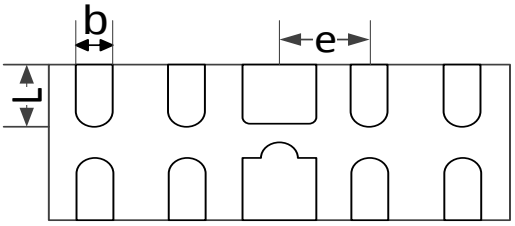
IEC61000-4-2 : 8 kV positive pulse(GND to I/O)



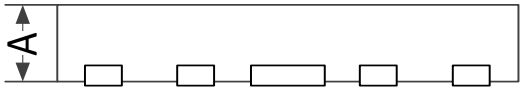
»Package information – DFN10L(2.5mmx1.0mm)



TOP VIEW



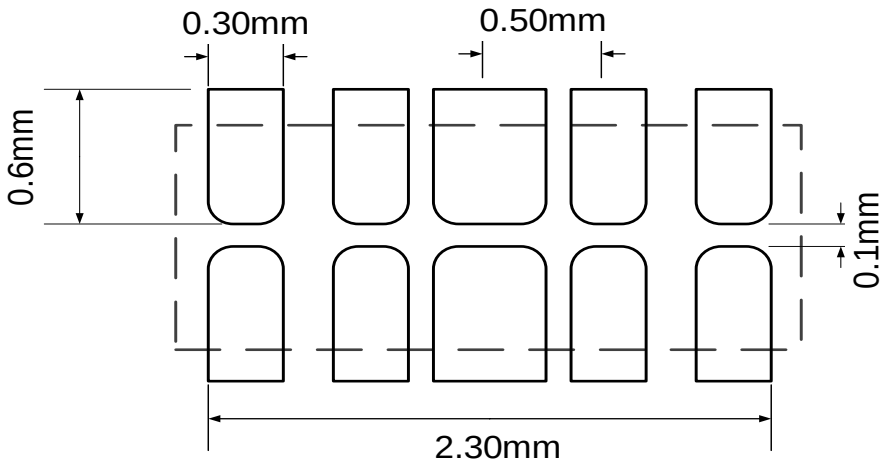
BOTTOM VIEW



SIDE VIEW

COMMON DIMENSION (mm)			
PKG	DFN2510-10L		
REF.	MIN.	NOM.	MAX.
A	0.450	0.500	0.600
b	0.150	0.200	0.250
D	2.450	2.500	2.550
E	0.950	1.000	1.050
e	0.500BSC		
L	0.350	0.400	0.450

»Recommend PCB Layout



Notes: This PCB Layout Is For Reference Purposes Only.