

Features

- 30Watts peak pulse power (tp = 8/20μs)
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (Cj=0.2pF typ. I/O to I/O)
- IEC 61000-4-2 ±12kV contact ±15kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3A (8/20μs)



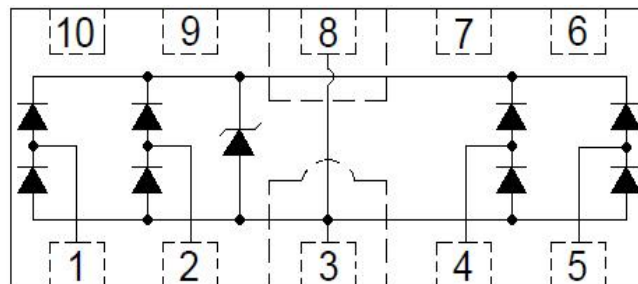
Applications

- USB3.0, USB2.0, Ethernet
- HDMI 2.0, Displayport 1.3, eSATA
- Unified Display interface
- Digital Visual Interface
- High speed serial interface

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

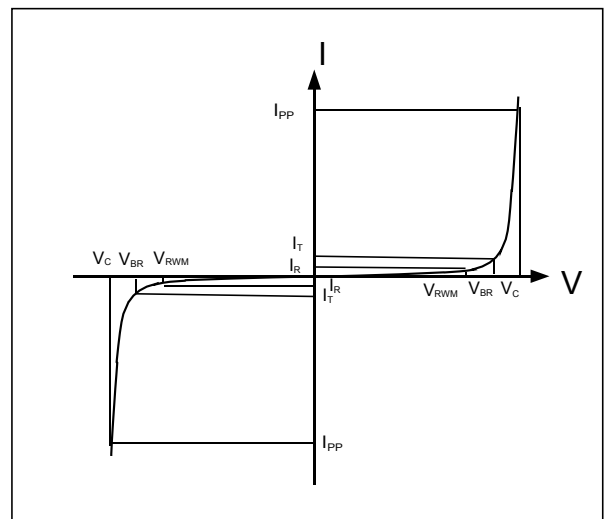
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	30	Watts
Peak Pulse Current ($t_p = 8/20\mu s$) (note1)	I_{PP}	3	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	15 12	kV
Lead Soldering Temperature	T_L	260(10seconds)	°C
Junction Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{stg}	-55 to + 125	°C

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	6.0	7.2	9.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T = 25^\circ C$		0.02	0.5	μA
Peak Pulse Current	I_{PP}	$t_p = 8/20\mu s$			3	A
Clamping Voltage	V_C	$I_{PP} = 3A, t_p = 8/20\mu s$		10	11	V
Clamping Voltage	V_{CL}	$I_{PP} = 16 A; t_p = TLP$			15	V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$ I/O to I/O		0.20		pF
		$V_R = 0V, f = 1MHz$ I/O to GND		0.36		

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

	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current



Note: 8/20 μs pulse waveform.

Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

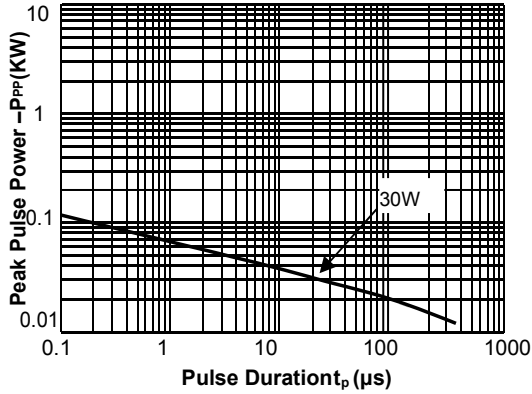


Fig.2 Pulse Derating Curve

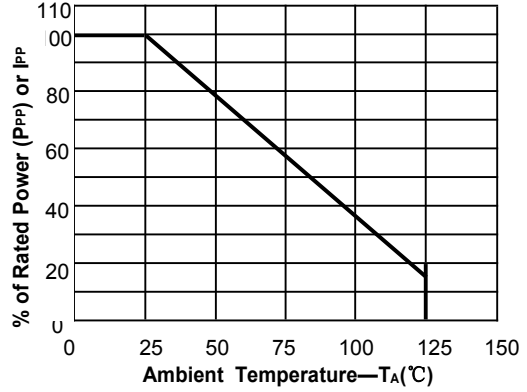


Fig.3 Pulse Waveform-8/20μs

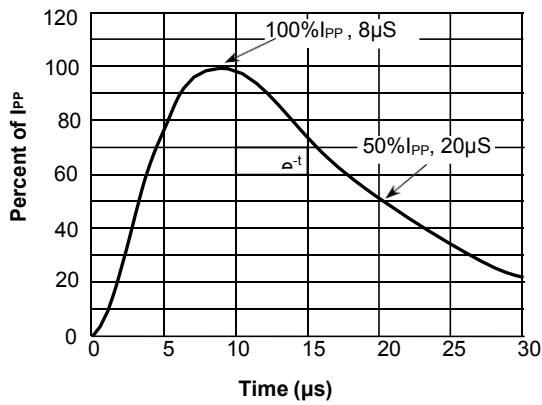


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

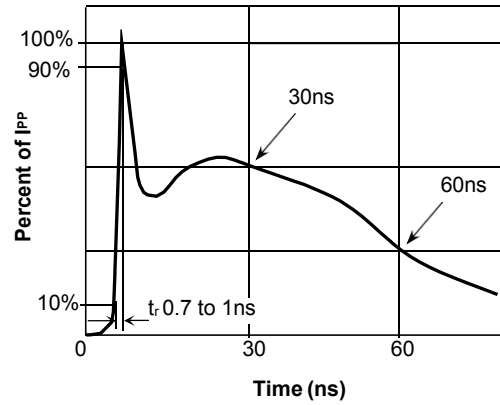


Fig.5 Eye Diagram - HDMI mask at 3.4Gbps per channel

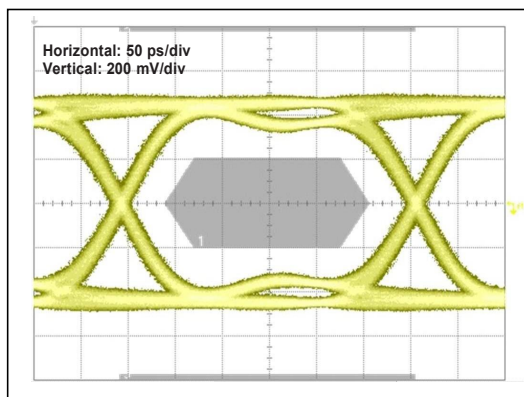
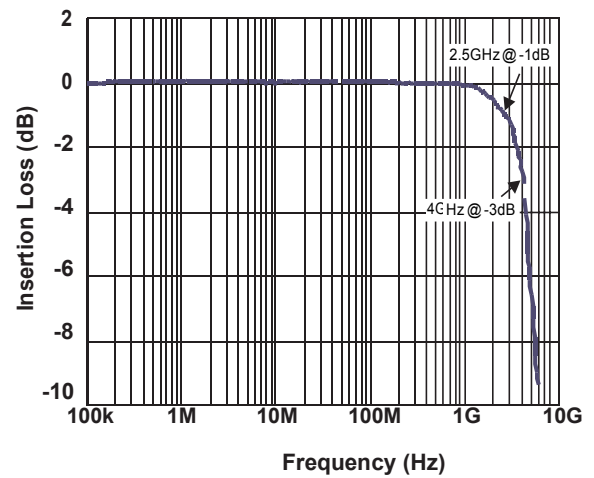
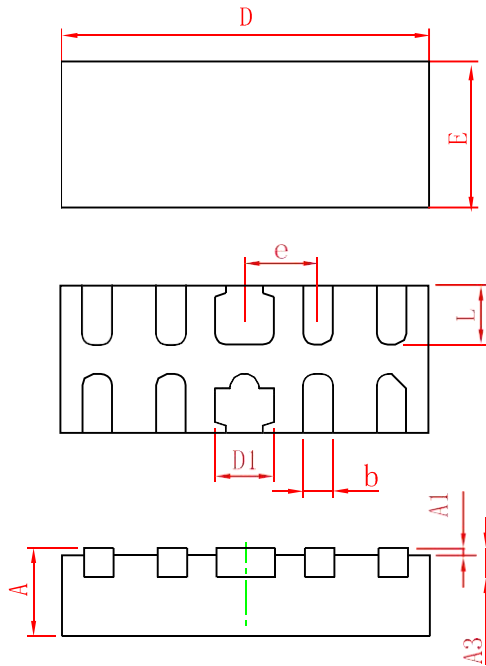


Fig.6 Insertion Loss S21 - I/O to GND

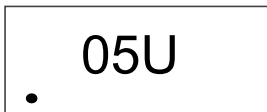


Outline Drawing – DFN10L(2.5mmx1.0mm)



Symbol	Dimensions in millimeters		
	Min	Nom	Max
A	0.45	0.50	0.55
A1	-	0.02	0.05
A3	0.10	0.15	0.20
D	2.45	2.50	2.55
E	0.95	1.00	1.05
D1	0.35	0.40	0.45
b	0.15	0.20	0.25
e	0.50BSC		
L	0.35	0.40	0.45

Marking



Ordering information

Order code	Package	Base qty	Delivery mode
ESDN10L2510C5V04R	DFN10L(2.5mmx1.0mm)	3k	Tape and reel