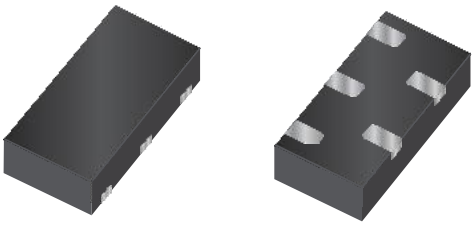
RCLAMP0564P-N

ESD Protection Diode Array

»Features

- 60Watts 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 ±15kV contact ±20kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20μs)



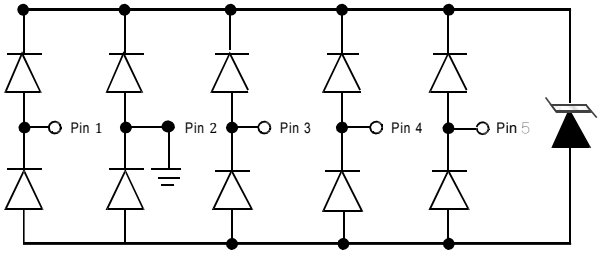
»Applications

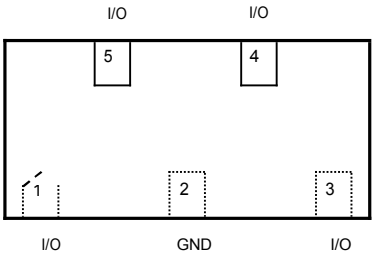
- USB 3.0/3.1,Type C
- HDMI 1.4/2.0,Display Port 1.3
- Unified Display interface
- Digital visual interface

»Mechanical Data

- DFN2010 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

»Schematic & PIN Configuration





»Absolute Maximum Rating

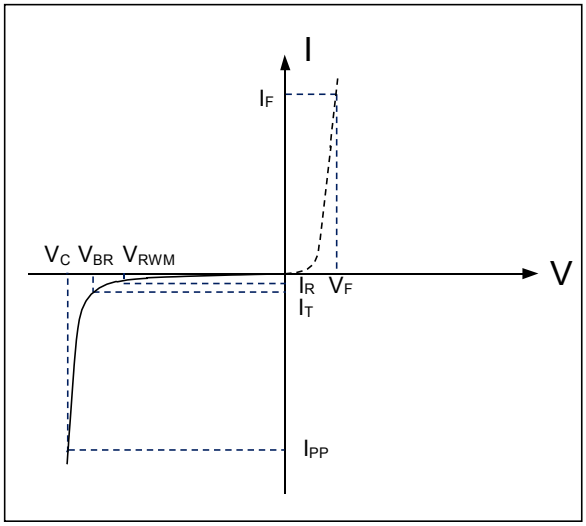
Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	60	Watts
Peak Pulse Current (t_p =8/20μs)(note1)	I_{pp}	3.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	20 15	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{stg}	-55 to + 125	℃

»Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0	7.5	9.5	V
Reverse Leakage Current	I_R	V_{RWM}=5V,T=25℃		0.1	0.5	μA
Peak Pulse Current	I_{PP}	tp =8/20μs			3.5	A
Clamping Voltage	V_C	IPP=3.5A,tp=8/20μs		16	20	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz I/O to I/O		0.28	0.4	pF
		V_R = 0V, f = 1MHz I/O to GND		0.28	0.4	pF

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

Symbol	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:. 8/20μs pulsewaveform.

»TypicalCharacteristics

Fig.1 IEC61000-4-2Waveform

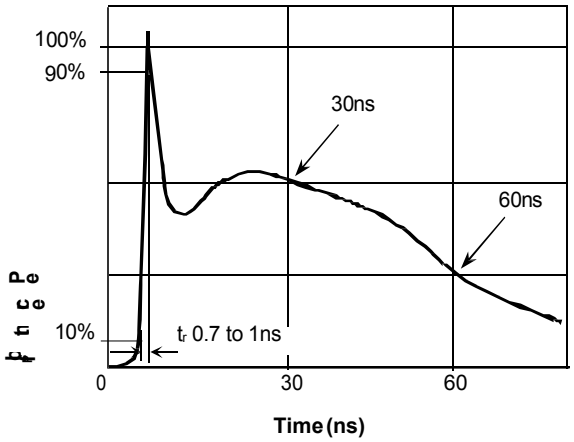


Fig.2 IEC61000-4-2 +8kV ContactESD ClampingWaveform

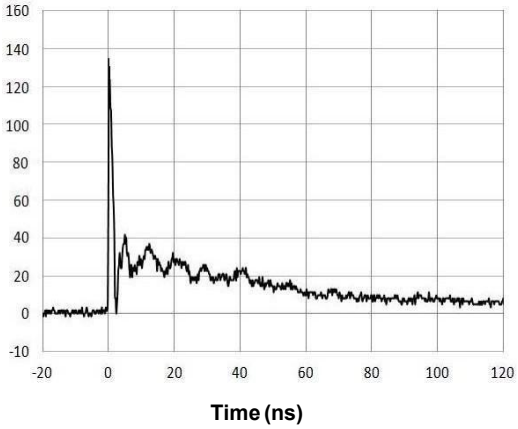


Fig.3 Eye Diagram - USB3.1 at10Gbpsper channel

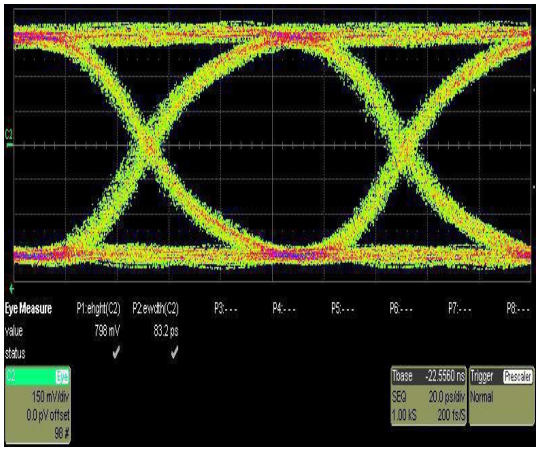
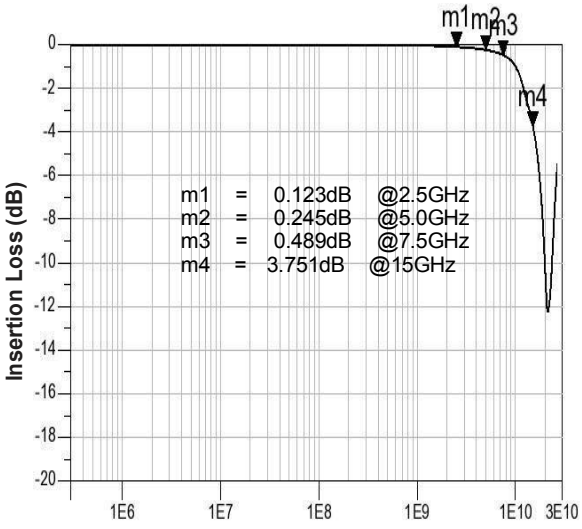
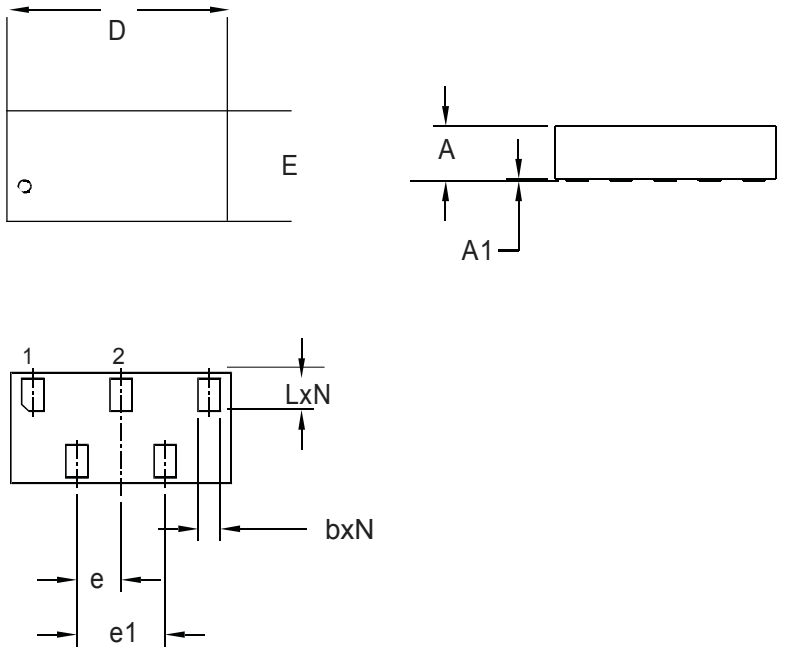


Fig.4 Insertion Loss S21 - I/O tol/O



»Outline Drawing – DFN2010



Dim	Millimeters		
	Min	Nom	Max
A	0.45	0.50	0.55
A1	0.00	0.02	0.05
b	0.15	0.20	0.25
D	1.95	2.00	2.05
E	0.95	1.00	1.05
e	0.40 BSC		
e1	0.80 BSC		
L	0.25	0.30	0.35
N	5		

»Marking

»Ordering information

Order code	Package	Base qty	Delivery mode
RCLAMP0564P-N	DFN2010	3000	Tape and reel