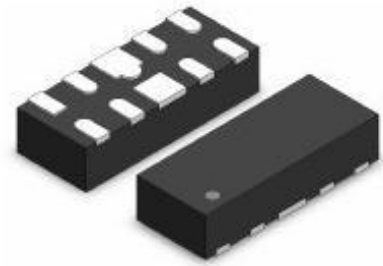


### »Features

- 45Watts peak pulse power (tp = 8/20μs)
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (Cj=0.35pF typ. I/O to I/O)
- IEC 61000-4-2 ±25kV contact ±25kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20μs)



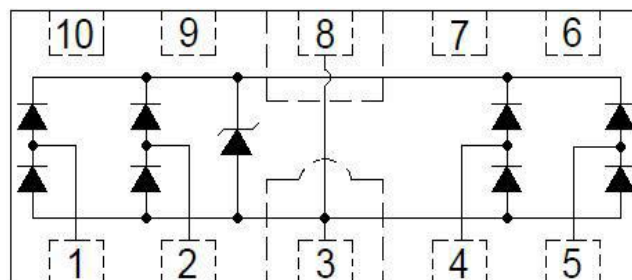
### »Applications

- USB3.0, USB2.0, Ethernet
- HDMI 1.4, 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

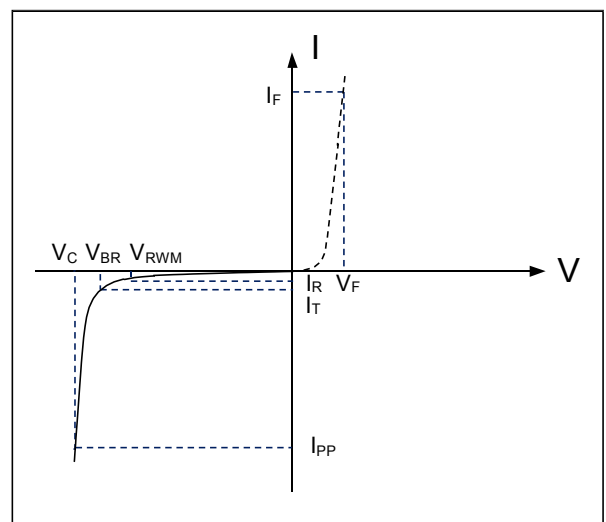
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ )	$P_{PP}$	45	Watts
Peak Pulse Current ( $t_p=8/20\mu s$ ) (note1)	$I_{PP}$	3.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	25 25	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	°C
Junction Temperature	$T_J$	-55 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	$V_{BR}$	$I_T=1mA$	5.5	7.8		V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^\circ C$			0.5	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			3.5	A
Clamping Voltage	$V_C$	$I_{PP}=3.5A, t_p=8/20\mu s$		12	15	V
Junction Capacitance	$C_j$	$V_R=0V, f=1MHz$ I/O to I/O		0.35	0.4	pF
		$V_R=0V, f=1MHz$ I/O to GND		0.7	0.8	

»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 $\mu s$  pulse waveform.

»Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

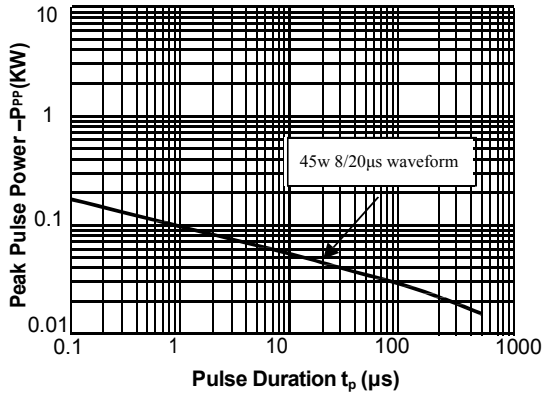


Fig.2 Pulse Derating Curve

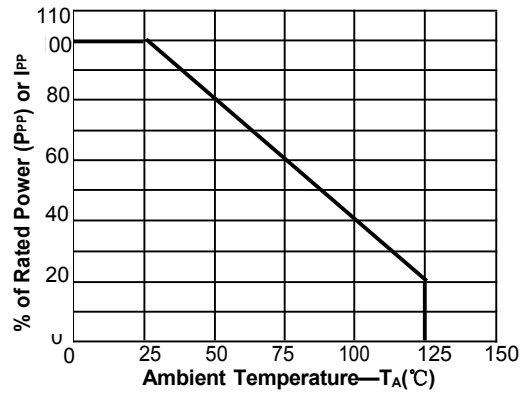


Fig.3 Pulse Waveform-8/20μs

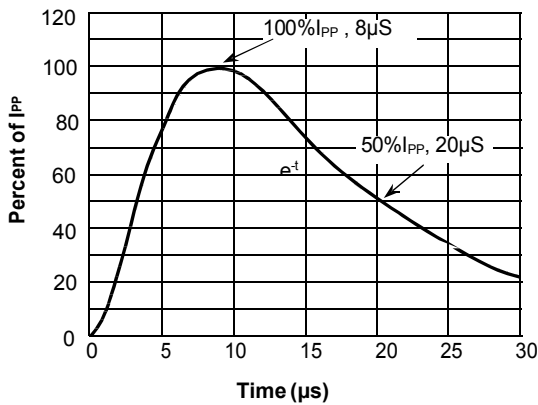


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

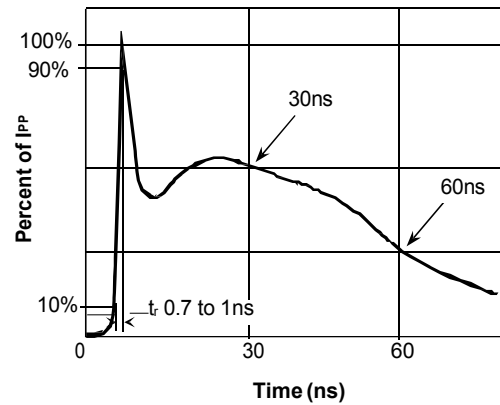


Fig.5 Eye Diagram - HDMI mask at 3.4Gbps per channel

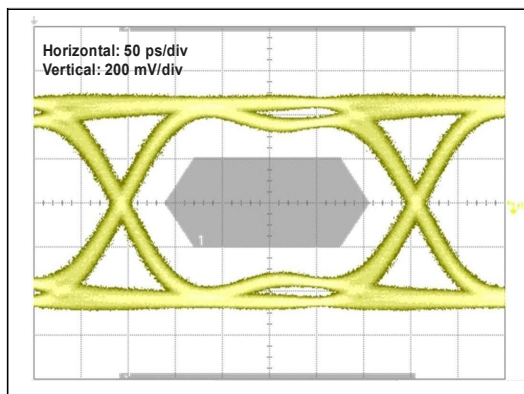
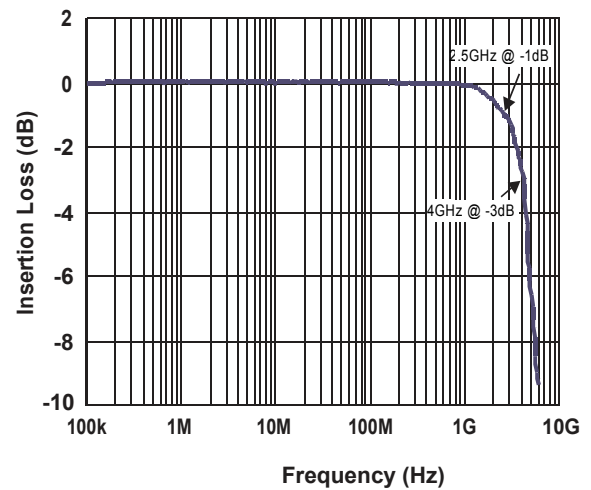
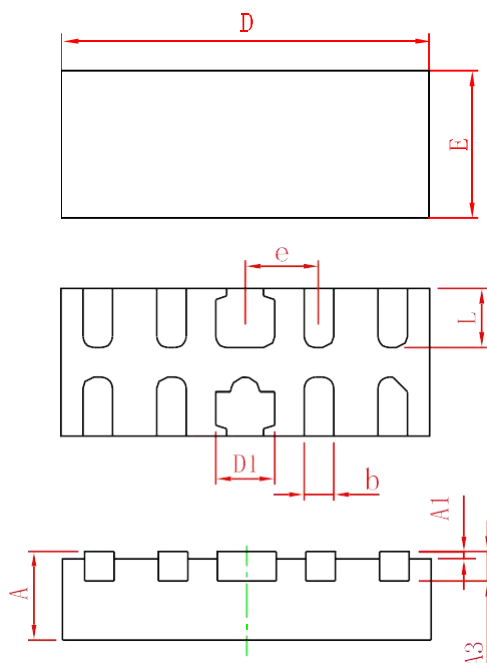


Fig.6 Insertion Loss S21 - I/O to GND



»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
TPD4S010DQAR-N	DFN10L(2.5mmx1.0mm)	3k	Tape and reel

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