

»Features

- 60Watts peak pulse power ($t_p = 8/20\mu s$)
- SOT23-6 package
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ($C_j=0.3pF$ typ. IO to IO)
- Protection one data/power line to:
- IEC 61000-4-2 $\pm 12kV$ contact $\pm 15kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20 μs)



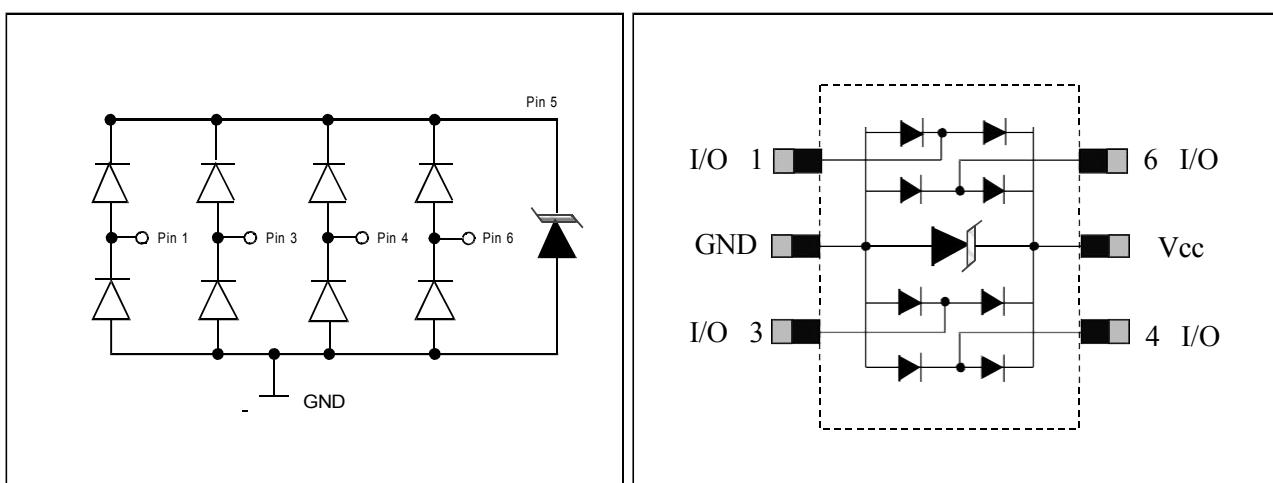
»Applications

- Ethernet
- Digital Visual Interface (DVI)
- USB2.0
- Notebook and PC Computers

»Mechanical Data

- SOT23-6 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

»Schematic & PIN Configuration



»Absolute Maximum Rating

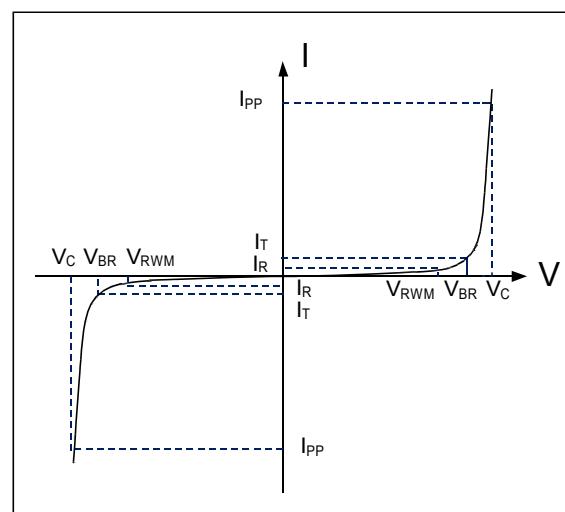
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	60	Watts
Peak Pulse Current ($t_p = 8/20\mu s$)(note1)	I_{pp}	3.5	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact)	V_{ESD}	15 12	kV
Lead Soldering Temperature	T_L	260(10seconds)	°C
Junction Temperature	T_J	-55 to +125	°C
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	7.8	8.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T = 25^\circ C$		50	500	nA
Peak Pulse Current	I_{PP}	$t_p = 8/20\mu s$			3.5	A
Clamping Voltage	V_C	$IPP = 3.5A, t_p = 8/20\mu s$		10	13	V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$ IO to IO		0.2	0.25	pF
		$V_R = 0V, f = 1MHz$ IO to GND		0.36	0.5	

»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 pulsed waveform.

»Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

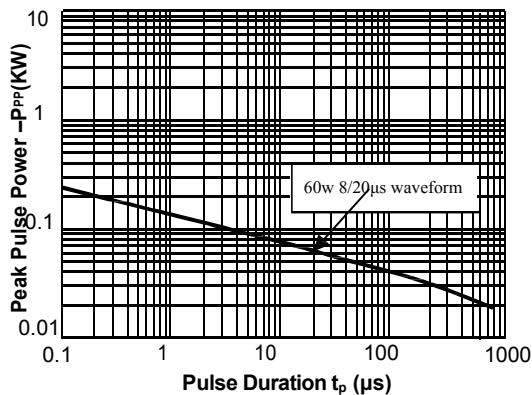


Fig.3 PulseWaveform-8/20μs

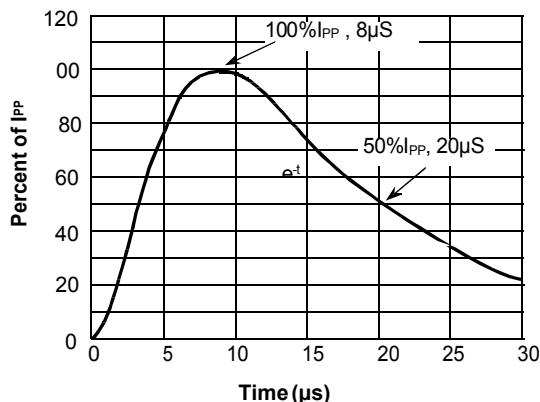


Fig.5 Eye Diagram - HDMI mask at 3.4Gbps per channel

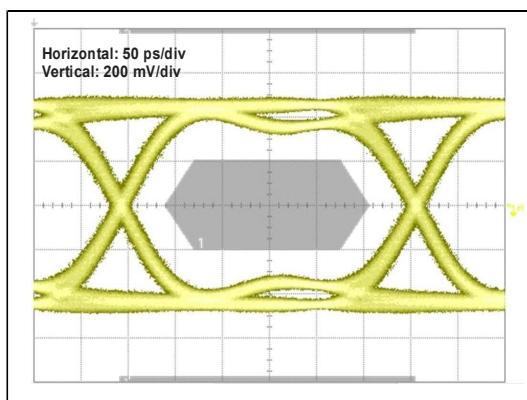


Fig.2 Pulse Derating Curve

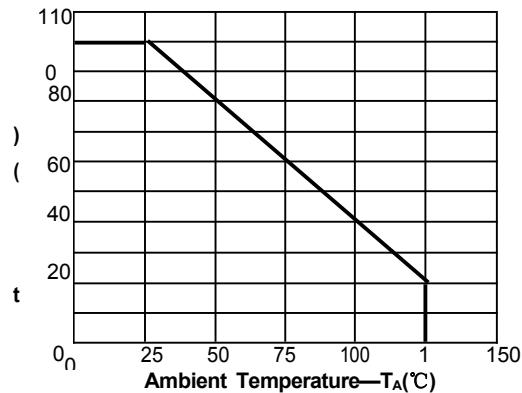


Fig.4 PulseWaveform-ESD(IEC61000-4-2)

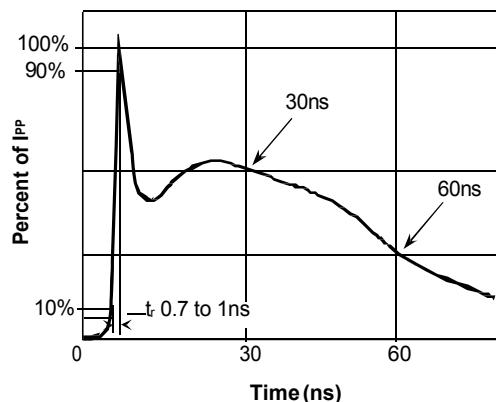
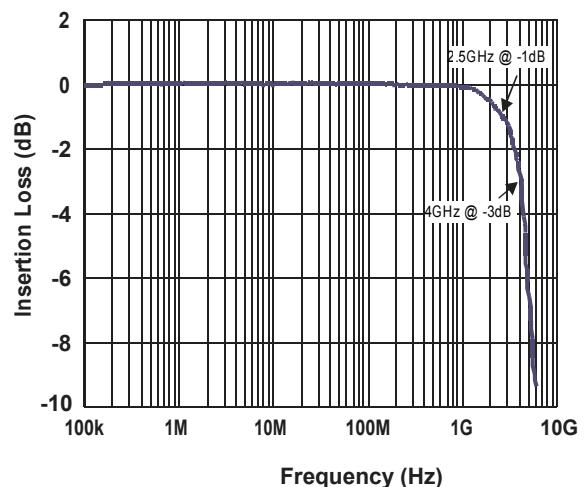
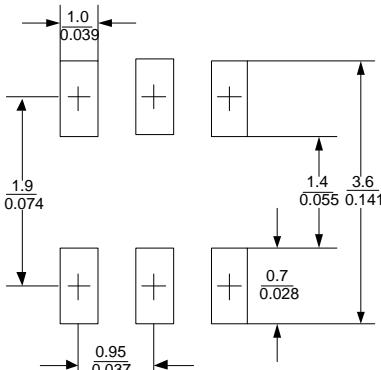


Fig.6 Insertion Loss S21 - I/O to GND



»Outline Drawing – SOT23-6

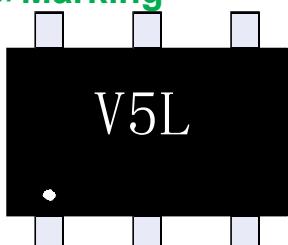
PACKAGE OUTLINE		DIMENSIONS			
SYMBOL		INCHES		MILLIMETER	
		MIN	MAX	MIN	MAX
A	0.041	0.049		1.050	1.250
A1	0.000	0.004		0.000	0.100
A2	0.041	0.045		1.050	1.150
D	0.111	0.119		2.820	3.020
E	0.059	0.067		1.500	1.700
E1	0.104	0.116		2.650	2.950
b	0.012	0.020		0.300	0.500
e	0.037(BSC)			0.950(BSC)	
e1	0.071	0.079		1.800	2.000
L	0.012	0.024		0.300	0.600
θ	0°	8°		0°	8°

Notes

1. This land pattern is for reference purposes only consult your manufacturing group to ensure your company's manufacturing guidelines are met.
Reference ipc-sm-782a..

»Marking



»Ordering information

Order code	Package	Base qty	Delivery mode
TPD4E001DBVR-N	SOT23-6	3k	Tape and reel