

Features

- 30Watts peak pulse power ($t_p = 8/20\mu s$)
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ($C_j=0.2\text{pF}$ typ. IO to IO)



SOT23-6

IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 $\pm 12\text{kV}$ contact $\pm 15\text{kV}$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3A (8/20 μs)

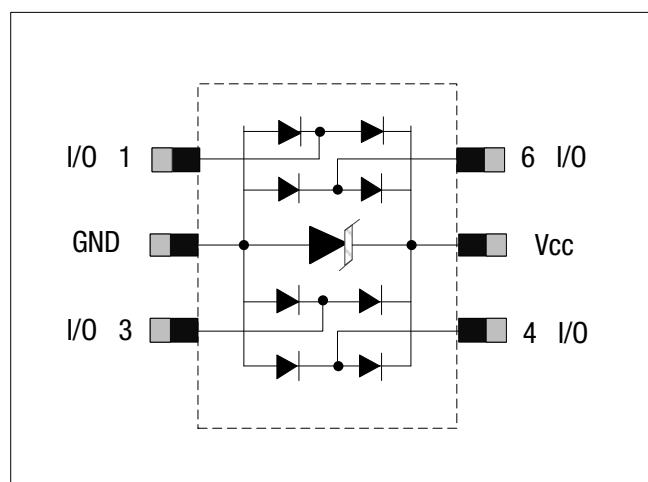
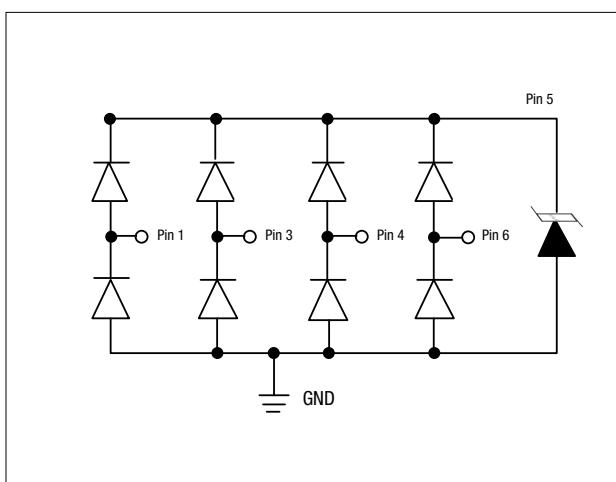
Applications

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

Mechanical Characteristics

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

Schematic & PIN Configuration



Absolute Maximum Rating

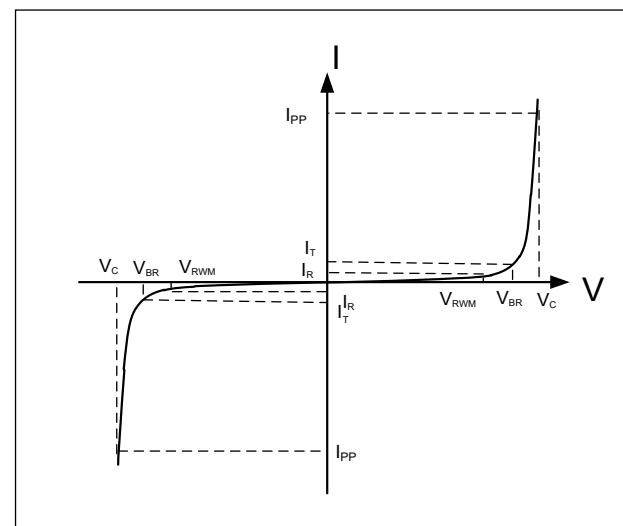
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	30	Watts
Peak Pulse Current ($t_p = 8/20\mu s$) (note1)	I_{pp}	3	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	15 12	kV
Lead Soldering Temperature	T_L	260(10seconds)	°C
Junction Temperature	T_J	-55 to + 125	°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	6.8	8.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T = 25°C$		50	500	nA
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
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	0.4	

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 pulse waveform.

Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

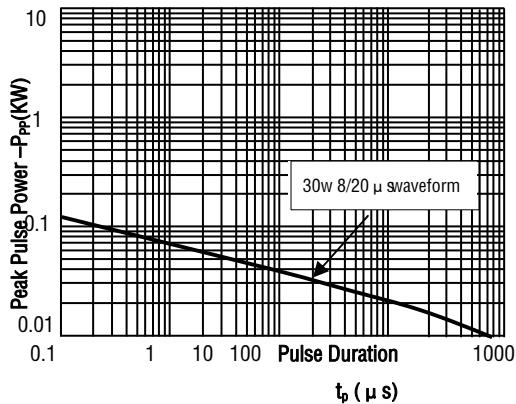


Fig.3 Pulse Waveform-8/20 μ s

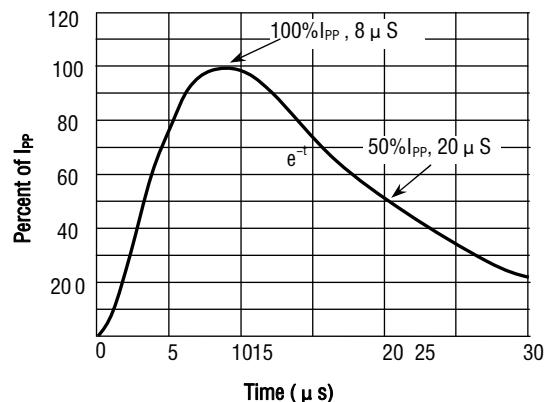


Fig.5 Eye Diagram – HDMI mask at 3.4Gbps per channel

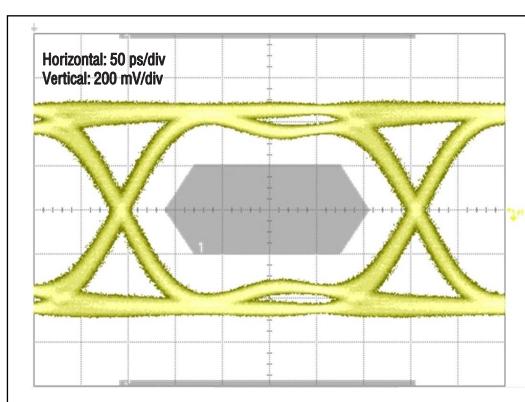


Fig.2 Pulse Derating Curve

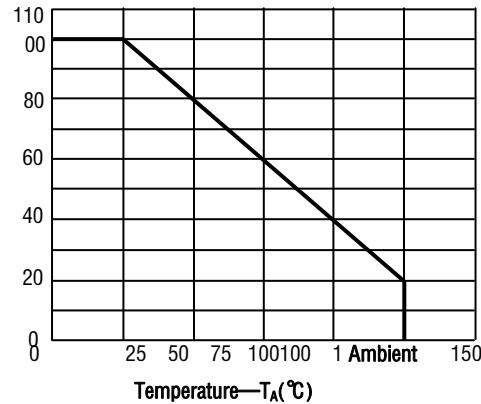


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

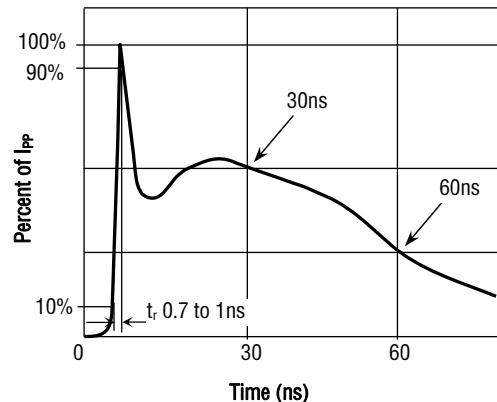
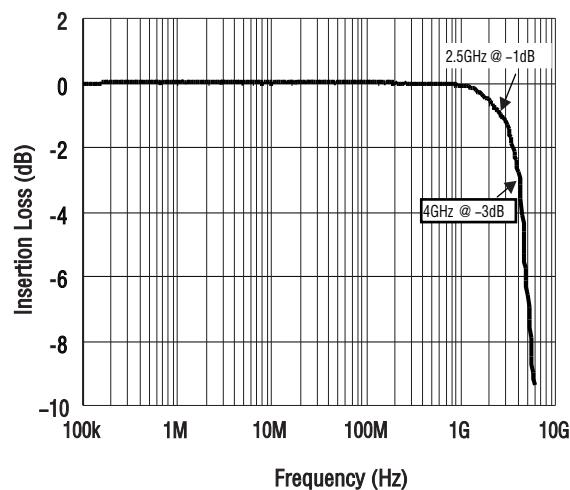


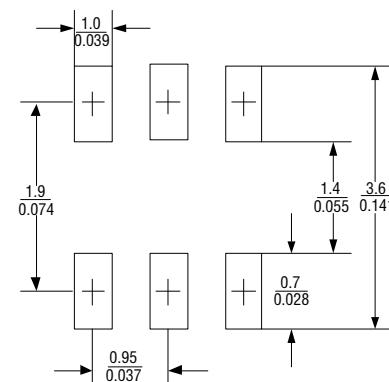
Fig.6 Insertion Loss S21 – I/O to GND



Outline Drawing

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°	





The land pattern diagram shows the layout of the pads on the package. Key dimensions include:

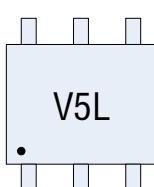
- Pad width: 1.0 / 0.039 inches
- Pad height: 1.9 / 0.074 inches
- Pad pitch: 1.4 / 0.055 inches
- Pad thickness: 0.7 / 0.028 inches
- Pad bottom gap: 3.6 / 0.141 inches
- Pad side gap: 0.95 / 0.037 inches

Notes

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
PTT236U036M5CA3	SOT23-6	3k	Tape and reel