

»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 $\mu s$ )



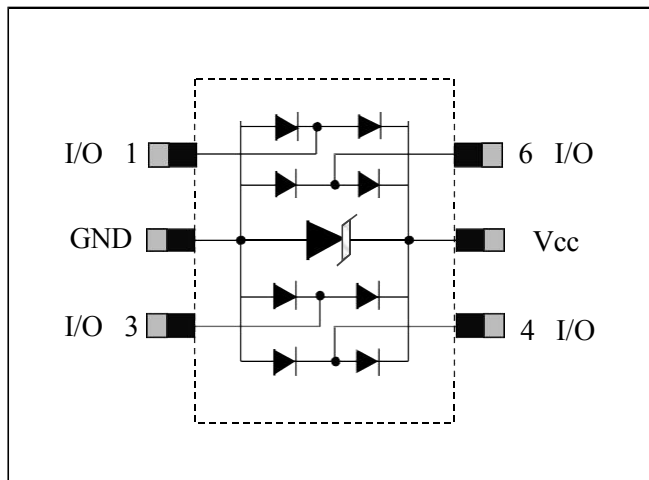
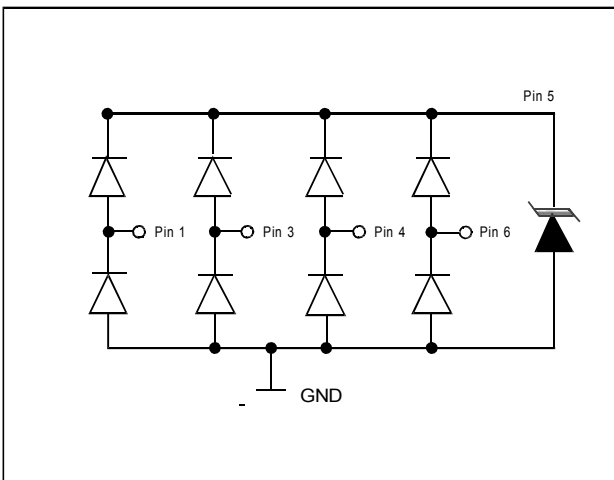
»Applications

- 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

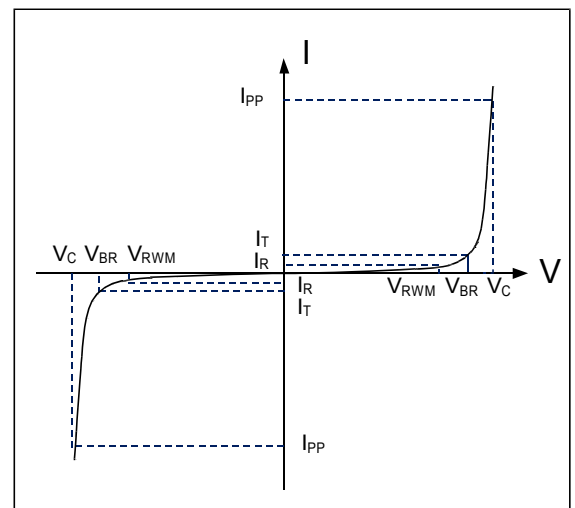
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{PP}$	60	Watts
Peak Pulse Current ( $t_p = 8/20\mu s$ )(note1)	$I_{pp}$	3.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	15 12	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	°C
Junction Temperature	$T_J$	-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	$V_C$	$I_{PP} = 3.5A, t_p = 8/20\mu s$		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)

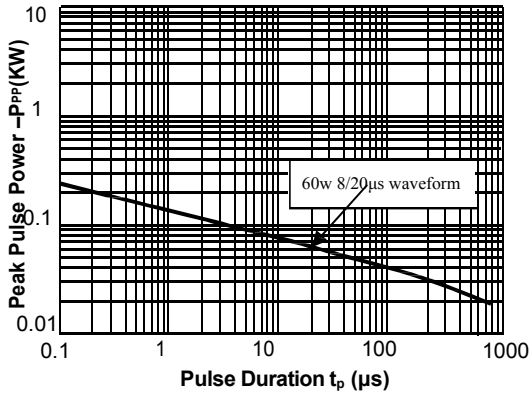
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current



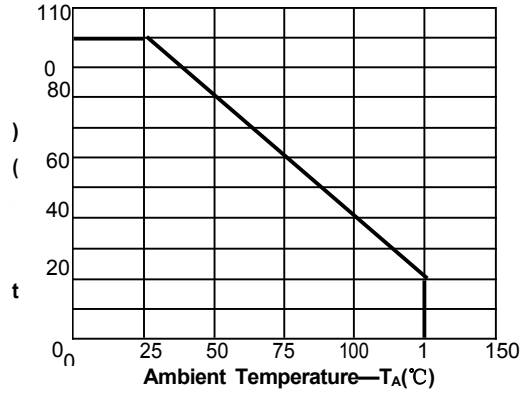
Note: 8/20μs pulse waveform.

»Typical Characteristic Curves

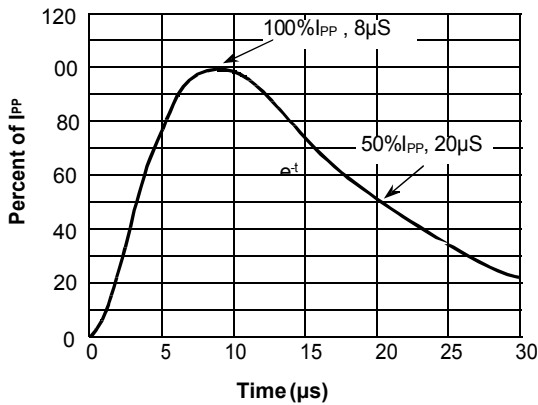
**Fig.1 Peak Pulse Power RatingCurve**



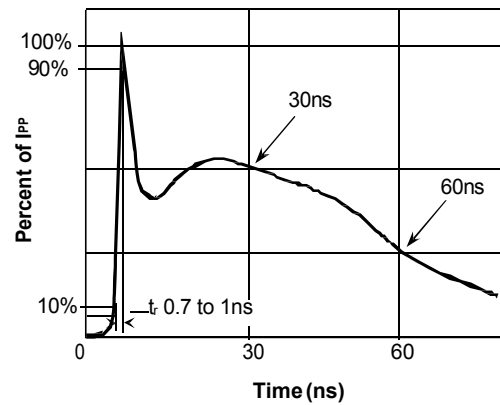
**Fig.2 Pulse Derating Curve**



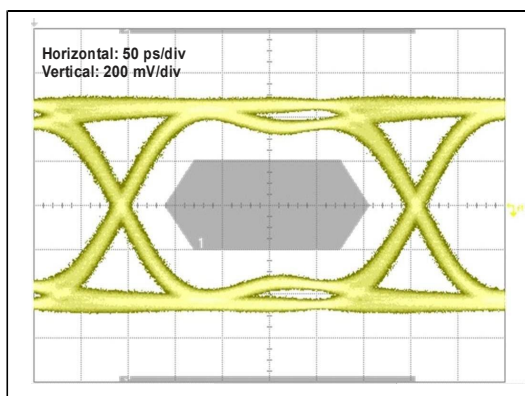
**Fig.3 PulseWaveform-8/20μs**



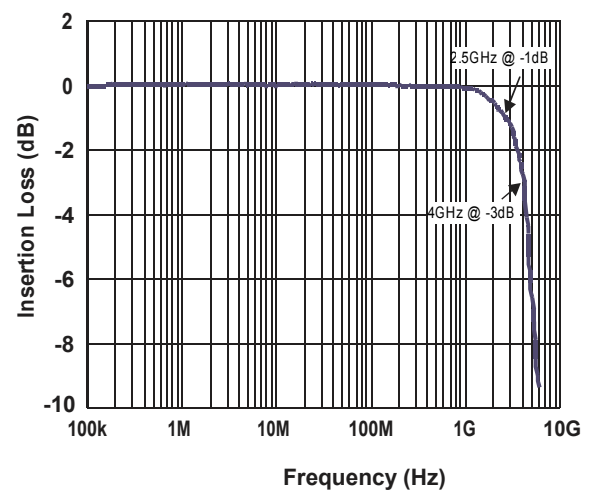
**Fig.4 PulseWaveform-ESD(IEC61000-4-2)**



**Fig.5 Eye Diagram - HDMI mask at 3.4Gbpsper channel**



**Fig.6 Insertion Loss S21 - I/O toGND**



»Outline Drawing – SOT23-6

### PACKAGE OUTLINE

The package outline drawings show a top view with dimensions E1, L, b, e, and e1. A side view shows dimensions D, A2, A, and A1. A detail view shows dimensions c, L, 0.2, and θ. A 3D perspective view of the package is also shown.

### DIMENSIONS

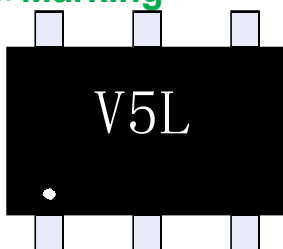
SYMBOL	INCHES		MILLIMETER	
	MIN	MAX	MIN	MAX
A	0.041	0.049	1.050	1.250
A1	0.000	0.004	0.000	0.100
A2	0.041	0.045	1.050	1.150
D	0.111	0.119	2.820	3.020
E	0.059	0.067	1.500	1.700
E1	0.104	0.116	2.650	2.950
b	0.012	0.020	0.300	0.500
e	0.037(BSC)		0.950(BSC)	
e1	0.071	0.079	1.800	2.000
L	0.012	0.024	0.300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

The land pattern diagram shows a top view of the package with dimensions: 1.0 (0.039) for lead width, 1.9 (0.074) for lead length, 0.95 (0.037) for lead spacing, 1.4 (0.055) for body length, 3.6 (0.141) for body width, and 0.7 (0.028) for body thickness.

**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
NUP4201MR6T1G-N	SOT23-6	3k	Tape and reel

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