

## Features

- 60Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ( $C_j=0.3\text{pF}$  typ. IO to IO)



## IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2  $\pm 25\text{kV}$  contact  $\pm 25\text{kV}$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4.0A (8/20 $\mu s$ )

**SOT23-6**

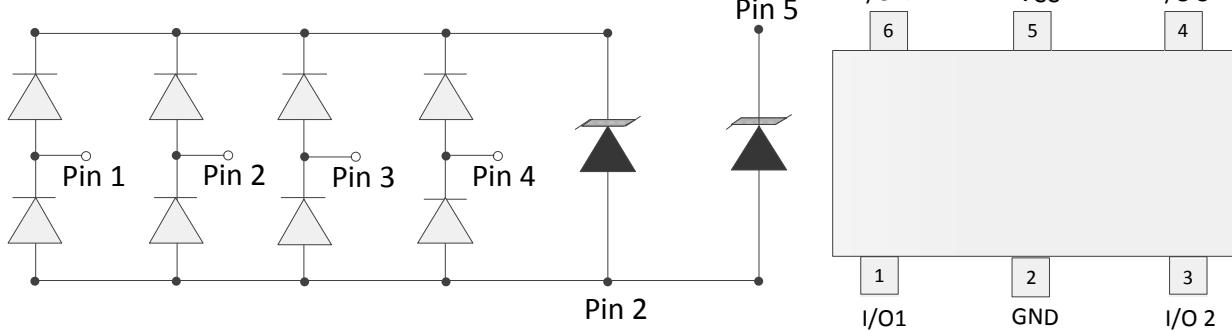
## Applications

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

## Mechanical Data

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

## Schematic & PIN Configuration



**SOT23-6**

## Absolute Maximum Rating

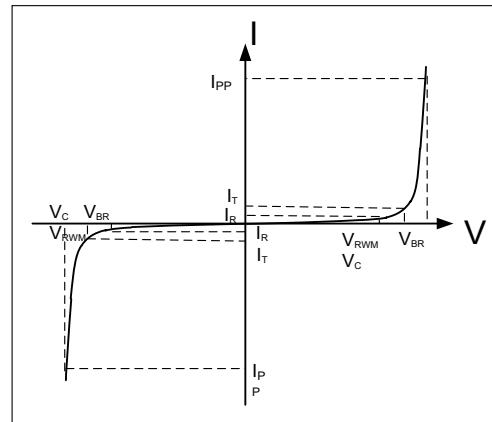
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{PP}$	60	Watts
Peak Pulse Current ( $t_p = 8/20\mu s$ ) (note1)	$I_{pp}$	4	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	25 25	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	°C
Junction Temperature	$T_J$	-55 to + 125	°C
Storage Temperature	$T_{stg}$	-55 to + 125	°C

## Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
<b>I/O port TVS</b>						
Reverse Stand-Off Voltage	$V_{RWM}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6	8.0		V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^\circ C$		0.2	0.5	uA
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu s$			4.0	A
Clamping Voltage	$V_C$	$I_{PP}=4.0A, t_p=8/20\mu s$		10	15	V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$ I/O to I/O		0.3	0.35	pF
		$V_R = 0V, f = 1MHz$ I/O to GND		0.6	0.7	pF
<b>VCC TVS</b>						
Reverse Stand-Off Voltage	$V_{RWM}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6.0			V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^\circ C$			1	uA
Clamping Voltage	$V_C$	$I_{PP}=20A, t_p=8/20\mu s$		12	15	V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$ VCC to GND		160	165	pF

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

Symbol	Parameter
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>RWM</sub>	Working Peak Reverse Voltage
I <sub>R</sub>	Maximum Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current



Note: 8/20μs pulse waveform.

## Typical Characteristics

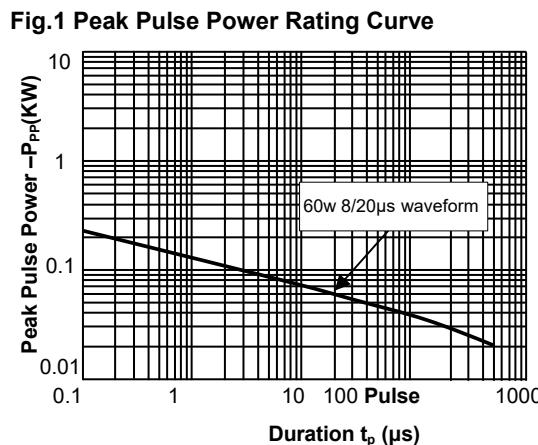


Figure3: Pulse Waveform

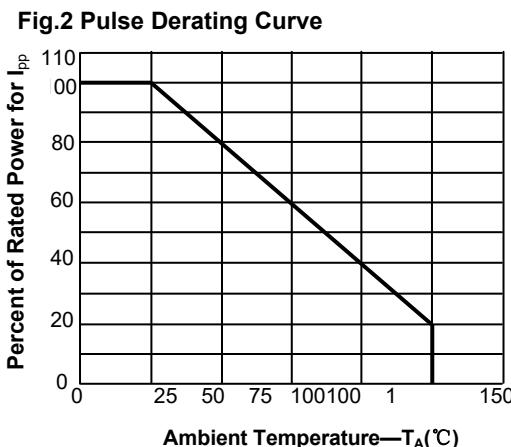
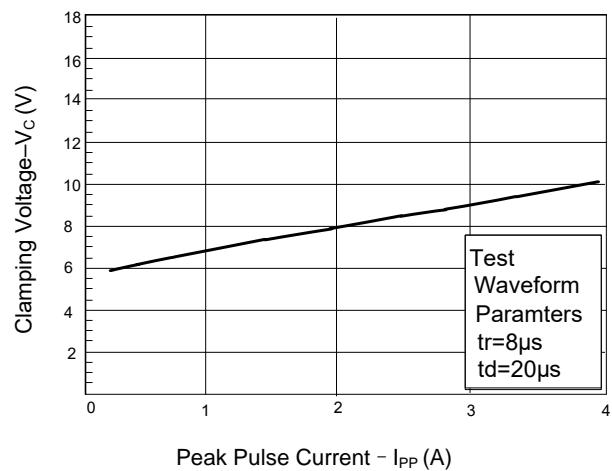
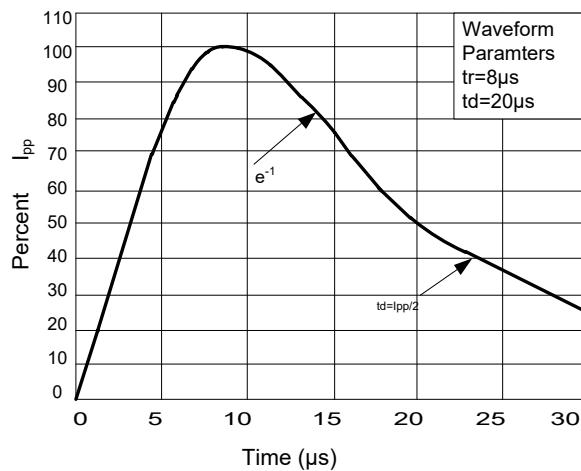


Figure 4: Clamping Voltage vs.Ipp(I/Oto GND)



## 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 package pins. Key dimensions include:

- Top row: Total width 1.0 / 0.039, gap 1.9 / 0.074.
- Middle row: Gap 1.4 / 0.055, height 3.6 / 0.141, gap 0.7 / 0.028.
- Bottom row: Gap 0.95 / 0.037.

### 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
PTT236L06M5CA6	SOT23-6	3k	Tape and reel

Specifications are subject to change without notice.

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