USB UPSTREAM PORT FILTER WITH ESD PROTECTION

Features

- Provides EMI/RFI filtering
- Bi-Directional ESD protection Circuitry for optimum system protection
- Very small package
- USB 1.1 compliant

Applications

- Keyboard, mouse, game peripherals
- Speakers
- Scanners/printers
- Monitors
- Modems

Product Description

The USB is a four wire system utilizing a two wire twisted pair for transferring data, and two lines to supply power and ground connection to hubs and devices. The USB allows for two modes of signaling. The low speed mode is defined at 1.5Mbs with the full speed at 12Mbs.

The PACUSB100 provides ESD protection with EMI filtering and termination. It is ideal for protecting vulnerable components in devices like keyboard, mouse, scanner/printer, etc. The PACUSB100 also supports upstream ports. California Micro Devices also offers a complementary device (PACUSB200) to provide filtering and ESD protection for downstream ports. The PACUSB100 has the following characteristics:

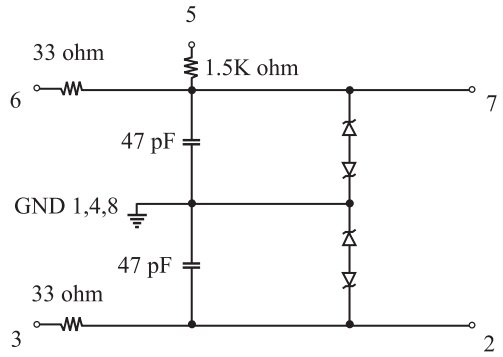
- Compatible with Universal Serial Bus specification 1.0.
- Protects both the system and device from external ESD pulses up to 6KV per the Human Body Model.
- Suppresses EMI/RFI noise on high speed data lines.

STANDARD SPECIFICATIONS	
Absolute Tolerance (33 OHM resistors)	±5%
Absolute Tolerance (1.5 ohm resistors)	±10%
Absolute Tolerance (47pF capacitors)	±20%
Operating Temperature Range	0°C to 70°C
ESD Protection (Human Body Model) MIL-STD-883, Method 3015 In System Protection (Note 1)	 >4KV* >6KV*
Package	8 pin QSOP

*Guaranteed by design

Note 1: Pins 1,4 and 8 grounded
Pins 3,5 and 6 open
Contact discharge between pins
7 and 2 to ground, one at a time

SCHEMATIC CONFIGURATION



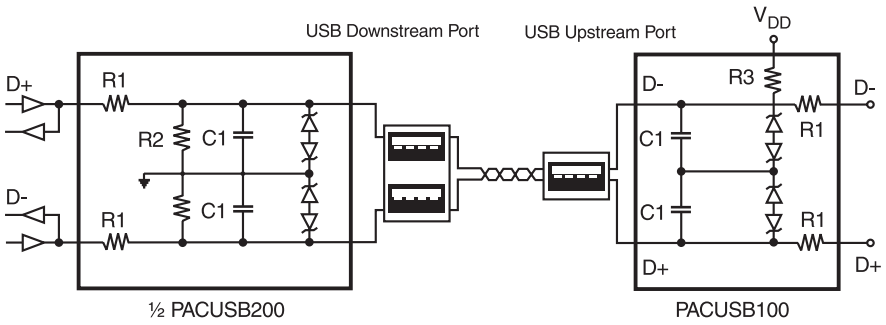
GND Pins = 1, 4, 8

STANDARD PART ORDERING INFORMATION				
Package		Ordering Part Number		
Pins	Style	Tubes	Tape & Reel	Part Marking
8	MSOP	PACUSB100MS/T	PACUSB100MS/R	U100

© 2000 California Micro Devices Corp. All rights reserved.

Application Diagram

1. R1 = 33 Ohm
2. R2 = 15K Ohm
3. R3 = 1.5K Ohm[2]
4. C1 = 47 pF



Note 2:

Full speed and low speed devices are differentiated by the position of the pull-up (1.5K) resistor on the downstream end of the cable. Full speed devices are terminated with pull-up on the D^+ line. Low speed devices are terminated with the pull-up on the D^- line.

©2000 California Micro Devices Corp. All rights reserved.