

Product Overview

Description

Avago Technologies has produced a new optical mouse reference design kit. Based on the new Avago Technologies ADNS-6000 high performance optical mouse sensor and the powerful Sunplus USB microcontroller, this reference design kit provides a low cost and yet, feature-rich solution in one neat package.

The Avago Technologies ADNS-6000 optical mouse sensor, a 20-pin staggered dual inline package (DIP), is based on a new, faster architecture with improved navigation performance. It is able to measure changes in position by optically acquiring sequential surface images of over 6400 fps and mathematically determining the direction and magnitude of movement.

ADNB-6001-EV laser mouse bundle set is the world's first laser-illuminated navigation system. With laser navigation technology, the mouse can operate on many surfaces that prove difficult for traditional LED-based optical navigation. Its high-performance architecture is capable of sensing high-speed mouse motion -- velocities up to 20 inches per second and accelerations up to 8g.

The ADNS-6000 sensor along with the ADNS-6120 lens, ADNS-6230-001 clip and ADNV-6340 laser diode form a complete and compact laser mouse tracking system. There are no moving parts, which means high reliability and less maintenance for the end user. In addition, precision optical alignment is not required, facilitating high volume assembly.

The Sunplus SPCP825A is a general purpose OTP USB microcontroller. It has dual USB speed, namely low and full speed. It can support PS/2 mode. The transceiver is fully controlled by the firmware. Moreover the USB SIE provides good flexibility for firmware to handle USB protocol. The built-in PLL allows CPU to work at 6MHz or 12MHz by using only one 6MHz crystal or resonator.

This kit is connectable to a PC via the USB. A single cable with a USB connector is also provided.

Features

- Complete optical mouse reference design kit
- ADNS-6000 high performance optical mouse sensor
- High speed motion detection – up to 20 ips and 8g
- New LaserStream architecture for greatly improved optical navigation technology
- No mechanical moving parts for easy maintenance and high reliability
- Programmable frame rate over 6400 frames per second
- SmartSpeed self-adjusting frame rate for optimum performance
- Serial port burst mode for fast data transfer
- 400 or 800 cpi selectable resolution
- Single 3.3 volt power supply
- Four-wire serial port along with Power Down, and Reset pins
- LASER fault detect circuitry on-chip
- USB interface for PC connection
- Conforms to USB 2.0 low/full speed specifications

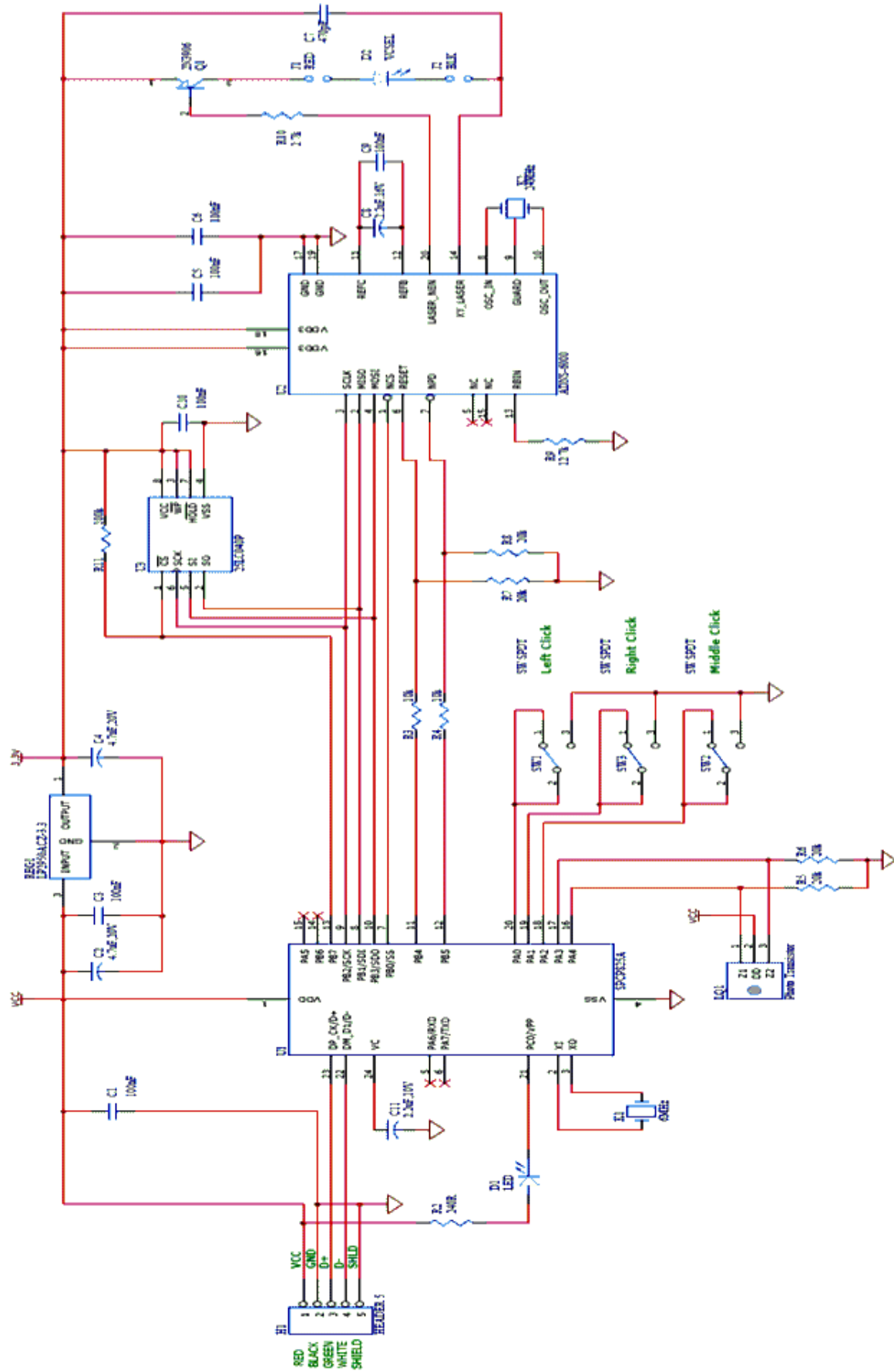


Figure 1. Circuit-level block diagram for ADNK-6003-SP01 designer's kit optical mouse using the Avago Technologies ADNS-6000 optical mouse sensor and Supplus SPCP825A.

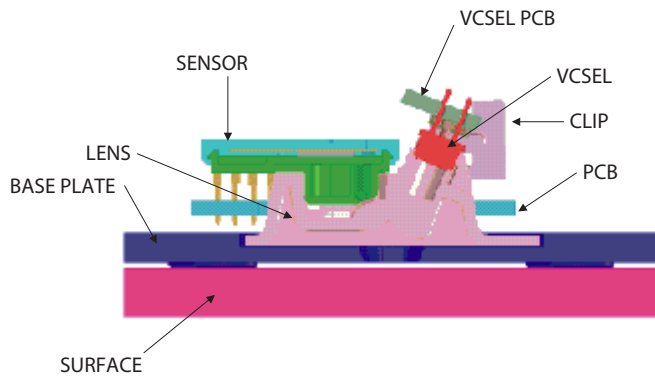


Figure 2. Sectional view of PCB assembly highlighting all optical mouse components (optical mouse sensor, clip, lens, LASER, PCB, and base plate).

Kit Components

The designer's kit contains components as follows:

Part Number	Description	Name	Quantity
ADNK-6003-SP01	Optical Mouse Reference Design Unit includes: - Avago Technologies ADNS-6000 Optical Mouse Sensor - Sunplus SPCP825A USB controller	Reference Design Unit	1
ADNS-6000	Solid-State Optical Mouse Sensor	Sensor	5
ADNS-6120	Round Lens Plate	Lens	5
ADNS-6230-001	LASER Assembly Clip	LASER Clip	5
ADNV-6340	Single Mode Vertical Cavity Surface Emitting Laser	LASER	5
ADNK-6003-SP01 CD	Includes Documentation and Support Files for ADNK-6003-SP01 Documentation a. ADNB-6001-EV and ADNB-6002-EV Data Sheet b. AN-5088 LASER Mouse Sensor Eye Safety Calculations Hardware Support Files a. ADNK-6003-SP01 BOM List b. ADNK-6003-SP01 Schematic c. IGES Base Plate Feature File Software Support Files a. Microcontroller Firmware		1

Ordering Information

For product information and a complete list of Avago Technologies contacts and distributors, please go to our website: www.avagotech.com

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AV01-0428EN - November 1, 2006

