Avago Technologies has announced a series of small form factor (SFF) optical mouse sensors with an integrated chip-on-board (COB) LED illuminated optical navigation system that is the thinnest in the industry. With a compact package that is 97 percent smaller than its classic navigation bundle set (ADNB-3042), Avago’s ADNB-3532/52 integrated optical sensor bundle with trim lens is a complete mouse tracking system and the first optical mouse bundle that can be used with surface mount technology (SMT) processes. This new series of innovative mouse sensors from Avago will enable designers of optical mice applications to use automated manufacturing processes to increase productivity and provide consistent quality in the production of miniature mice for a wide variety of computer and consumer applications that use cordless input devices. Avago is a leading supplier of analog interface components for communications, industrial and consumer applications.

With the introduction of the low-power ADNB-3532/52 COB LED optical sensor bundle series, Avago has broken the size limitation barrier that mouse designers have been faced with over the years. The ADNB-3532/52 provides high speed motion detection - up to 20 inches per second (ips) and 8 g, and an on-chip oscillator and integrated LED to minimize the number of external components required.
for the design. Avago's ADNB-3532/52 series consist of a low-power architecture and automatic power management modes, making them ideal for use in battery and power-sensitive applications such as compact travel mice for notebook PCs, optical pen mice, optical trackballs and a variety of other cordless input devices used in consumer electronic applications.

Avago pioneered optical sensing for mouse technology and continues to be a trend setter in providing entry-level to next-generation optical and laser mouse sensors to all major LED and laser optical-mouse manufacturers worldwide. To date, Avago has shipped over 700 million mouse sensors to mouse manufacturers throughout the world.

Avago’s ADNB-3532/52 series are based on optical navigation technology which measures changes in position by optically acquiring sequential surface images (frames) and mathematically determining the direction and magnitude of movement. The ADNB-3532/52 contains an Image Acquisition System (IAS), a Digital Signal Processor (DSP), and a four wire support. The IAS acquires microscopic surface images via the lens and illumination systems. These images are then processed by the DSP and determine the direction and distance of motion. A big design advantage that is provided by this optical mouse bundle is that there are no moving parts, which helps to improve reliability and requires less maintenance for the end-user.

The ADNB-3532/52 series is designed to provide different mounting options to the mouse printed circuit board (PCB). With dimensions of 12.9 mm long (L) by 9.6 mm wide (W) by 3.25 mm high (H), Avago’s ADNB-3532 comes with solder pads only at the bottom side of the mouse PCB, which does not require a cut out. The ADNB-3552, which has dimensions of 12.9 mm L by 12.5 mm W by 3.25 mm H, has solder pads on both sides of the sensor and can be mounted on either the top with a cut out on the PCB to reduce the overall thickness or on the bottom of the mouse PCB.

**Features**

- Low-power architecture
- Surface mount technology device
- Self-adjusting power-saving modes for extended battery life
- High speed motion detection up to 20 ips and 8G
- Self-adjusting frame rate for optimum performance
- Motion detect pin output
- Internal oscillator - no clock input needed
- Selectable 500 and 1000 cpi resolution
- Operating voltage: 2.7V - 3.6V nominal
- Four wire serial port
- Pb free and RoHS compliant

**Availability**

Samples and production quantities are available now through Avago’s direct sales channel and worldwide distribution partners.

**Avago Optical Mouse Sensor Solutions**

Avago Technologies provides a broad portfolio of mouse sensors, ranging from inexpensive, entry-level and high-precision LED-based models to a range of sensors incorporating Avago’s revolutionary LaserStream mouse technology. Since their introduction, optical mice powered by Avago's optical sensing technology have become the standard in computer input devices. Optical mice eliminate the
need for a mouse pad and offer more precise pointing and movement than mechanical mice. Because optical mice have no ball or cavity, no cleaning is necessary, making them more reliable and longer lasting. More information about Avago’s LED-based and LaserStream optical navigation sensors is available at [www.avagotech.com/opticalnavigation](http://www.avagotech.com/opticalnavigation).

**About Avago Technologies**

Avago Technologies is a leading supplier of analog interface components for communications, industrial and consumer applications. With a global employee presence, Avago provides an extensive range of analog, mixed-signal and optoelectronic components and subsystems to more than 40,000 customers. The company's products serve four end markets: industrial and automotive, wired infrastructure, wireless communications, and computer peripherals. It is recognized for providing high-quality products along with strong customer service. Avago's heritage of technical innovation dates back 40 years to its Agilent/Hewlett-Packard roots. Information about Avago is available on the Web at [www.avagotech.com](http://www.avagotech.com).

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