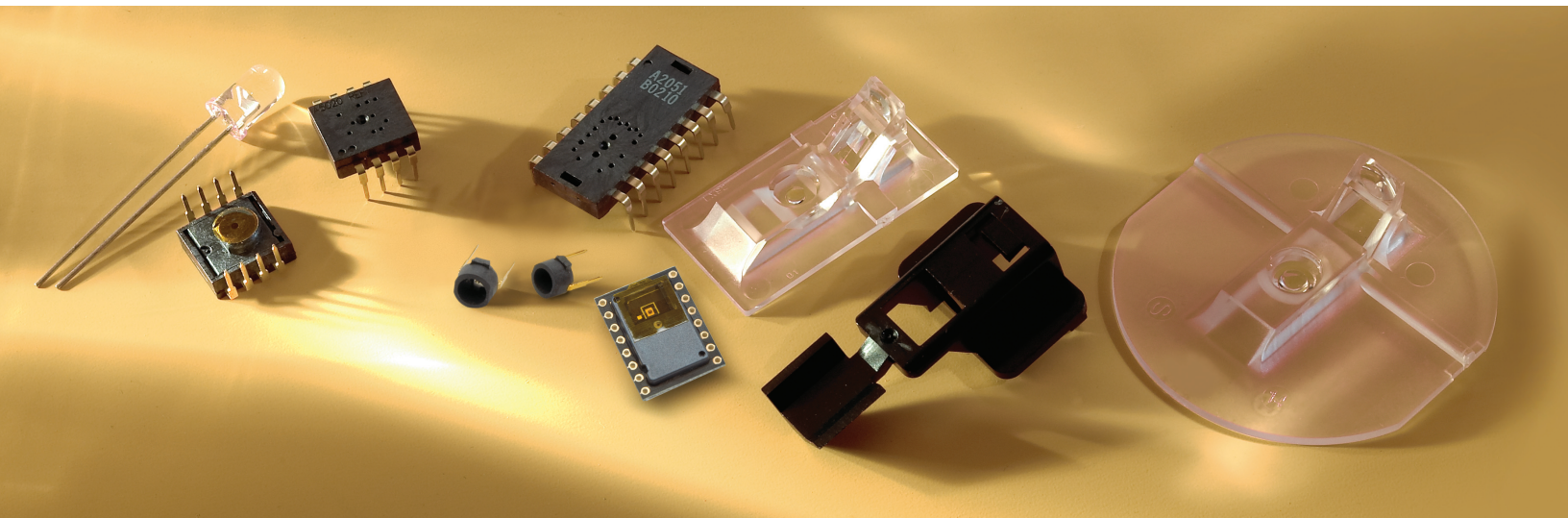


Optical Mouse Sensors



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Avago Technologies is the Undisputed Leader in Optical Position Sensors for Mouse Technology

Avago Technologies - the Inventor of optical mice sensor technology, introduced the world's first surface-independent, optical position-sensors for mouse technology in 1999. To date, Avago has shipped more than 600 million optical mouse sensors to all the world's optical mouse manufacturers.

PC users are demanding smoother, faster and more precise mouse control over a wider variety of surfaces. In answer to this need, traditional ball-based tracking has been replaced by a solid-state, optical tracking system that increases mouse surface coverage, prevents cursor skipping, enhances navigation accuracy, enables greater durability, and reduces maintenance due to fewer mechanical parts. A new laser-based navigation technology from Avago now takes these capabilities one step further to provide the smoothest and most accurate motion ever from an optical mouse.

Avago Technologies is a world leader in opto-electronic technologies, including CMOS imaging, infrared technology, motion control, light-emitting-diodes (LEDs), and fiber-optic transceivers. Avago Technologies first leveraged this expertise to pioneer LED-based navigation technology and, more recently, when it developed laser-based navigation technology for optical mice. Avago offers a diverse line of optical mice sensors, providing optimal navigation solutions for both corded and cordless PC mice. Today, Avago has innovated the worlds smallest sensor package in both LED-based and laser sensor to enable miniaturized/travel mice design, which is key to expanding possibilities and non-mouse new business applications.

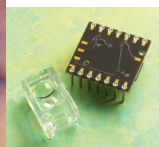
Avago Technologies' sensor teams with an LED, lens, and clip to offer a complete navigation solution

Optical mice offer smoother, more precise tracking than traditional ball mice.



Applications

Avago Technologies' optical mouse sensors provide improved navigation accuracy on virtually all surfaces making it the preferred solution for both corded and cordless applications. Avago sensors provide the smoothest and highest precision navigation controls, making them ideal for workstations, PCs, notebook computers or other input devices.



Miniaturized
Navigation Sensor



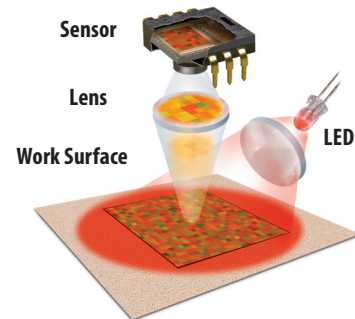
How It Works

LED-Based Optical Technology

Operation of the optical mouse sensor begins when the user moves his mouse. The optical mouse illuminates the work surface with an LED to reveal a microscopic pattern of highlights and shadows. These patterns are reflected onto Avago's navigation sensor in the mouse, which takes thousands of pictures per second. The same images are processed by the digital signal processor (DSP) to determine the direction and distance of motion. The DSP generates values for the relative change in position. The motion information is accessed by a microcontroller inside the mouse and then sent to the computer, directing the precise position of the computer's onscreen cursor.

LaserStream™ Navigation Technology

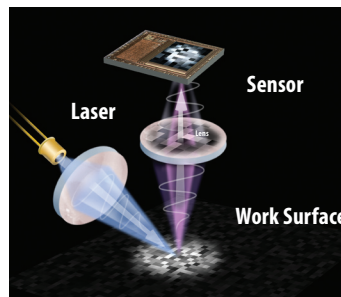
Laser-based optical mice work in much the same way as LED-based mice. When the user moves the mouse, the work surface is illuminated to reveal microscopic patterns. By harnessing the coherent nature of laser light, laser illumination uncovers trackable surface structures that the incoherent LED light source cannot reveal. With this improvement, laser-based mice are able to track on smooth surfaces where LED-based optical mice fail.



LED Technology

Optical mice illuminate an area of the work surface with an LED, to reveal a microscopic pattern of highlights and shadows. These patterns are reflected onto the navigation sensor, which takes thousands of pictures per second.

Avago Technologies' sensor teams with an LED, lens and clip to offer a complete navigation solution.



LaserStream™ Technology

Avago Technologies uses its laser technology to uncover surface detail – or contrast – not visible to LED light. This information is processed by the sensor's DSP engine. By harnessing the coherent nature of the laser light, the laser technology reveals a new level of surface detail and enables the laser to track on surfaces where LED-based sensors typically fail.



Beyond Optical Mice

Non-Mouse Applications

Avago Technologies Optical Navigation Sensors can be used in a wide range of applications besides optical mice, such as household appliances, consumer electronic appliances, and IT peripherals.

Applications

Precision tracking

How it works:

Uses the navigation algorithm to position and stitch the mobile printer enabling it to print the complete image in a freehand manner.

Example application:

Can be used in various household appliances such as printers, sewing machines etc.

Speed detection

How it works:

Apart from lateral velocity, the sensor can also be used to measure distance traveled.

Example application:

To measure speed of sports equipment, toys, etc.

Alternative input device

How it works:

Similar to an optical mouse.

Example application:

Pen mouse and track ball.

Auto stop motion detection

How it works:

The Optical Navigation Sensors will detect a moving surface underneath the sensor. When motion is detected, the microcontroller will trigger the application to power-up. When motion is undetected, the microcontroller will power down the application.

Example application:

Used in irons as a safety feature and energy saver.

Optical Navigation Sensors Summary

LED-based Optical Navigation Sensor

| Part Number | Categories | Description |
|--------------|--------------------|---|
| ADNS-2030 | Cordless | Low power optical mouse sensor optimized for cordless mouse applications |
| ADNS-2051 | Corded | Mid range optical mouse sensor for corded and cordless mouse applications |
| ADNS-2610 | Corded SFF | Entry-level, small form factor, optical mouse sensor for general mouse applications |
| ADNS-2620 | Corded SFF | Entry-level, small form factor, optical mouse sensor with performance features for general mouse applications |
| ADNS-3040 | Cordless | Ultra Low Power Optical Mouse Sensor optimized for cordless mouse applications |
| ADNS-3060 | Corded Performance | High-performance optical mouse sensor |
| ADNS-3080 | Gaming | High-resolution optical mouse sensor for gaming applications |
| ADNS-5020-EN | Corded SFF | Enhanced performance of entry level, small form factor optical mouse sensor for corded mouse application |
| ADNS-5030 | Cordless SFF | Low power, small form factor optical mouse sensor for cordless mouse applications |
| ADNS-3530 | Miniaturization | Miniaturized low power Chip-on-Board LED integrated for cordless application |
| ADNS-3550 | Miniaturization | Miniaturized low power Chip-on-Board LED integrated for cordless application |

LaserStream Optical Navigation Sensor

| Part Number | Categories | Description |
|-------------|-----------------|---|
| ADNS-6000 | Corded | High-performance laser mouse sensor |
| ADNS-6010 | Gaming | High- resolution laser mouse sensor for gaming applications |
| ADNS-7050 | Cordless | Low power laser mouse sensor |
| ADNS-6530 | Miniaturization | Miniaturized, low power intergrated Chip-on-Board LaserStream sensor for cordless application |

LaserStream™ Optical Navigation Sensors

| LaserStream™ Optical Navigation Sensor | | | | |
|---|--|--|---|---|
| Product Number | ADNS-6000 | ADNS-6010 | ADNS-7050 | ADNS-6530 |
| General Features | | | | |
| Categories (Corded/Cordless/Gaming/SFF) | Corded | Gaming | Cordless | SFF Miniaturization |
| Operating voltage | 3.3V | 3.3V | 2.8V | 2.8V |
| Interface | SPI | SPI | SPI | SPI |
| Sensor current consumption - Running | 50 mA (Max @ LOP~506μW) | 53 mA (Max @ LOP~506μW) | 3 mA (Typical @ LOP~506μW) | 3 mA (Typical @ LOP~506μW) |
| Sensor+LED/Laser current consumption - Running | 60 mA (Max @ LOP~506μW & VSCEL Bin3A) | 63 mA (Max @ LOP~506μW & VSCEL Bin3A) | 4 mA (Typical @ LOP~506μW & VSCEL Bin3A) | 4 mA (Typical @ LOP~506μW & VSCEL Bin3A) |
| Current consumption - Power down (Typical) | 5 uA | 5 uA | 1 uA | 1 uA |
| IC Package | DIP-20 | DIP-20 | DIP-18 | COB-14 |
| X & Y & Z Dimension | 22.3mm X 12.86mm X 9.6mm | 22.3mm X 12.86mm X 9.6mm | 17.84mm X 12.85mm X 9.6mm | 15.1mm X 14.5mm X 5.7mm |
| Clock frequency | 24 MHz | 24 MHz | Internal Oscillator | Internal Oscillator |
| Max Speed (Subject to surface condition) | 20ips | 45ips | 20ips | 20ips |
| Programmable Features | | | | |
| Frame rate | 500-6469 fps | 2000-7080 fps | SmartSpeed | SmartSpeed |
| Resolution | 400/800 cpi | 400/800/1600/2000 cpi | 400/800 cpi | 400/800 cpi |
| Sleep Mode | N/A | N/A | 3 self-adjusting power-saving modes (Rest1, Rest2, Rest3) | 4 self-adjusting power-saving modes (Rest1, Rest2, Rest3) |
| Power Management | Power down pin | Power down pin | Register access | Register access |
| Acceleration from sleep mode | 8 G | 20 G | 8 G | 8 G |
| LED Strobe/Fixed | Strobe | Strobe | Strobe | Strobe |
| Self Diagnostics | | | | |
| Product/Revision ID | Register access | Register access | Register access | Register access |
| Squal Data | Register access | Register access | Register access | Register access |
| Pixel Dump | Register access | Register access | Register access | Register access |
| Average/Max Pixel | Register access | Register access | Register access | Register access |
| Motion Detect | Register access | Register access | Motion pin and Register access | Motion pin and Register access |
| LED/Laser Fault Detect | Register access | Register access | Register access | Register access |
| Applications | Mice for game consoles / computer Mice for desktop PCs/ Workstations and portable PCs Laser trackballs Integrated input devices | Mice for game consoles / computer Mice for desktop PCs/ Workstations and portable PCs Laser trackballs Integrated input devices | Laser mice Optical trackballs Integrated input devices Battery-powered input devices | Laser mice Optical trackballs Integrated input devices Battery-powered input devices |
| Part Number | | | | |
| Sensor | ADNS-6000 | ADNS-6010 | ADNS-7050 | ADNS-6530 |
| Bundles | ADNB-6001-EV / ADNB-6002-EV | ADNB-6011-EV / ADNB-6012-EV | ADNB-7051 -EV / ADNB-7052-EV | ADNB-6532 |
| Sample Kit | ADNK-6000 | ADNK-6010 | ADNK-7050 | ADNK-6530 |
| Reference Design Kit | ADNK-6003-SP01 | ADNK-6003-SP01 | ADNK-7053-XXXX | ADNS-6533-XXXX |

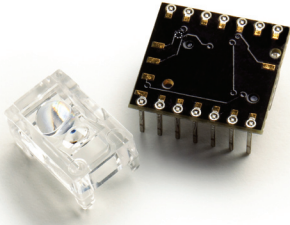
LED-based Optical Navigation Sensors

| LED-Based Optical Navigation Sensor | | | | | |
|---|---|---|---|--|---|
| Product Number | ADNS-2610 | ADNS-2620 | ADNS-2051 | ADNS-2030 | ADNS-3060 |
| General Features | | | | | |
| Categories (Corded/Cordless/Gaming/SFF) | Corded | Corded | Corded | Cordless | Corded |
| Operating voltage | 5V | 5V | 5V | 3.3V | 3.3V |
| Interface | SPI | SPI | SPI, Quadrature | SPI, Quadrature | SPI |
| Sensor current consumption - Running | 15 mA (Typical) | 15 mA (Typical) | 15 mA (Typical) | 13 mA (Typical) | 60 mA (Typical) |
| Sensor+LED/Laser current consumption - Running | 35 mA (Typical) | 35 mA (Typical) | 62 mA (Typical) | 28 mA (Typical) | 66 mA (Max) |
| Power consumption - Power down (Typical) | 170 uA | 170 uA | 170 uA | 4 uA | 5 uA |
| IC Package | DIP-8 | DIP-8 | DIP-16 | DIP-16 | DIP-20 |
| X & Y & Z Dimension | 9.9mm X 9.1mm X 6.1mm | 9.9mm X 9.1mm X 6.1mm | 22.3mm X 9.1mm X 6.1mm | 22.3mm X 9.1mm X 6.1mm | 22.3mm X 12.85mm X 8mm |
| Clock frequency | 24 MHz | 24 MHz | 18 MHz | 18 MHz | 24 MHz |
| Max Speed (Subject to surface condition) | 12 ips (@1500fps) | 12ips (@1500fps) | 14ips (@1500fps) | 14ips (@1500fps) | 40ips (@6469fps) |
| Programmable Features | | | | | |
| Frame rate | 1500 fps | 500-2300 fps | 500-2300 fps | 500-2300 fps | 500-6469 fps |
| Resolution | 400 cpi | 400 cpi | 400/800 cpi | 400/800 cpi | 400/800 cpi |
| Sleep Mode | Auto, Always awake | Auto, Always awake | Auto, Always awake | Auto, Always awake | N/A |
| Power Management | Register access | Register access | Power down pin | Power down pin | Power down pin |
| Acceleration from sleep mode | 0.25 G | 0.25 G | 0.15 G | 0.15 G | 15 G @6469fps |
| LED Strobe/Fixed | Fixed | Strobe | Strobe | Strobe | Strobe |
| Self Diagnostics | | | | | |
| Product/Revision ID | Register access | Register access | Register access | Register access | Register access |
| Squal Data | Register access | Register access | Register access | Register access | Register access |
| Pixel Dump | Register access | Register access | Register access | Register access | Register access |
| Average/Max Pixel | Register access | Register access | Register access | Register access | Register access |
| Motion Detect | N/A | N/A | Register access | Register access | Register access |
| LED/Laser Fault Detect | N/A | N/A | Register access | Register access | Register access |
| Applications | Mice for desktop PCs/ Workstations and portable PCs Trackballs Integrated input devices | Mice for desktop PCs/ Workstations and portable PCs Trackballs Integrated input devices | Mice for desktop PCs/ Workstations and portable PCs Trackballs Integrated input devices | Cordless optical mice Mice for desktop PCs/ Workstations and portable PCs Trackballs Integrated input devices | Mice for game consoles/computer Mice for desktop PCs/ Workstations and portable PCs Trackballs Integrated input devices |
| Part Number | | | | | |
| Sensor | ADNS-2610 | ADNS-2620 | ADNS-2051 | ADNS-2030 | ADNS-3060 |
| Bundles | ADNB-2611 / ADNB-2612 | ADNB-2621 / ADNB-2622 | ADNB-2050 / ADNB-2051 | ADNB-2031 / ADNB-2032 | ADNB-3061 / ADNB-3062 |
| Sample Kit | ADNK-2610 | ADNK-2620 | ADNK-2052 | ADNK-2030 | ADNK-3060 |
| Reference Design Kit | N/A | ADNK-2623 | ADNK-2051 | ADNK-2133 | ADNK-3061 |

| | ADNS-3080 | ADNS-3040 | ADNS-5020-EN | ADNS-5030 | ADNS-3530 | ADNS-3550 |
|--|---|---|-----------------------------|---|---|---|
| | Gaming | Cordless | Corded | Cordless | SFF Miniaturization | SFF Miniaturization |
| | 3.3V | 2.85V | 5V | 3.3V | 2.85V | 2.85V |
| | SPI | SPI | SPI | SPI | SPI | SPI |
| | 52 mA (Typical) | 1.9 mA (Typical) | 6 mA (Typical) | 3.2 mA (Typical) | 1.9 mA (Typical) | 1.9 mA (Typical) |
| | 58 mA (Max) | 2.9 mA (Typical) | 26 mA (Typical) | 15.2 mA (Typical) | 3.6 mA (Typical) | 3.6 mA (Typical) |
| | 5 uA | 1 uA | 2 mA (Idle state) | 28 uA | 1 uA | 1 uA |
| | DIP-20 | DIP-20 | DIP-8 | DIP-8 | COB-14 | COB-14 |
| | 22.3mm X 12.85mm X 8mm | 22.3mm X 12.85mm X 8mm | 9.9mm X 12.85mm X 6.1mm | 9.9mm x 12.85mm x 6.1mm | 9.6mm X 12.9mm X 1.69mm | 12.5mm X 12.9mm X 1.69mm |
| | 24 MHz | Internal Oscillator | Internal Oscillator | Internal Oscillator | Internal Oscillator | Internal Oscillator |
| | 40ips (@6469fps) | 20ips | 20ips | 14ips | 20ips | 20ips |
| | | | | | | |
| | 2000-6469 fps | SmartSpeed | SmartSpeed | SmartSpeed | SmartSpeed | SmartSpeed |
| | 400/1600 cpi | 400/800 cpi | 500/1000 cpi | 500/1000 cpi | 400/800 cpi | 400/800 cpi |
| | N/A | 3 self-adjusting power-saving modes (Rest1, Rest2, Rest3) | N/A | 3 self-adjusting power-saving modes (Rest1, Rest2, Rest3) | 3 self-adjusting power-saving modes (Rest1, Rest2, Rest3) | 3 self-adjusting power-saving modes (Rest1, Rest2, Rest3) |
| | Power down pin | Shutdown pin | N/A | N/A | Shutdown pin | Shutdown pin |
| | 15 G @6469fps | 8 G | 2 G | 2 G | 8 G | 8 G |
| | Strobe | Strobe | Strobe | Strobe | Strobe | Strobe |
| | | | | | | |
| | Register access | Register access | Register access | Register access | Register access | Register access |
| | Register access | Register access | Register access | Register access | Register access | Register access |
| | Register access | Register access | Register access | Register access | Register access | Register access |
| | Register access | Register access | Register access | Register access | Register access | Register access |
| | Register access | Motion Pin and Register access | Register access | Register access | Motion Pin and Register access | Motion Pin and Register access |
| | Register access | N/A | N/A | N/A | N/A | N/A |
| | Mice for game consoles / computer | Optical mice | Optical mice | Optical mice | Optical mice | Optical mice |
| | Mice for desktop PCs/ Workstations and portable PCs | Optical trackballs | Optical trackballs | Optical trackballs | Optical trackballs | Optical trackballs |
| | Trackballs | Integrated input devices | Integrated input devices | Integrated input devices | Integrated input devices | Integrated input devices |
| | Integrated input devices | Battery-powered input devices | | Battery-powered input devices | Battery-powered input devices | Battery-powered input devices |
| | | | | | | |
| | ADNS-3080 | ADNS-3040 | ADNS-5020-EN | ADNS-5030 | ADNS-3530 | ADNS-3550 |
| | ADNB-3081 / ADNB-3082 | ADNB-3042 | ADNB-5021-EN / ADNB-5022-EN | ADNB-5031 / ADNB-5032 | ADNB-3532 | ADNB-3552 |
| | ADNK-3080 | ADNK-3040 | ADNK-5020-EN | ADNK-5030 | ADNK-3530 | ADNK-3550 |
| | ADNK-3083 | ADNK-3043-XXXX | ADNK-5023-XXX2 | ADNK-5033-XXXX | ADNK-3533-XXXX | ADNK-3553-XXXX |

LaserStream™ Mouse Solutions

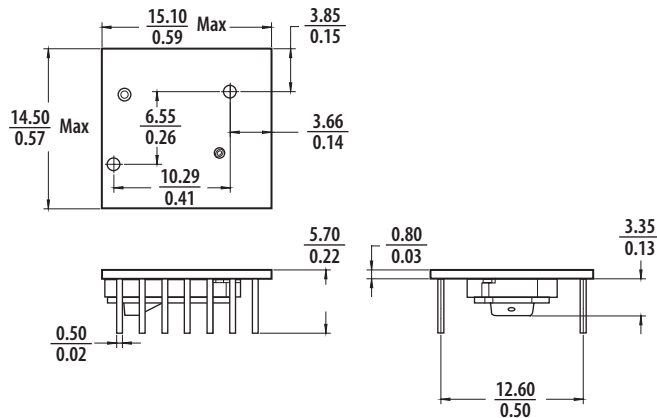
ADNS-6530



Description

Avago Technologies ADNS-6530 integrated COB LaserStream sensor comprises of a sensor and VCSEL in a single package. The advanced class of VCSEL was engineered by Avago to provide a laser diode with a single longitudinal and a single transverse mode. In contrast to most oxide-based single-mode VCSEL, this class of Avago VCSEL remains within single mode operation over a wide range of output power. It has significantly lower power consumption than an LED. It is an excellent choice for optical navigation applications.

Package Drawing



Applications

- Laser mice
- Optical trackballs
- Integrated input devices
- Battery-powered input devices

Features

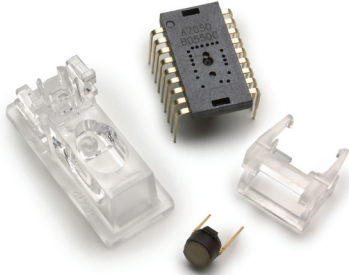
- Small form factor, integrated chip-on-board package
- Low power architecture
- New LaserStream technology
- Self-adjusting power-saving modes for longest battery life
- High speed motion detection up to 20 ips and 8G
- Enhanced SmartSpeed self-adjusting frame rate for optimum performance
- Motion detect pin output
- Internal oscillator - no clock input needed
- Selectable 400 and 800 cpi resolution
- Four wire serial port
- Minimal number of passive components
- Laser fault detect circuitry on-chip for Eye Safety Compliance
- Wide operating voltage: 2.7V - 3.6V nominal
- Advanced Technology VCSEL chip
- Single Mode Lasing operation
- 832 - 865 nm wavelength

Ordering Information

| Part Number | |
|-----------------------|--|
| ADNB-6352 | Sensor: ADNS-6530 SFF Lens: ADNS-6150 |
| ADNK-6530 | ADNS-6530 Sample kit, includes sensor and small form factor lens |
| ADNK-6533-XXXX | ADNS-6530 Reference Design Kit. Includes an evaluation mouse with ADNS-6530 sensor, plus components in a sample kit. |

LaserStream™ Mouse Solutions

ADNS-7050



Description

Avago Technologies ADNS-7050 optical mouse sensor is based on the world's first laser-illuminated system enabled for cordless application. Powered by the LaserStream navigation technology, the mouse can operate on many surfaces that are difficult for traditional LED-based optical navigation. Its high-performance, low-power architecture is capable of sensing high-speed mouse motion while prolonging battery life; two performance area essential in demanding cordless applications.

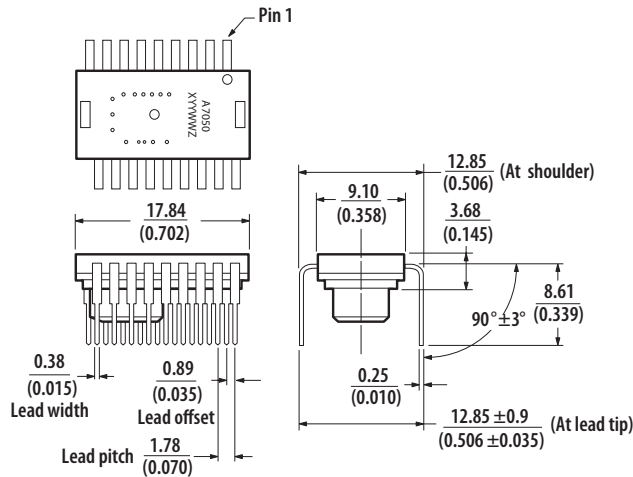
Applications

- Cordless and corded mice
- Battery-powered input devices
- Industrial products
- Integrated input devices

Features

- Low power architecture
- LaserStream technology
- Self-adjusting power-saving modes for longest battery life
- High speed motion detection up to 20 ips and 8G
- Enhanced SmartSpeed self-adjusting frame rate for optimum performance
- Motion detect pin output
- Internal oscillator - no clock input needed
- Selectable 400 and 800 cpi resolution
- Wide operating voltage: 2.7V-3.6V nominal
- Four wire serial port
- Minimal number of passive components
- Laser fault detect circuitry on-chip for Eye Safety Compliance

Package Drawing

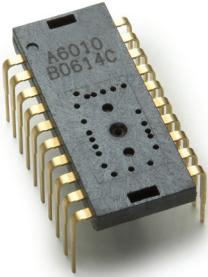


Ordering Information

| Part Number | |
|-----------------------|--|
| ADNB-7051-EV | Sensor: ADNS-7050 |
| | Lens: ADNS-6120 |
| | Clip: ADNS-6230-001 |
| | Vcsel: ADNV-6340 |
| ADNB-7052-EV | Sensor: ADNS-7050 |
| | Lens: ADNS-6130-001 |
| | Clip: ADNS-6230-001 |
| | Vcsel: ADNV-6340 |
| ADNK-7050 | ADNS-7050 Samplekit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-7053-XXXX | ADNS-7050 Reference Design Kit. Includes an evaluation mouse with ADNS-7050 sensor, plus components in a sample kit. |

LaserStream™ Mouse Solutions

ADNS-6010



Description

Avago Technologies ADNS-6010 optical mouse sensor is the world's first laser-illuminated systems enabled for high performance navigation. Driven by LaserStream technology, the mouse can operate on many surfaces that prove difficult for traditional LED-based optical navigation. This sensor is powered for the extremely high sensitive user, especially in PC games.

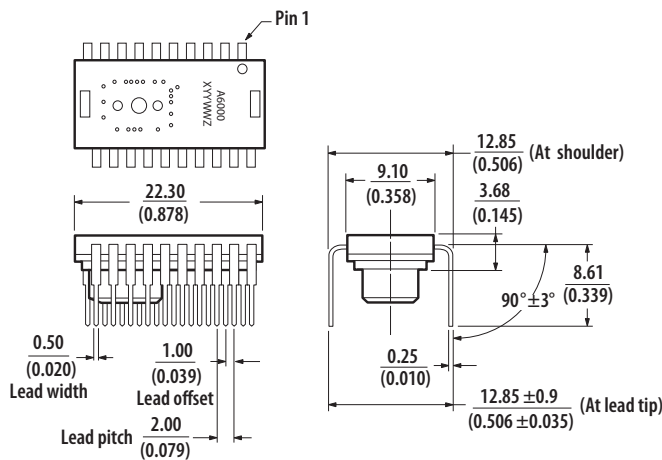
Applications

- Mice for game consoles and computer games
- Mice for desktop PCs, workstation, and portable PCs
- Industrial products
- Integrated input devices

Features

- High speed motion detection up to 45 ips and 20G
- LaserStream architecture for greatly improved optical navigation technology
- Programmable frame rate over 7080 frames per second
- SmartSpeed self-adjusting frame rate for optimum performance
- Serial port burst mode for fast data transfer
- 400, 800, 1600, and 2000 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 for Eye Safety Compliance

Package Drawing

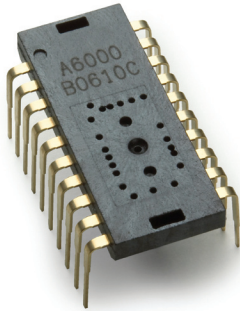


Ordering Information

| Part Number | |
|-----------------------|--|
| ADNB-6011-EV | Sensor: ADNS-6010 |
| | Lens: ADNS-6120 |
| | Clip: ADNS-6230-001 |
| | Vcsel: ADNV-6340 |
| ADNB-6012-EV | Sensor: ADNS-6100 |
| | Lens: ADNS-6130-001 |
| | Clip: ADNS-6230-001 |
| | Vcsel: ADNV-6340 |
| ADNK-6010 | ADNS-6010 Sample kit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-6013-SP01 | ADNS-6010 Reference Design Kit. Includes an evaluation mouse with ADNS-6010 sensor, plus components in a sample kit. |

LaserStream™ Mouse Solutions

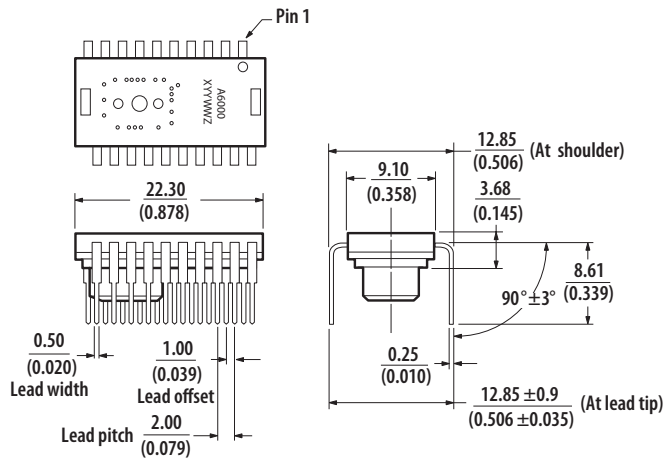
ADNS-6000



Description

Avago Technologies ADNS-6000 sensor is the world's first laser-illuminated navigation systems for corded applications. Driven by LaserStream technology, the mouse can operate on many surfaces that prove difficult for traditional LED-based optical navigation.

Package Drawing



Applications

- Mice for game consoles and computer games
- Mice for desktop PCs, workstation, and portable PCs
- Industrial products
- Integrated input devices

Features

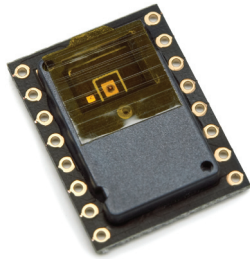
- High speed motion detection up to 20 ips and 8G
- LaserStream architecture for greatly improved optical navigation technology
- Programmable frame rate over 6400 frames per second
- SmartSpeed self-adjusting frame rate for optimum performance
- Serial port burst mode for fast data transfer
- 400 or 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 for Eye Safety Compliance

Ordering Information

| Part Number | |
|-----------------------|--|
| ADNB-6001-EV | Sensor: ADNS-6000 |
| | Lens: ADNS-6120 |
| | Clip: ADNS-6230-001 |
| | VcSEL: ADNV-6340 |
| ADNB-6002-EV | Sensor: ADNS-6000 |
| | Lens: ADNS-6130-001 |
| | Clip: ADNS-6230-001 |
| | VcSEL: ADNV-6340 |
| ADNK-6000 | ADNS-6000 Sample kit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-6003-SP01 | ADNS-6000 Reference Design Kit. Includes an evaluation mouse with ADNS-6000 sensor, plus components in a sample kit. |

LED-Based Optical Navigation Sensors

ADNS-3530

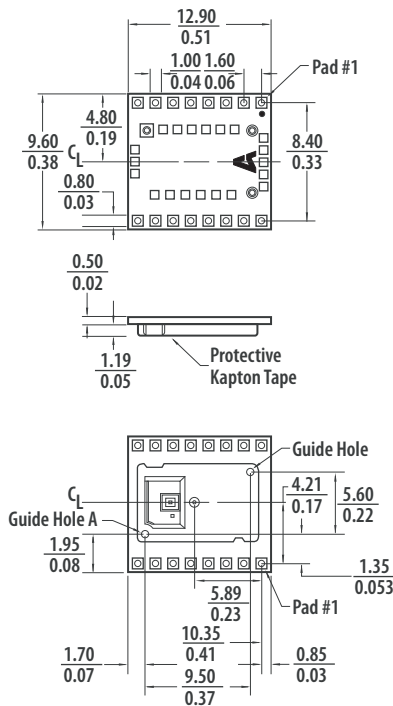


Description

Avago Technologies ADNS-3530 is a low-power optical navigation sensor. It has a new, low-power architecture and automatic power management mode, making it ideal for battery and power-sensitive applications such as cordless input devices.

ADNS-3530 is capable of high-speed motion detection - up to 20ips and 8G. In addition, it has an on-chip oscillator and integrated LED to minimize external components.

Package Drawing



Applications

- Optical mice for desktop/laptop
- Optical trackballs
- Integrated input devices
- Battery-powered input devices

Features

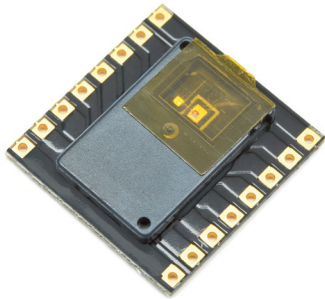
- Low power architecture
- Small form factor
- Surface mount technology (SMT) device
- Self-adjusting power-saving modes for longest battery life
- High speed motion detection up to 20ips and 8G
- Self-adjusting frame rate for optimum performance
- Motion detect pin output
- Internal oscillator - no clock input needed
- Selectable 400 and 800 cpi resolution
- Wide operating voltage: 2.7V-3.6V nominal
- Four wire serial port
- Minimal number of passive components
- Integrated chip-on-board LED

Ordering Information

| Part Number | |
|-----------------------|--|
| ADNB-3532 | Sensor : ADNS-3530 |
| | SFF Lens : ADNS-3150-001 |
| ADNK-3530 | ADNS-3530 Sample kit, includes sensor and SFF Lens |
| ADNK-3533-XXXX | ADNS-3530 Reference Design Kit. Includes an evaluation mouse with ADNS-3530 sensor and SFF Lens in a sample kit. |

LED-Based Optical Navigation Sensors

ADNS-3550

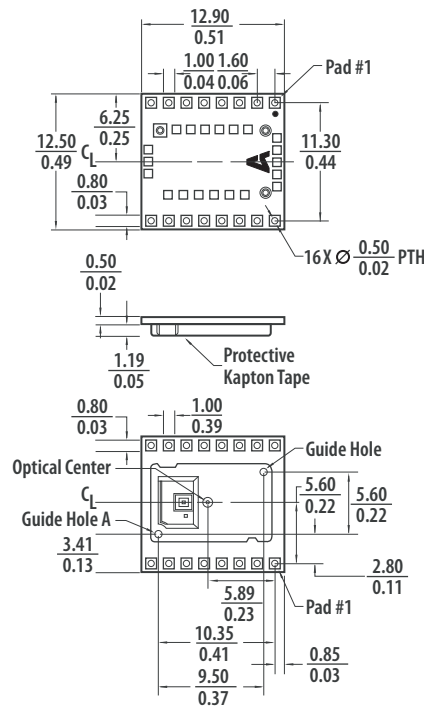


Description

Avago Technologies ADNS-3550 is a low-power optical navigation sensor. It has a new, low-power architecture and automatic power management mode, making it ideal for battery and power-sensitive applications such as cordless input devices.

ADNS-3550 is capable of high-speed motion detection - up to 20ips and 8G. In addition, it has an on-chip oscillator and integrated LED to minimize external components.

Package Drawing



Applications

- Optical mice for desktop/laptop
- Optical trackballs
- Integrated input devices
- Battery-powered input devices

Features

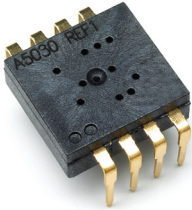
- Low power architecture
- Small form factor
- Surface mount technology (SMT) device
- Self-adjusting power-saving modes for longest battery life
- High speed motion detection up to 20ips and 8G
- Self-adjusting frame rate for optimum performance
- Motion detect pin output
- Internal oscillator - no clock input needed
- Selectable 400 and 800 cpi resolution
- Wide operating voltage: 2.7V-3.6V nominal
- Four wire serial port
- Minimal number of passive components
- Integrated chip-on-board LED

Ordering Information

| Part Number | |
|-----------------------|--|
| ADNB-3552 | Sensor : ADNS-3550 |
| | SFF Lens : ADNS-3150-001 |
| ADNK-3550 | ADNS-3550 Sample kit, includes sensor and SFF Lens |
| ADNK-3553-XXXX | ADNS-3550 Reference Design Kit. Includes an evaluation mouse with ADNS-3550 sensor and SFF Lens in a sample kit. |

LED-Based Optical Navigation Sensors

ADNS-5030



Description

Avago Technologies ADNS-5030 is the new generation of small form factor, low power optical mouse sensors. With many built-in features, such as an on-chip oscillator and LED driver, this minimizes the need for external components. It also has a new low-power architecture and automatic power management modes, making it ideal for power sensitive applications - particularly cordless input devices in both home and office environments.

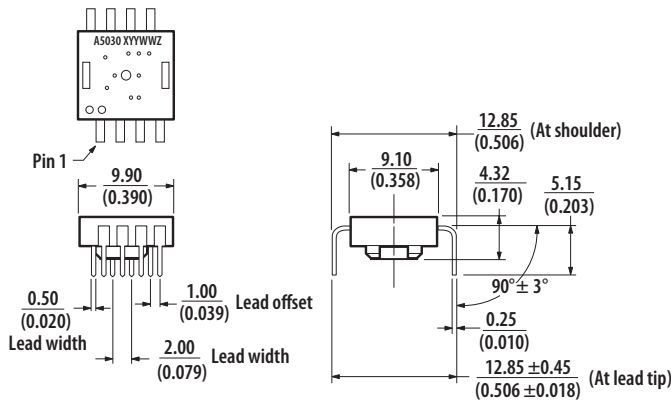
Applications

- Optical mice for desktop/laptop
- Optical trackballs
- Integrated input devices
- Battery-powered input devices

Features

- Low power architecture
- Small form factor, 8-pin package
- Self-adjusting power-saving modes, prolonging battery life
- High speed motion detection up to 14 ips and 2G
- SmartSpeed self-adjusting frame rate for optimum performance
- Internal oscillator - no clock input needed
- Selectable 500 and 1000 cpi resolution
- Operating voltage: 3.3V nominal
- Four wire serial port
- Minimal number of passive components

Package Drawing

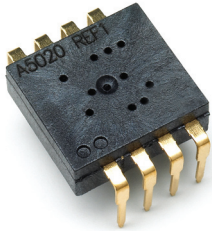


Ordering Information

| Part Number | |
|----------------|--|
| ADNS-5030 | LED-based sensor |
| ADNS-5100 | Small Form Factor round lens |
| ADNS-5100-001 | Small Form Factor trim lens |
| ADNS-5200 | Small Form Factor clip |
| ADNB-5031 | Sensor: ADNS-5030 |
| | Lens: ADNS-5100 |
| ADNB-5032 | Sensor: ADNS-5030 |
| | Lens: ADNS-5100-001 |
| ADNK-5030 | ADNS-5030 Sample kit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-5033-XXXX | ADNS-5030 Reference Design Kit. Includes an evaluation mouse with ADNS-5030 sensor, plus components in a sample kit. |

LED-Based Optical Navigation Sensors

ADNS-5020-EN



Description

Avago Technologies ADNS-5020-EN is an entry-level, small form factor optical mouse sensor. With many built-in features including on-chip oscillator and LED driver, this minimizes requirements for external components. Also, this sensor is optimized for LED-based corded applications for home and office environments.

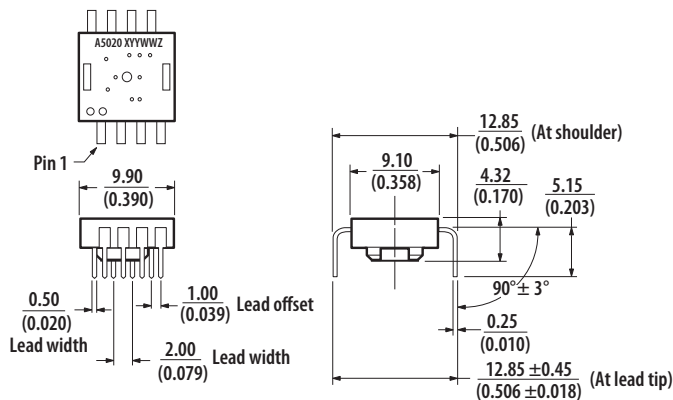
Applications

- Optical mice for desktop/laptop
- Optical trackballs
- Integrated input devices

Features

- Small form factor, 8-pin package
- Built-in LED driver for simpler circuitry
- High speed motion detection up to 20 ips and 2G
- SmartSpeed self-adjusting frame rate for optimum performance
- Internal oscillator - no clock input needed
- Selectable 500 and 1000 cpi resolution
- Operating voltage: 5V nominal
- Three-wire serial port
- Minimal number of passive components

Package Drawing

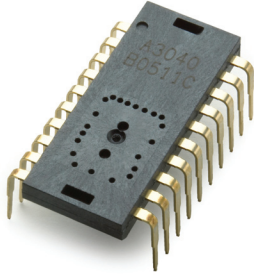


Ordering Information

| Part Number | |
|----------------|---|
| ADNS-5020-EN | LED-based sensor |
| ADNS-5100 | Small Form Factor round lens |
| ADNS-5100-001 | Small Form Factor trim lens |
| ADNS-5200 | Small Form Factor clip |
| ADNB-5021-EN | Sensor: ADNS-5020-EN |
| | LCM round lens: ADNS-5100 |
| ADNB-5022-EN | Sensor: ADNS-5020-EN |
| | LCM trim lens: ADNS-5100-001 |
| ADNK-5020-EN | ADNS-5020-EN Sample kit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-5023-XXXX | ADNS-5020-EN Reference Design Kit. Includes an evaluation mouse with ADNS-5020 sensor, plus components in a sample kit. |

LED-Based Optical Navigation Sensors

ADNS-3040



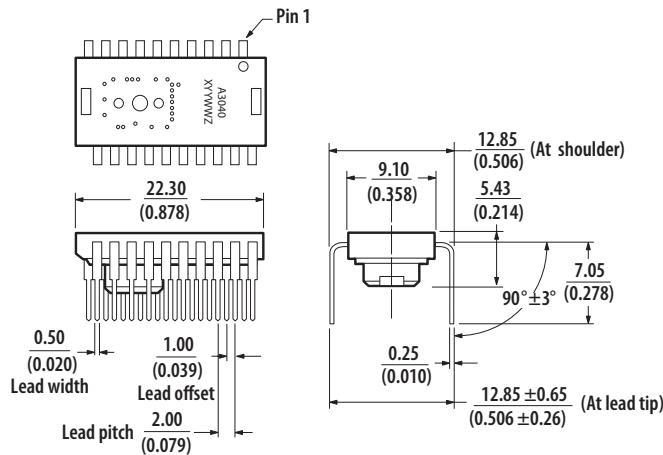
Description

Avago Technologies ADNS-3040 is an ultra low-power optical navigation sensor. It has a low power architecture and automatic power management mode, making it ideal for battery and power-sensitive applications such as cordless input devices.

Applications

- Optical mice for desktop/laptop
- Optical trackballs
- Integrated input devices
- Battery-powered input devices

Package Drawing



Features

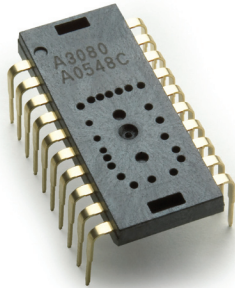
- Low power architecture
- Self-adjusting power-saving modes for longest battery life
- High speed motion detection up to 20 ips and 8G
- SmartSpeed self-adjusting frame rate for optimum performance
- Motion detect pin output
- Internal oscillator - no clock input needed
- Selectable 400 and 800 cpi resolution
- Wide operating voltage: 2.5V-3.6V nominal
- Four wire serial port
- Minimal number of passive components

Ordering Information

| Part Number | |
|-----------------------|--|
| ADNS-3040 | LED-based sensor |
| ADNS-3120-001 | Optical mouse trim lens |
| ADNS-2220-001 | Optical mouse LED assembly clip |
| ADNB-3042 | Sensor: ADNS-3040 |
| | Lens: ADNS-3120-001 |
| ADNK-3040 | ADNS-3040 Sample kit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-3040-XXXX | ADNS-3040 Reference Design Kit. Includes an evaluation mouse with ADNS-3040 sensor, plus components in a sample kit. |

LED-Based Optical Navigation Sensors

ADNS-3080



Description

Avago Technologies ADNS-3080 is a high performance optical mouse sensor for optimum precision navigation in mice applications. This sensor provides a non-mechanical tracking engine for implementing a computer-pointing device. With its high performance features, this optical mouse sensor caters to mice applications in both gaming and office environments. It can also navigate on virtually all surfaces.

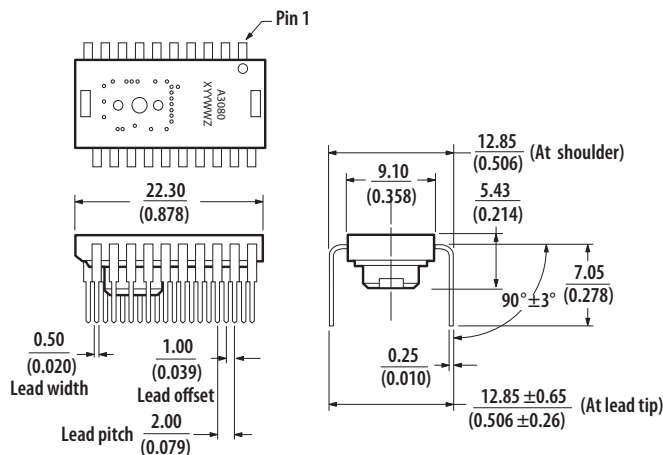
Applications

- Mice for game consoles and computer games
- Mice for desktop PCs, workstations, and portable PCs
- Integrated input devices

Features

- High speed motion detection up to 40 ips and 15 G
- New architecture for greatly improved optical navigation technology
- 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 1600 cpi programmable resolution
- Single 3.3 volt power supply
- Four-wire serial port dedicated for efficient communications
- Features for increased speed with Chip Select, Power Down, and Reset pins

Package Drawing

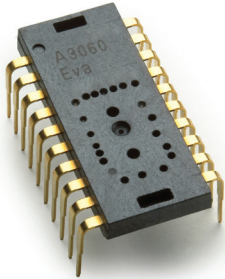


Ordering Information

| Part Number | |
|----------------------|--|
| ADNS-3080 | LED-based sensor |
| ADNS-2120 | Optical navigation LED round lens |
| ADNS-2120-001 | Optical navigation LED trim lens |
| ADNS-2220 | Optical navigation black clip |
| ADNS-2220-001 | Optical navigation LED clear clip |
| ADNB-3081 | Sensor: ADNS-3080 Lens: ADNS-2120 |
| ADNB-3082 | Sensor: ADNS-3080 Lens: ADNS-2120-001 |
| ADNK-3080 | ADNS-3080 Sample kit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-3083 | ADNS-3080 Reference Design Kit. Includes an evaluation mouse with ADNS-3080 sensor, plus components in a sample kit. |

LED-Based Optical Navigation Sensors

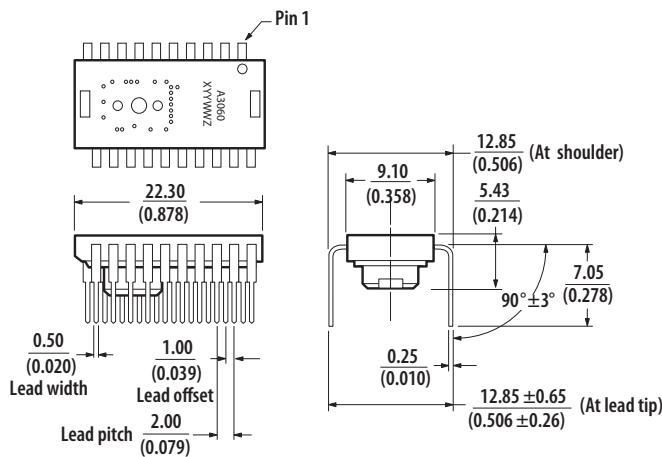
ADNS-3060



Description

Avago Technologies ADNS-3060 is high performance optical mouse sensor for optimum precision navigation in mice applications. This sensor provides a non-mechanical tracking engine for implementing a computer-pointing device.

Package Drawing



Applications

- Mice for game consoles and computer games
- Mice for desktop PCs, workstations, and portable PCs
- Integrated input devices

Features

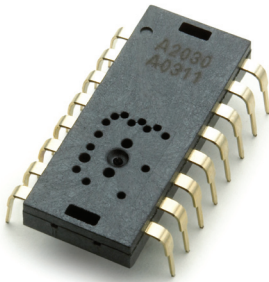
- High speed motion detection up to 40 ips and 15 G
- New architecture for greatly improved optical navigation technology
- Programmable frame rate over 6400 frames per second
- SmartSpeed self-adjusting frame rate for optimum performance
- Serial port burst mode for fast data transfer
- 400 or 800 cpi programmable resolution
- Single 3.3 volt power supply
- Four-wire serial port dedicated for efficient communications
- Features for increased speed with Chip Select, Power Down, and Reset pins

Ordering Information

| Part Number | |
|----------------------|--|
| ADNS-3060 | LED-based sensor |
| ADNS-2120 | Optical navigation LED round lens |
| ADNS-2120-001 | Optical navigation LED trim lens |
| ADNS-2220 | Optical navigation black clip |
| ADNS-2220-001 | Optical Navigation LED clear clip |
| ADNB-3061 | Sensor: ADNS-3060 |
| | Lens: ADNS-2120 |
| ADNB-3062 | Sensor: ADNS-3060 |
| | Lens: ADNS-2120-001 |
| ADNK-3060 | ADNS-3060 Sample kit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-3061 | ADNS-3060 Reference Design Kit. Includes an evaluation mouse with ADNS-3060 sensor, plus components in a sample kit. |

LED-Based Optical Navigation Sensors

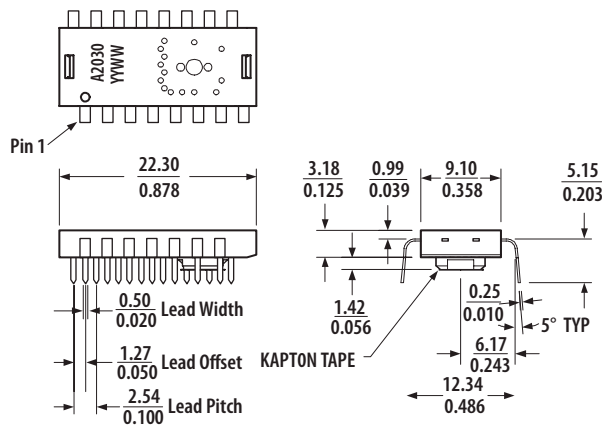
ADNS-2030



Description

Avago Technologies ADNS-2030 is a power efficient optical mouse sensor optimized for long battery life, offering computer users months of operation from AA batteries. Featuring advance precision navigation control, ADNS-2030 is ideal for cordless optical mice applications including workstations, PCs, and notebook computers. This sensor is mounted in a 16-pin staggered dual in-line package.

Package Drawing



Applications

- Cordless optical mice
- Mice for desktop PCs, workstations, and portable PCs
- Trackballs
- Integrated input devices

Features

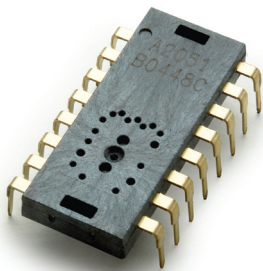
- Optical navigation technology
- No mechanical moving parts
- High reliability
- Complete 2-D motion sensor
- High speed motion detector
- No precision optical alignment
- Wave solderable
- Single 3.3 volt power supply
- Shutdown pin for USB suspend mode operation
- Power conservation mode during times of no movement
- On chip LED drive with regulated current
- Serial port registers

Ordering Information

| Part Number | |
|---------------|--|
| ADNS-2030 | LED-based sensor |
| HDNS-2100 | Optical navigation LED round lens |
| HDNS-2100-001 | Optical navigation LED trim lens |
| HDNS-2200 | Optical navigation black clip |
| HDNS-2200#001 | Optical navigation LED clear clip |
| ADNB-2031 | Sensor: ADNS-2030 Lens: HDNS-2100 |
| ADNB-2032 | Sensor: ADNS-2030 Lens: HDNS-2100-001 |
| ADNK-2030 | ADNS-2030 Sample kit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-2133 | ADNS-2030 Reference Design Kit. Includes an evaluation mouse with ADNS-2030 sensor, plus components in a sample kit. |

LED-Based Optical Navigation Sensors

ADNS-2051



Description

Avago Technologies ADNS-2051 optical mouse sensor provides advanced precision navigation control over a wide variety of surfaces. This sensor is mounted in a 16-pin staggered dual in-line package. It is designed for 5-V operation, which is ideal for corded optical mouse applications.

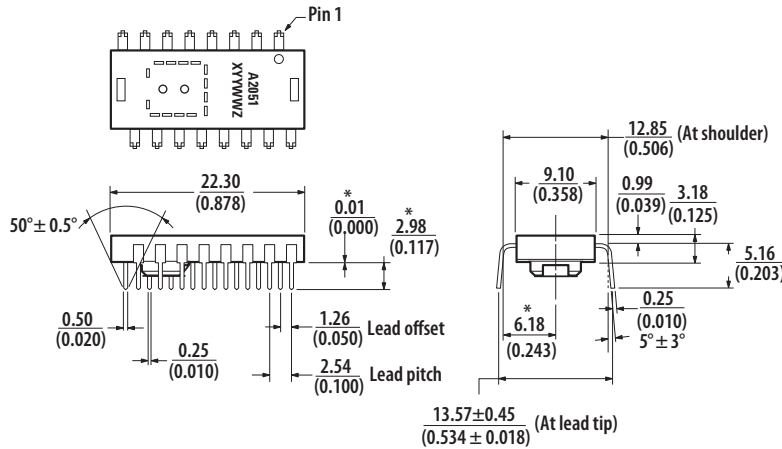
Applications

- Mice for desktop PCs, workstations, and portable PCs
- Trackballs
- Integrated input devices

Features

- Optical navigation technology
- No mechanical moving parts
- High reliability
- Complete 2-D motion sensor
- No precision optical alignment
- Wave solderable
- Single 5.0 volt power supply
- Shutdown pin for USB suspend mode operation
- Power conservation mode during times of no movement
- On chip LED drive with regulated current
- Serial port registers

Package Drawing



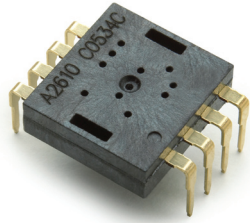
Ordering Information

| Part Number | |
|----------------------|--|
| ADNS-2051 | LED-based sensor |
| HDNS-2100 | Optical navigation LED round lens |
| HDNS-2100-001 | Optical navigation LED trim lens |
| HDNS-2200 | Optical navigation black clip |
| HDNS-2200#001 | Optical navigation LED clear clip |
| ADNB-2050 | Sensor: ADNS-2051 Lens: HDNS-2100 |
| ADNB-2051 | Sensor: ADNS-2051 Lens: HDNS-2100-001 |
| ADNK-2052 | ADNS-2051 Sample kit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-2051 | ADNS-2051 Reference Design Kit. Includes an evaluation mouse with ADNS-2051 sensor, plus components in a sample kit. |

LED-Based Optical Navigation Sensors

ADNS-2610

ADNS-2620



Description

Avago Technologies ADNS-2610 and ADNS-2620 are new entry level, small form factor optical mice sensors, which are used to implement a non-mechanical tracking engine in computer mice. These sensors allow for more compact and affordable optical mice designs.

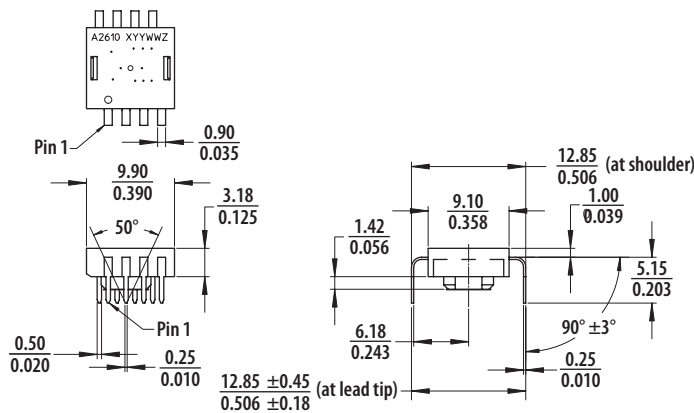
Applications

- Mice for desktop PCs, workstations, and portable PCs
- Trackballs
- Integrated input devices

Features

- Precise optical navigation technology
- Small form factor (10mm x 12.5mm footprint)
- No mechanical moving parts
- Complete 2D motion sensor
- Common interface for general purpose controller
- Smooth surface navigation
- Accurate motion up to 12 ips
- 400 cpi resolution
- High reliability
- High speed motion detector
- Wave solderable
- Single 5.0 volt power supply
- Conforms to USB suspend mode specifications
- Power conservation mode during times of no movement
- Serial port registers
- 8-pin staggered dual in-line package (DIP)
- 1500 frames per second (fps) for ADNS-2610
- Programmable frame speed up to 2300 frames per sec (fps) for ADNS-2620

Package Drawing



Ordering Information

| Part Number | |
|------------------------|--|
| ADNS-2610 | LED-based sensor |
| ADNS-2620 | LED-based sensor |
| HDNS-2100 | Optical navigation LED round lens |
| HDNS-2100-001 | Optical navigation LED trim lens |
| HDNS-2200 | Optical navigation black clip |
| HDNS-2200#001 | Optical navigation LED clear clip |
| ADNB-2611 ADNB-2621 | Sensor: ADNS-2610/ADNS-2620 Lens: HDNS-2100 |
| ADNB-2612 ADNB-2622 | Sensor: ADNS-2610/ADNS-2620 Lens: HDNS-2100-001 |
| ADNK-2610 ADNK-2620 | ADNS-2610/ADNK-2620 Sample kit, includes sensor, round and trim lens option, clips and LEDs. |
| ADNK-2623 | ADNS-2620 Reference Design Kit. Includes an evaluation mouse with ADNS-2620 sensor, plus components in a sample kit. |

LaserStream™ Selection Guide

Part Numbering System - LaserStream Mouse Sensors

| Part Number | Description | Laser-based Products with Base part Numbers |
|------------------------------|------------------------|---|
| ADNS-XXXX | Stand alone components | 1. Laser Mouse Sensor |
| | | 2. Lens (Round/Trim) |
| | | 3. Assembly Clip (Clear) |
| ADNB-XXXX-EV ADNB-X5XX-EV | Laser Mouse Bundles | 1. Laser Mouse Bundle (ADNB-XXX1-EV) Laser Mouse sensor, VCSEL Assembly clip, VCSEL and Round Lens |
| | | 2. Laser Mouse Bundle (ADNB-XXX2-EV) Laser Mouse sensor, VCSEL Assembly clip, VCSEL and Trim Lens |
| | | 3. Laser Bundle (ADNB-X5XX) Integrated Chip-On-Board Laser Sensor with Small Form Factor Lens |
| ADNK-XXXX | Laser Mouse Kits | 1. Laser Mouse Sample Kit (ADNK-XXX0) a. Laser Mouse Sensor (5 units) b. Round lens (5 units) c. Trim Lens (5 units) d. Clear clip (5 units) e. VCSEL (5 units) f. CD containing relevant technical literature (1 unit) |
| | | 2. Laser Mouse Sample Kit (ADNK-XXX3) a. Laser Mouse Sensor (5 units) b. Round lens (5 units) c. Trim Lens (5 units) d. Clear clip (5 units) e. VCSEL (5 units) f. Microcontroller (5 units) - optional g. CD containing Avago's technical literature and support files (1 unit) h. CD containing microcontroller's technical literature and support files (1 unit) - optional i. Complete working reference design mouse (1 unit) |

Laser Mouse Bundles and Kits

| Sensor | Bundle (Sensor, VCSEL, Clip with Round Lens) | Bundle (Sensor, VCSEL, Clip with Trim Lens) | Sample Kit | Ref Design Kit |
|-----------|--|---|------------|----------------|
| ADNS-6000 | ADNB-6001-EV | ANB-6002-EV | ADNK-6000 | ADNK-6003-SP01 |
| ADNS-6010 | ADNB-6011-EV | ADNB-6012-EV | ADNK-6010 | ADNK-6013-SP01 |
| ADNS-7050 | ADNB-7051-EV | ADNB-7052-EV | ADNK-7050 | ADNK-7053-XXXX |
| ADNS-6530 | N/A | ADNB-6532 | ADNK-6530 | ADNK-6533-XXXX |

Bundle consists of:

| | Sensor | Lens | Clip | VCSEL |
|--------------|-----------|---------------|---------------|-----------|
| ADNB-6001-EV | ADNS-6000 | ADNS-6120 | ADNS-6230-001 | ADNV-6340 |
| ADNB-6002-EV | ADNS-6000 | ADNS-6130-001 | ADNS-6230-001 | ADNV-6340 |
| ADNB-6011-EV | ADNS-6010 | ADNS-6120 | ADNS-6230-001 | ADNV-6340 |
| ADNB-6012-EV | ADNS-6010 | ADNS-6130-001 | ADNS-6230-001 | ADNV-6340 |
| ADNB-7051-EV | ADNS-7050 | ADNS-6120 | ADNS-6230-001 | ADNV-6340 |
| ADNB-7052-EV | ADNS-7050 | ADNS-6130-001 | ADNS-6230-001 | ADNV-6340 |
| ADNB-6532 | ADNS-6530 | ADNS-6150 | N/A | N/A |

LED-based Selection Guide

Part Numbering System - LED-based Mouse Sensors

| Part Number | Description | LED-based Products with Base part Numbers |
|-------------|---------------------------------|---|
| ADNS-XXXX | Stand alone components | <ol style="list-style-type: none"> 1. Optical Mouse Sensor 2. Lens (Round/Trim) 3. Assembly Clip (Clear/Black) |
| ADNB-XXXX | Optical Mouse Bundles with Lens | <ol style="list-style-type: none"> 1. Optical Mouse Sensor and Round Lens (ADNB-XXX1)* 2. Optical Mouse Sensor and Trim Lens (ADNB-XXX2)* |
| ADNK-XXXX | Optical Mouse Kits | <ol style="list-style-type: none"> 1. Optical Mouse Sample Kit (ADNK-XXX0)** <ol style="list-style-type: none"> a. Optical Mouse Sensor (5 units) b. Round Lens (5 units) c. Trim Lens (5 units) d. Black Clip (5 units) e. Clear Clip (5 units) f. LED (5 units) g. CD containing relevant technical literature (1 unit) 2. Optical Mouse Sample Kit (ADNK-XXX3)*** <ol style="list-style-type: none"> a. Optical Mouse Sensor (5 units) b. Round Lens (5 units) c. Trim Lens (5 units) d. Black Clip (5 units) e. Clear Clip (5 units) f. LED (5 units) g. Microcontroller (5 units) - optional h. CD containing Avago's technical literature and support files (1 unit) i. CD containing microcontroller's technical literature and support files (1 unit) - optional j. Complete working reference design mouse (1 unit) |

Note:

* Except for ADNB-2050 and ADNB-2051

** Except for ADNK-2052

*** Except for ADNK-2051 and ADNK-3061

Optical Mouse Bundles and Kits

| Sensor | Bundle (Sensor with Round Lens) | Bundle (Sensor with Trim Lens) | Sample Kit | Reference Design Kit |
|--------------|---------------------------------|--------------------------------|--------------|----------------------|
| ADNS-2610 | ADNB-2611 | ADNB-2612 | ADNK-2610 | N/A |
| ADNS-2620 | ADNB-2621 | ADNB-2622 | ADNK-2620 | ADNK-2623 |
| ADNS-2051 | ADNB-2050 | ADNB-2051 | ADNK-2052 | ADNK-2051 |
| ADNS-2030 | ADNB-2031 | ADNB-2032 | ADNK-2030 | ADNK-2133 |
| ADNS-3060 | ADNB-3061 | ADNB-3062 | ADNK-3060 | ADNK-3061 |
| ADNS-3080 | ADNB-3081 | ADNB-3082 | ADNK-3080 | ADNK-3083 |
| ADNS-3040 | N/A | ADNB-3042 | ADNK-3043 | ADNK-3043-XXXX |
| ADNS-5020-EN | ADNB-5021-EN | ADNB-5022-EN | ADNK-5020-EN | ADNK-5023-XXXX |
| ADNS-5030 | ADNB-5031 | ADNB-5032 | ADNK-5030 | ADNK-5033-XXXX |
| ADNS-3530 | N/A | ADNB-3532 | ADNK-3530 | ADNK-3533-XXXX |
| ADNS-3550 | N/A | ADNB-3552 | ADNK-3550 | ADNK-3553-XXXX |

Accessories

Accessories - Optical Mouse Lenses

| Lens Type | Part Number | Associated Bundles | |
|-----------|---------------|--------------------|-----------|
| Round | HDNS-2100 | ADNB-2611 | |
| | | ADNB-2621 | |
| | | ADNB-2050 | |
| | | ADNB-2031 | |
| | ADNS-2120 | ADNB-3061 | |
| | | ADNB-3081 | |
| | ADNS-5100 | ADNB-5021-EN | |
| | | ADNB-5031 | |
| Trim | HDNS-2100-001 | ADNB-2612 | |
| | | ADNB-2622 | |
| | | ADNB-2051 | |
| | | ADNB-2032 | |
| | ADNS-2120-001 | ADNB-3062 | |
| | | ADNB-3082 | |
| | ADNS-3120-001 | ADNB-3042 | |
| | ADNS-5100-001 | ADNB-5022 | |
| | | ADNB-5022-EN | |
| | | ADNB-5032 | |
| | SFF | ADNS-3150-001 | ADNB-3532 |
| | | | ADNB-3552 |

Accessories - Recommended LED parts

| Part Number | Associated Products |
|-----------------|---------------------|
| HLMP-ED80-XX000 | ADNS-2610 |
| | ADNS-2620 |
| | ADNS-2051 |
| | ADNS-2030 |
| | ADNS-3060 |
| | ADNS-3080 |
| | ADNS-3040 |
| | ADNS-5020-EN |
| | ADNS-5030 |

Accessories - Optical Mouse Clips

| Type of clip | Part Number | Associated Bundles |
|--------------|---------------------------|---------------------|
| Black | HDNS-2200 | ADNB-2611/ADNB-2612 |
| | | ADNB-2621/ADNB-2622 |
| | | ADNB-2050/ADNB-2051 |
| | | ADNB-2031/ADNB-2032 |
| | ADNS-2220 | ADNB-3061/ADNB-3062 |
| | | ADNB-3081/ADNB-3062 |
| ADNS-5200 | ADNB-5021-EN/ADNB-5022-EN | |
| | ADNB-5031/ADNB-5032 | |
| Clear | HDNS-2200-001 | ADNB-2611/ADNB-2612 |
| | | ADNB-2621/ADNB-2622 |
| | | ADNB-2050/ADNB-2051 |
| | | ADNB-2031/ADNB-2032 |
| | ADNS-2220-001 | ADNB-3061/ADNB-3062 |
| | | ADNB-3081/ADNB-3062 |
| | | ADNB-3042 |

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

For product information and a complete list of distributors, please go to our web site:

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