



**THE DATASHEET OF  
ADNS-6160-001**



# ADNS-6160-001

## Small Form Factor Trim Lens



### Data Sheet



Lead (Pb) Free  
RoHS 6 fully  
compliant



### Description

The ADNS-6160-001 laser mouse SFF trim lens is designed for use with Avago Technologies ADNS-7530 and ADNS-7550 integrated molded lead-frame DIP LaserStream™ sensors. Together with the VCSEL, the ADNS-6160-001 SFF trim lens provides the directed illumination

and optical imaging necessary for proper operation of the sensor. ADNS-6160-001 SFF trim lens is a precision molded optical component and should be handled with care to avoid scratching of the optical surfaces.

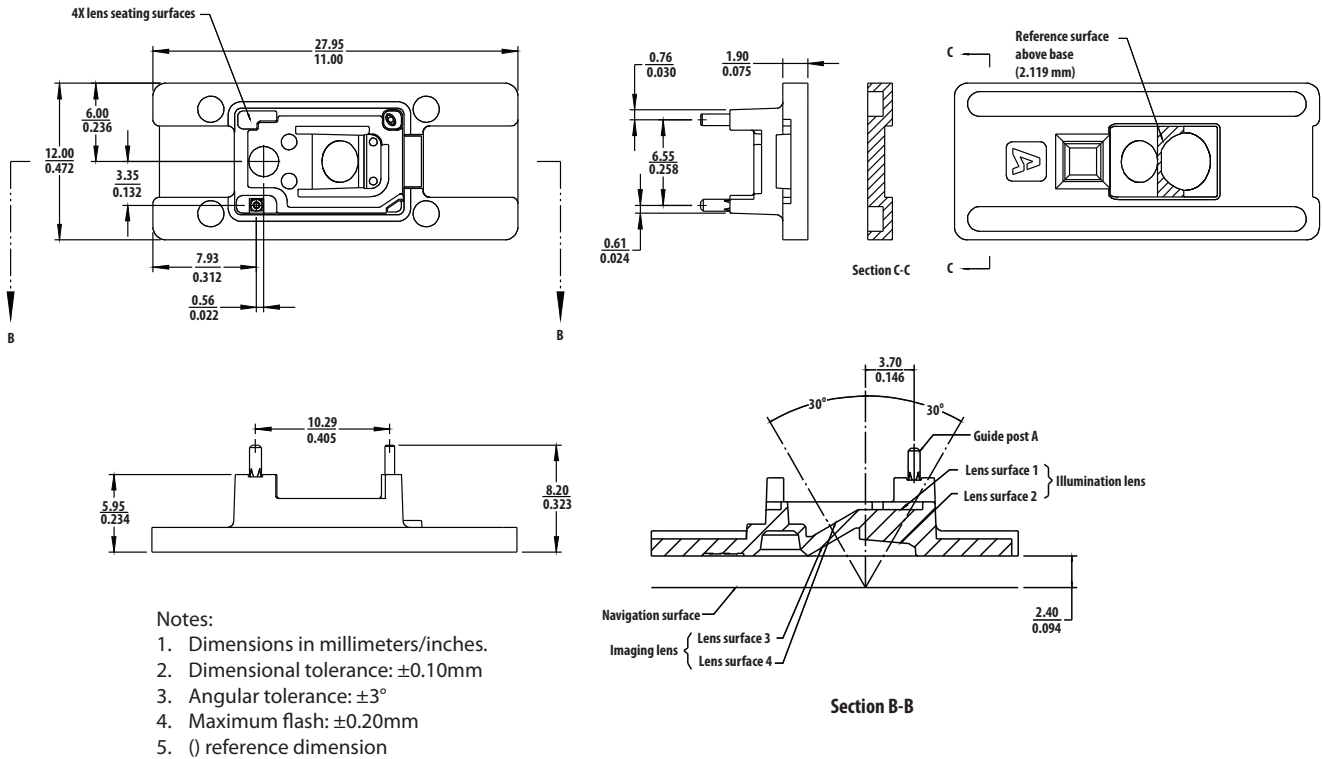


Figure 1. ADNS-6160-001 SFF trim lens outline drawings and details

## Mechanical Assembly Requirements

All specifications reference Figure 2, Optical System Assembly Diagram

| Parameters   | Symbol | Minimum | Typical | Maximum | Units | Conditions  |
|--|--------|---------|---------|---------|-------|---|
| Distance from Object Surface to Lens Reference Plane       | A      | 2.18    | 2.40    | 2.62    | mm    | For ADNS-6160-001 with ADNS-7550 and ADNS-7530 sensors                  |
| Distance from Object Surface to Sensor Pin Reference Plane | B      |         | 8.35    |         | mm    | Sensor Pin Reference Plane must be in contact with Lens Housing Surface |

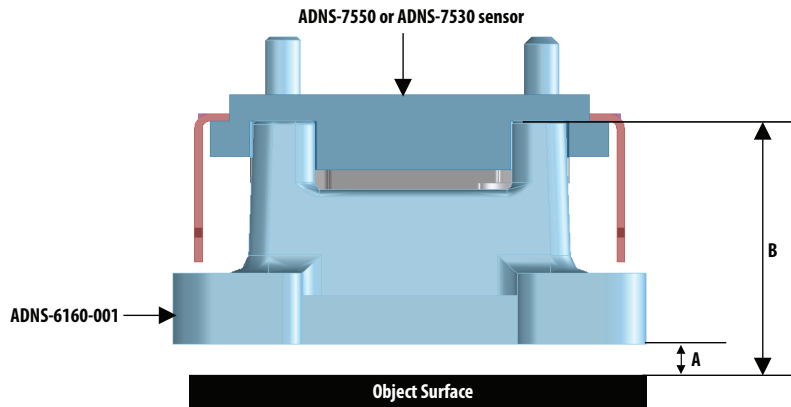


Figure 2. Optical system assembly cross-section diagram

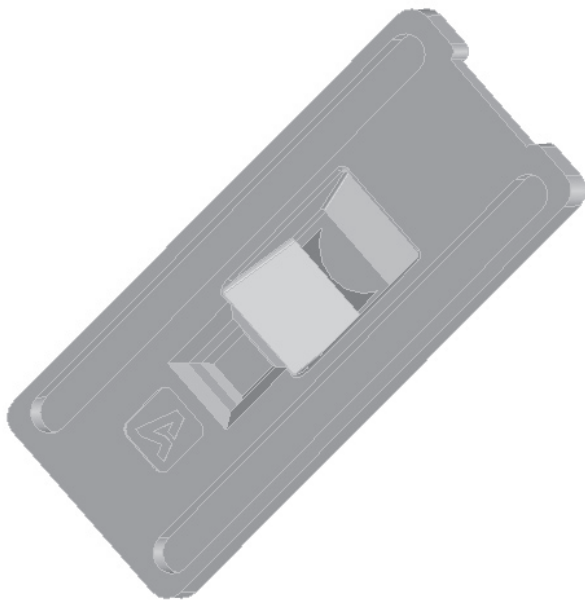


Figure 3. Avago Technologies logo location

## Lens Design Optical Performance Specifications

All specifications are based on the Mechanical Assembly Requirements.

| Parameters                         | Symbol    | Min.   | Typical | Max.   | Units | Conditions                 |
|------------------------------------|-----------|--------|---------|--------|-------|----------------------------|
| Design Wavelength                  | $\lambda$ |        | 842     |        | nm    |                            |
| Lens Material* Index of Refraction | N         | 1.5693 | 1.5713  | 1.5735 |       | $\lambda = 842 \text{ nm}$ |

\*Lens material is polycarbonate. Cyanoacrylate based adhesives should not be used as they will cause lens material deformation.

## Mounting Instructions for the ADNS-6160-001 Laser Mouse SFF Trim Lens to the Base Plate

An STEP or IGES format drawing file with design specifications for laser mouse base plate features is available. These features are useful in maintaining proper positioning and alignment of the ADNS-6160-001 SFF trim lens when used with the Avago Technologies ADNS-7530 and ADNS-7550 integrated molded lead-frame DIP LaserStream™ sensor. This file can be obtained by contacting your local Avago Technologies sales representative.

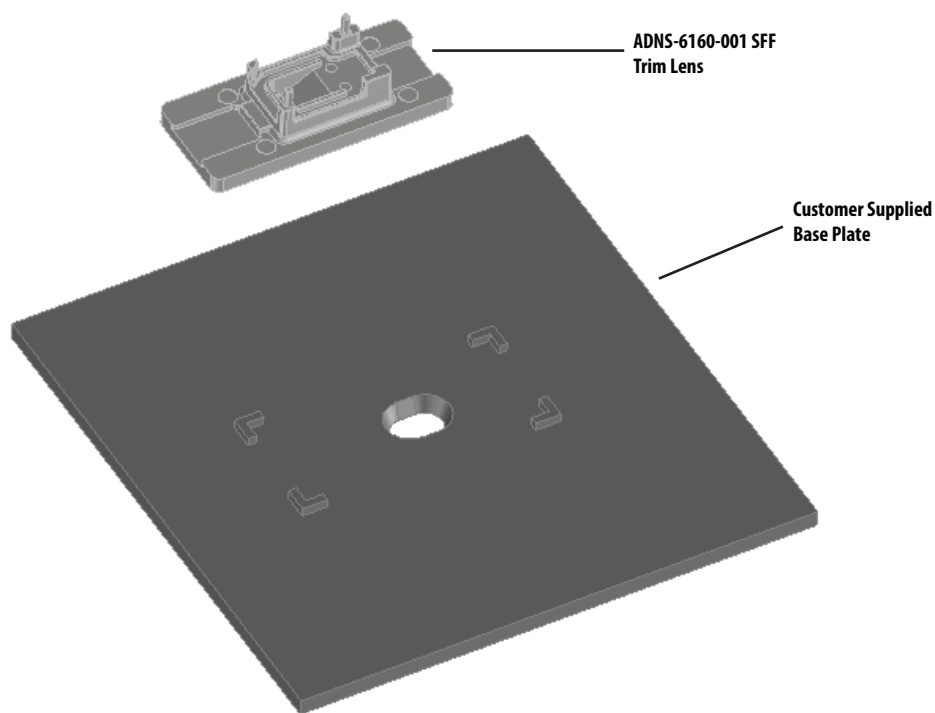


Figure 4. Illustration of base plate mounting features for ADNS-6160-001 SFF trim lens

For product information and a complete list of distributors, please go to our web site: [www.avagotech.com](http://www.avagotech.com)

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