

ADNS-6150

Small Form Factor Lens



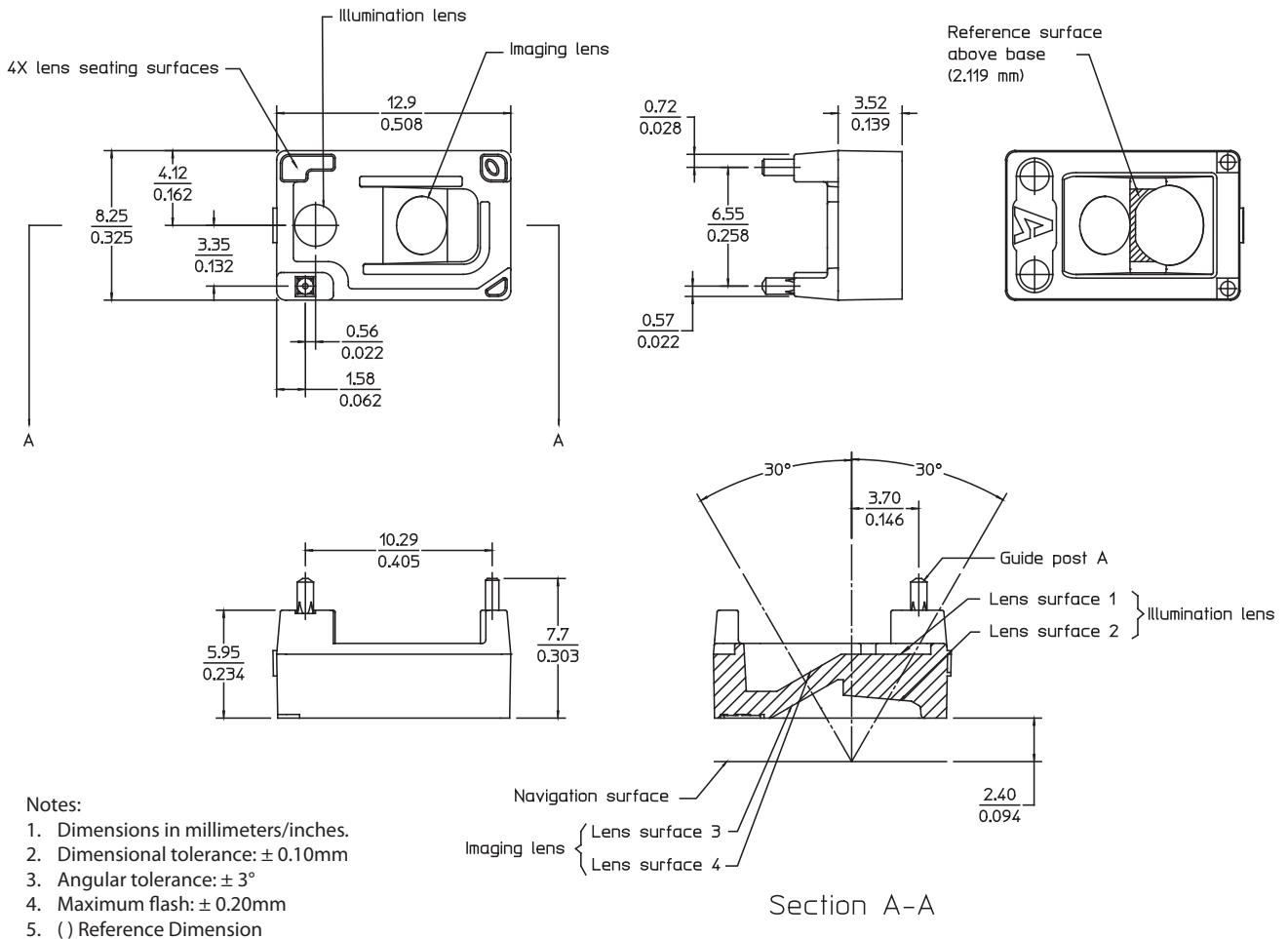
Data Sheet



Description

The ADNS-6150 small form factor (SFF) laser mouse lens is designed for use with Avago Technologies ADNS-6530, ADNS-7530 and ADNS-7550 LaserStream™ sensors. Together with the VCSEL, the ADNS-6150 SFF lens provides the directed illumination and optical imaging

necessary for proper operation of the sensor. ADNS-6150 SFF lens is a precision molded optical component and should be handled with care to avoid scratching of the optical surfaces.



- Notes:
1. Dimensions in millimeters/inches.
 2. Dimensional tolerance: $\pm 0.10\text{mm}$
 3. Angular tolerance: $\pm 3^\circ$
 4. Maximum flash: $\pm 0.20\text{mm}$
 5. () Reference Dimension

Figure 1. ADNS-6150 SFF lens outline drawings and details

Mechanical Assembly Requirements

All specifications reference Figure 2 and Figure 3, Optical System Assembly Diagram

Parameters	Symbol	Min.	Typ.	Max.	Units	Conditions
Distance from Object Surface to Lens Reference Plane	A	2.18	2.40	2.62	mm	For ADNS-6150 with ADNS-6530, ADNS-7550 and ADNS-7530 sensors
Distance from Sensor Board to Object Surface	B		8.35		mm	ADNS-6530 Sensor Board must be in contact with lens housing surface
Distance from Object Surface to Sensor Pin Reference Plane	C		8.35		mm	ADNS-7550 or ADNS-7530 Sensor Pin Reference Plane must be in contact with Lens Housing Surface

Lens Design Optical Performance Specifications

All specifications are based on the Mechanical Assembly Requirements.

Parameters	Symbol	Min.	Typ.	Max.	Units	Conditions
Design Wavelength	λ		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.

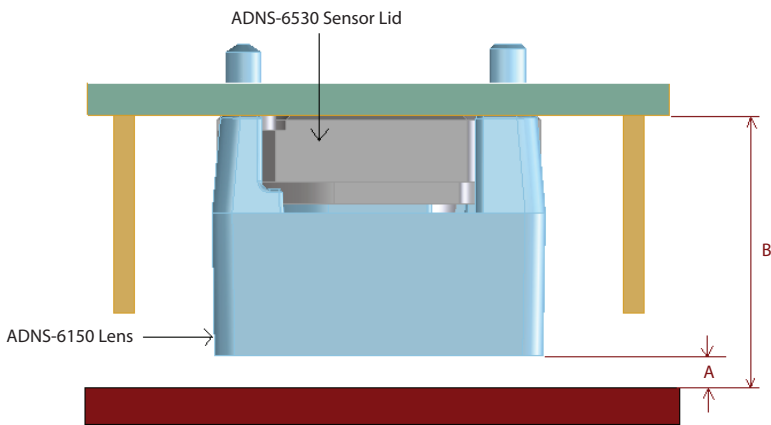


Figure 2. ADNS-6530 optical system assembly cross section diagram

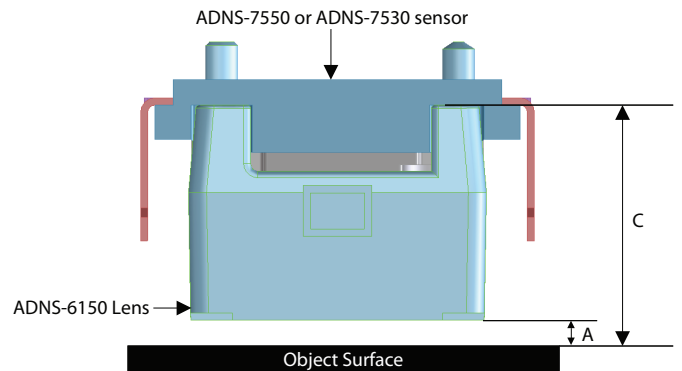


Figure 3. ADNS-7550 and ADNS-7530 optical system assembly (front view)

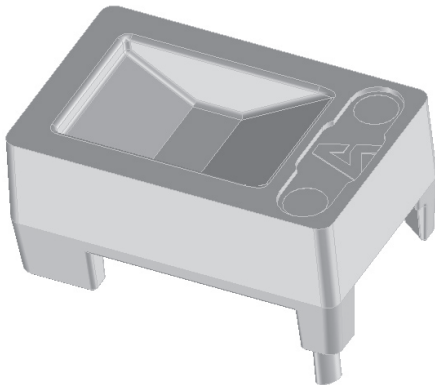


Figure 4. Avago Technologies logo location

Mounting Instructions for the ADNS-6150 SFF Laser Mouse 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-6150 SFF lens when used with the Avago Technologies ADNS-6530, ADNS-7530 or ADNS-7550 LaserStream™ sensor. This file can be obtained by contacting your local Avago Technologies sales representative.

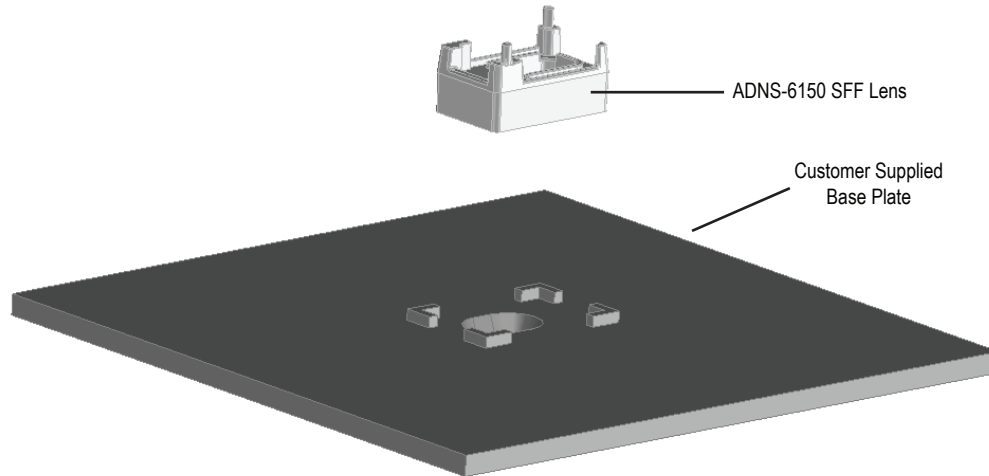


Figure 5. Illustration of base plate mounting features for ADNS-6150 SFF lens

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