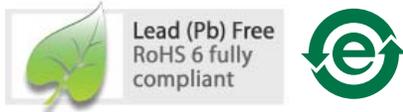


# ADNS-2120-001

## Solid-State Optical Mouse Lens

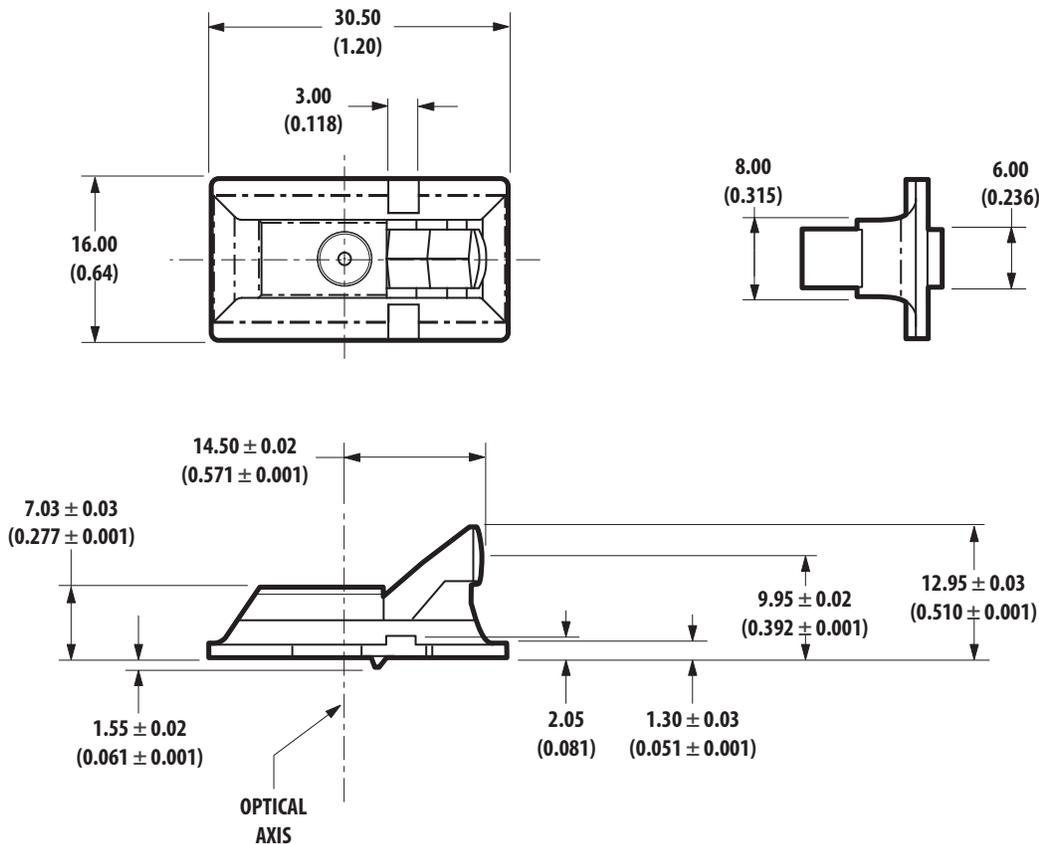
### Data Sheet



#### Description

The ADNS-2120-001 Solid-State Optical Mouse Lens is designed for use with PixArt Optical Mouse Sensors and the illumination subsystem provided by the ADNS-2220-001 LED Assembly Clip and the HLMP-EG3E LED. Together with the LED, the ADNS-2120-001 provide the directed illumination and optical imaging necessary for proper operation of the Optical Mouse Sensor. The lens is a precision molded optical component and should be handled with care to avoid scratching of the optical surfaces.

#### Outline Drawings



**NOTES:**

1. DIMENSIONS IN MILLIMETERS (INCHES).
2. TOLERANCE IS 0.2 mm (0.79 INCHES) EXCEPT WHERE NOTED.
3. THERE IS A FLASH TOLERANCE OF 0.2 mm MAX. ON THE FLANGE.

Figure 1. Package Dimensions ADNS-2120-001

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**ADNS-2120-001 Optical Mouse Trim Lens**

**Mechanical Assemble Requirements**

All specifications reference Figure 1, Optical System Assembly Diagram.

Parameter	Symbol	Min.	Typical	Max.	Units	Conditions
Distance from Object Surface to Lens Reference Plane	A	2.3	2.4	2.5	mm	
Distance from Mouse Sensor lens housing surface to Object Surface	B		9.43		mm	Sensor lid must be in contact with Lid contact with lens Surface

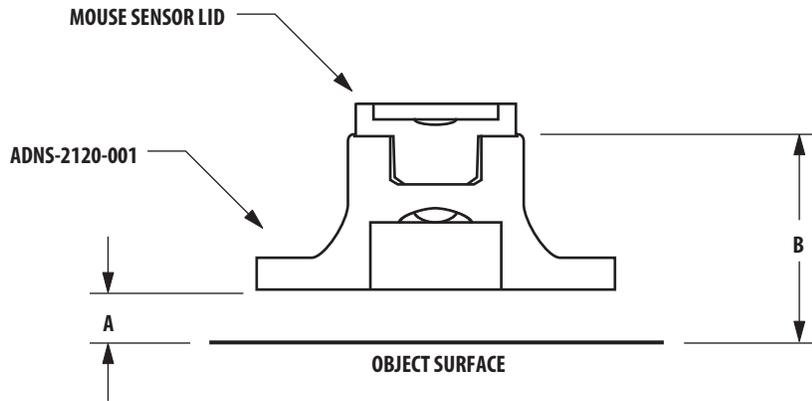


Figure 2. Optical system assembly diagram.

**Lens Design Optical Performance Specifications**

All specifications are based on the Mechanical Assembly Requirements.

Parameter	Symbol	Min.	Typical	Max.	Units	Conditions
Numerical Aperture	NA	0.1	0.13	0.16		
Magnification		0.85	1.00	1.15		Image at nominal location
Design Wavelength	$\lambda$		639		nm	
Object to Image Distance			10.85		mm	
Lens Material*Index of Refraction	N	1.580	1.5818	1.5840		$\lambda = 639$ nm
Depth of Field	DOF		$\pm 0.5$		mm	
Field Coverage Radius			1.8		mm	

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

### Mounting Instructions for the ADNS-2120-001 Lens to the Base Plate

An IGES format drawing file with design specifications for mouse base plate features is available.

These features are useful in maintaining proper positioning and alignment of the ADNS-2120-001 when used with the PixArt Optical Mouse Sensor. This file can be obtained by contacting your local PixArt sales representative.

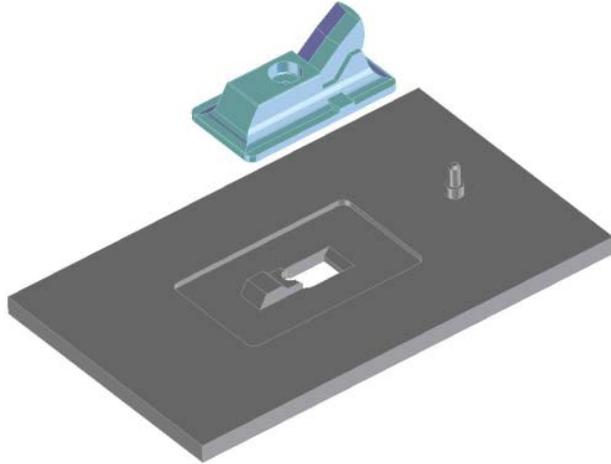


Figure 3. Illustration of base plate mounting features.