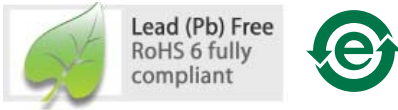


**ADNS-6190-002  
Laser Gaming Round Lens**

**Data Sheet**



**Description**

The ADNS-6190-002 Laser gaming round lens is designed for use with PixArt Imaging ADNS-9500 and ADNS-9800 Laser gaming sensors. Together with the integrated VCSEL in the same package, the ADNS-6190-002 round lens provides directed illumina-

tion and optical imaging necessary for proper operation of the sensor. The ADNS-6190-002 lens is a precision molded optical component and should be handled with care to avoid scratching and contamination of the optical surfaces.

**Mechanical Assembly Requirements**

All specifications below reference to Figure1, Optical System Assembly Diagram

Parameters	Symbol	Minimum	Typical	Maximum	Unit	Conditions
Distance from Object Surface to Lens Reference Plane	A	2.18	2.40	2.62	mm	When used with ADNS-9500 and ADNS-9800
Distance from Object Surface to Sensor Reference Plane	B		9.95		mm	Sensor Board must be in contact with lens housing surface

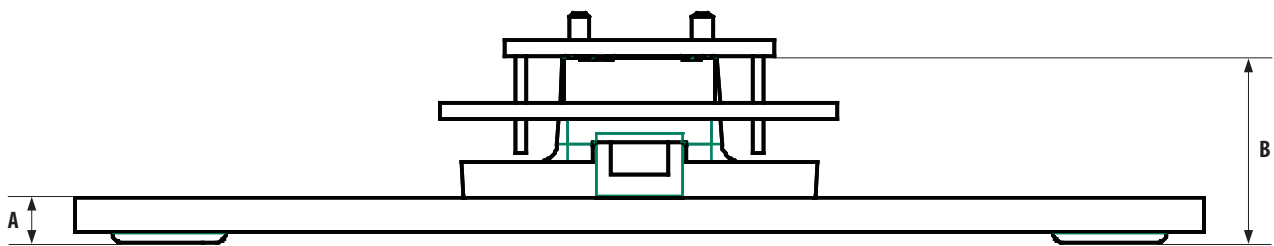


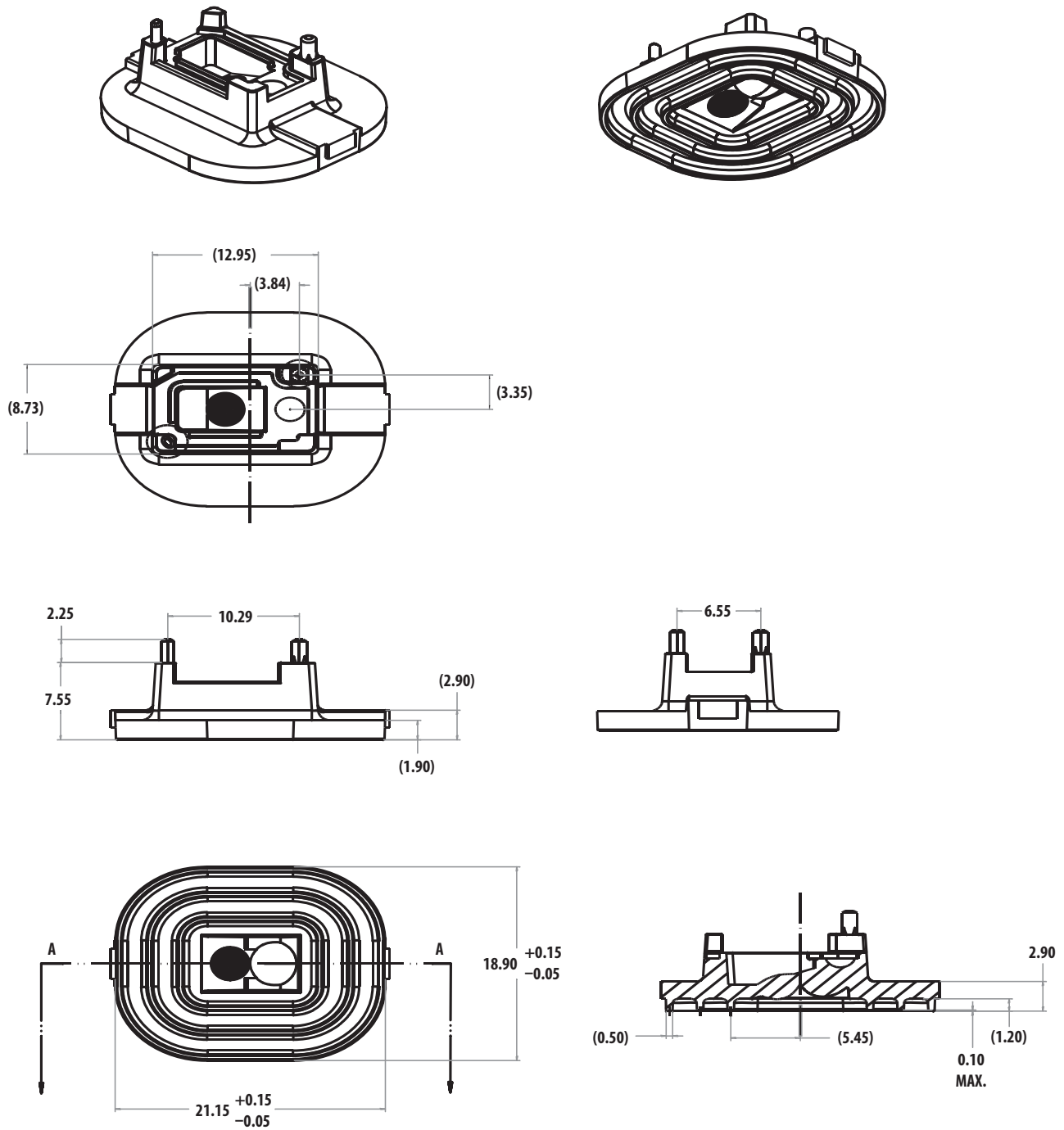
Figure 1. Optical system assembly diagram

**Lens Design Optical Performance Specifications**

All specifications are based on the Mechanical Assembly Requirements.

Parameters	Symbol	Minimum	Typical	Maximum	Unit	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.



Notes:

1. Dimensions in millimeters.
2. Dimensional tolerances:  $\pm 0.10\text{mm}$  unless otherwise specified.
3. Maximum flash  $+0.20\text{mm}$
4. Brackets ( ) indicate reference dimensions
5. Lens surfaces for indication only

Figure 2. ADNS-6190-002 round lens outline drawings and details

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### Mounting Instructions for the ADNS-6190-002 Laser Mouse Round Lens to the Base Plate

The STEP or IGES format drawing file with design specifications for laser mouse base plate features and lens are available. These features are useful in maintaining proper positioning and alignment of the ADNS-6190-002 round lens when used with the ADNS-9500 and ADNS-9800 sensor. These files can be obtained by downloading from PixArt Imaging Inc.

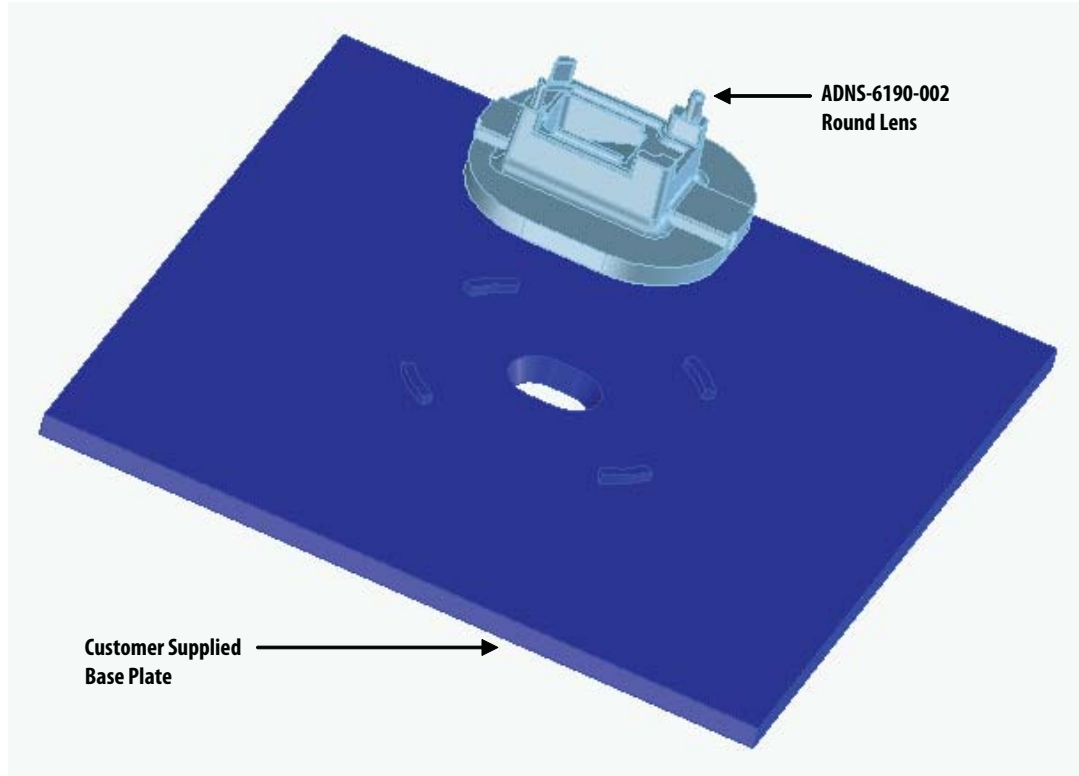


Figure 3. Illustration of base plate mounting features for ADNS-6190-002 round lens