

## LM18-LSI

### Small form Factor Lens

## Data Sheet



Lead (Pb) Free  
RoHS 6 fully  
compliant



## Description

The LM18-LSI small form factor (SFF) laser mouse lens is designed for use with PixArt Imaging PMW3610DM-SUDU low power laser mouse sensors. Together with the VCSEL, the LM18-LSI SFF lens provides the directed illumination and optical imaging necessary for proper operation of the sensor. LM18-LSI lens is a precision molded optical component and should be handled with care to avoid scratching of the optical surfaces.

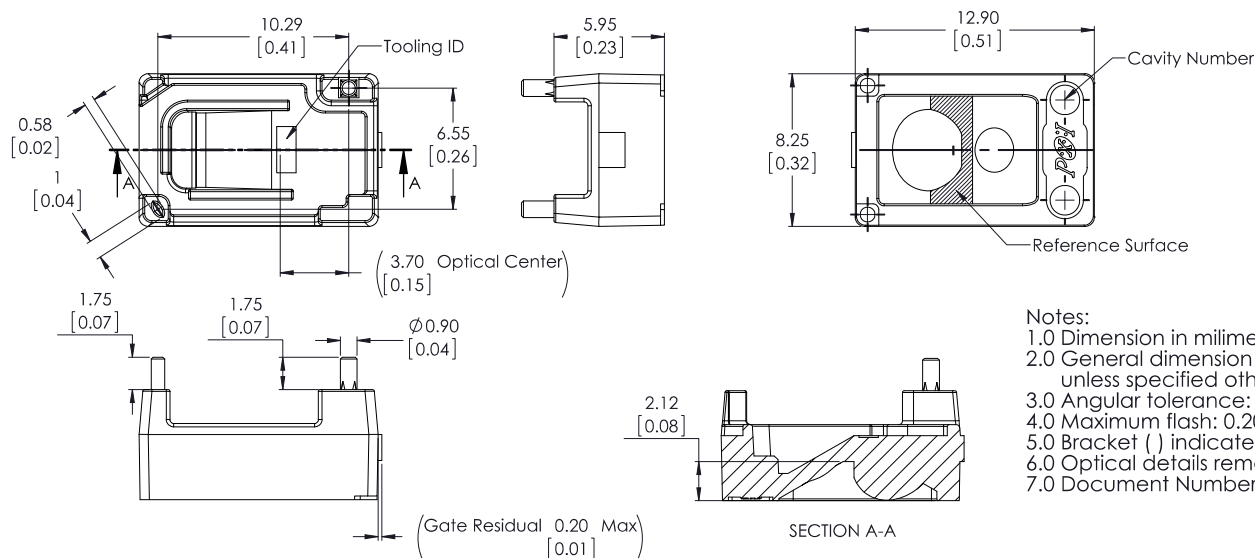


Figure 1. LM18-LSI SFF lens outline drawings and details

## Small form Factor Lens

## Mechanical Assembly Requirements

All specifications reference Figure 2, Optical System Assembly Diagram

Parameter	Symbol	Minimum	Typical	Maximum	Units	Notes
Distance from Object Surface to Lens Reference Plane	A	2.2	2.40	2.6	mm	For LM18-LSI lens with PMW3610DM-SUDU sensor
Distance from Object surface to Sensor Pin reference Plane	B		8.35		mm	PMW3610DM-SUDU 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

Parameter	Symbol	Minimum	Typical	Maximum	Units	Notes
Design Wavelength	$\lambda$	832		865	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.

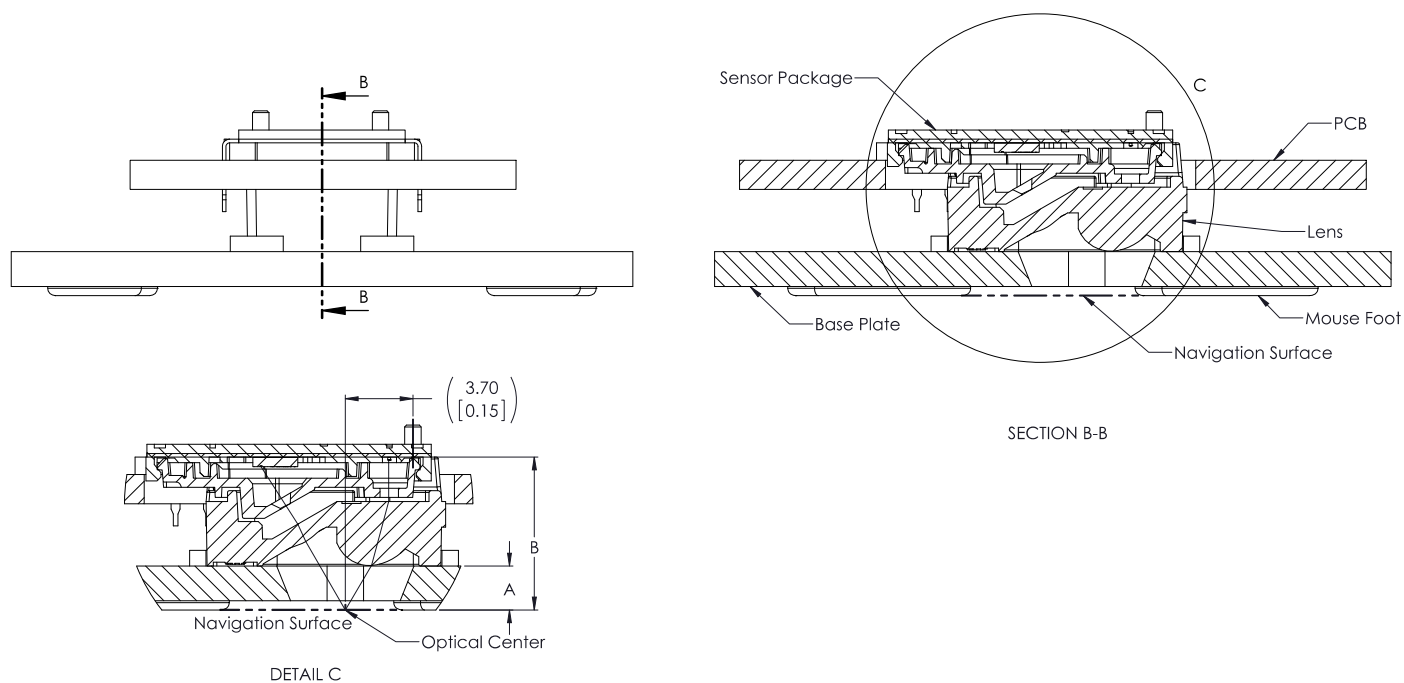


Figure 2. PMW3610DM-SUDU optical system assembly (side view)

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## Small form Factor Lens

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### Mounting Instructions for the LM18-LSI 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 LM18-LSI SFF lens when used with the PixArt PMW3610DM-SUDU low power sensor. This file can be obtained by contacting your local PixArt sales representative.

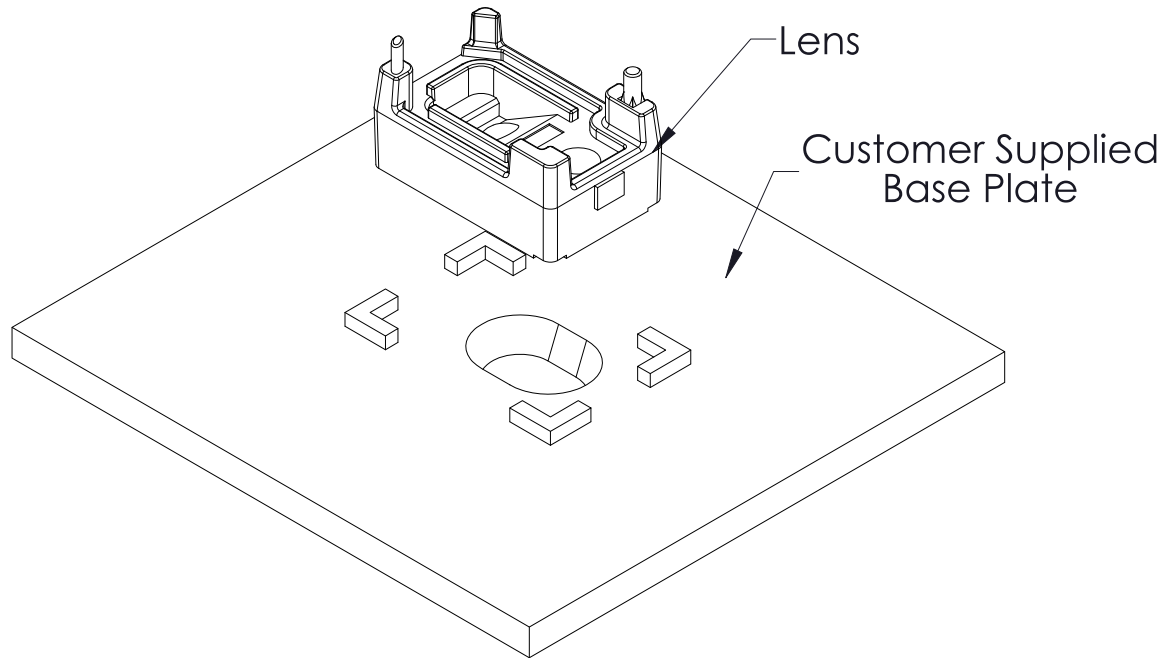


Figure 3. Illustration of base plate mounting features for LM18-LSI SFF lens