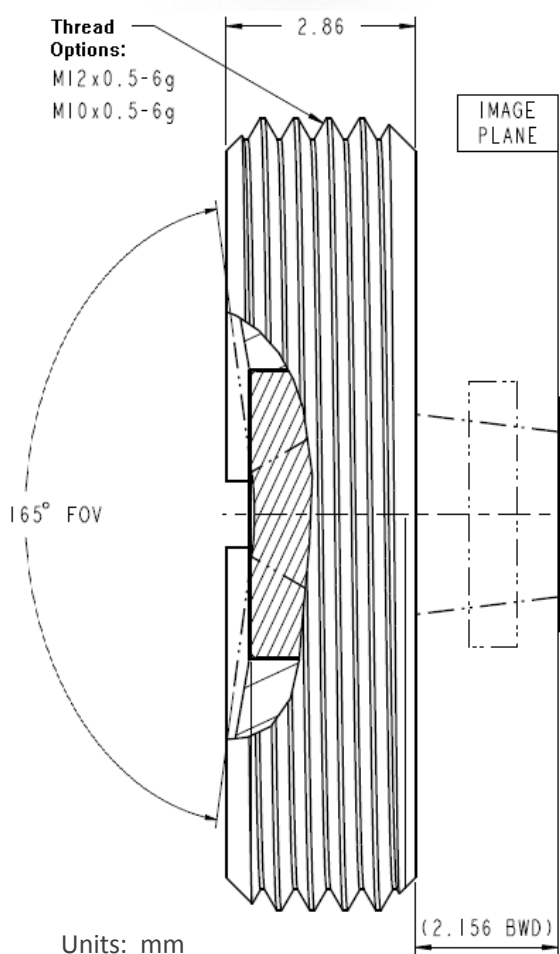


1.5mm EFL, f/1.3

Part #7100333

Thermal Imaging Lens Assembly

NEW! BD6™ Material Enabling Optical Athermalization²



LightPath®
TECHNOLOGIES

KEY FEATURES

Optical:

- 1.5mm EFL, f/1.3 Lens
- 120deg HFOV on 80x80/34μm detector¹
- Low-cost singlet design
- Utilizes aspheric performance
- High efficiency AR coating for LWIR (8-12μm)
- **Optically Athermalized² using BD6™ material**

Mechanical:

- Small size and weight
- Precision molded chalcogenide lens material
- Black anodized aluminum housing
- Threaded interface for adjustable focus
- Internally sealed to IP67 standard³

Horizontal FOV for Various Detector Sizes

Resolution → Pixel Size ↓	80x80	160x120	320x240	384x288	640x480
34μm	120° Optimal¹	N/A	N/A	N/A	N/A
25μm	81°	N/A	N/A	N/A	N/A
17μm	54°	120°	N/A	N/A	N/A
12μm	37°	78°	N/A	N/A	N/A
10μm	31°	64°	N/A	N/A	N/A

¹Lens optimized for this format. Image does not reach corner of detector.

²See optical performance table on page 2 for athermal temperature range

³Outer threads must also be sealed at installation

Optical Performance for 80x80 / 34μm Detector ¹

Parameter	Notes	Design Value	Unit
MTF – Min Sag/Tan at Nyquist (15cyc/mm)	Diffraction Limited MTF (<i>Ref. Only</i>)	75	%
	On-axis	74	%
	VFOV / HFOV	55	%
	At image circle diameter (not corner)	52	%
EFL	Magnification-based	1.5	mm
F/#	Aperture-based	1.3	
Image Circle	<i>Distortion prevents image from extending to corner of detector</i>	3.16	
Field of View	Vertical / Horizontal	120	Deg
	At image circle diameter (not corner)	160	Deg
Relative Illumination	At HFOV	83	%
	At image circle diameter (not corner)	64	%
Distortion	At HFOV	-48	%
	At image circle diameter (not corner)	-81	%
Fixed Focus Range (Range if used <u>without</u> manual focus, allowing ~10% MTF drop at Nyquist)	Depth of Field	0.05 – Infinity	m
	Athermal Temperature Range ²	-40 to +85	°C
Operational Waveband	LWIR thermal waveband	8 – 14	μm
Transmission ³	HEAR coated witness samples (8-12μm)	>95	%

Mechanical Parameters

Parameter	Notes	Design Value	Unit
Height	Front to back of lens assembly	2.9	mm
Thread Interface	Lens assembly outer thread (ASME)	M10/M12 x 0.5-6g	
Working Distance to Image Plane (FPA)	Assumes 0.725mm Si window, nominal focus at infinity	2.2	mm
Max Exposure Temp	Storage / post-processing	140	°C
Internal Seal	Threads must also be sealed at installation	IP67	