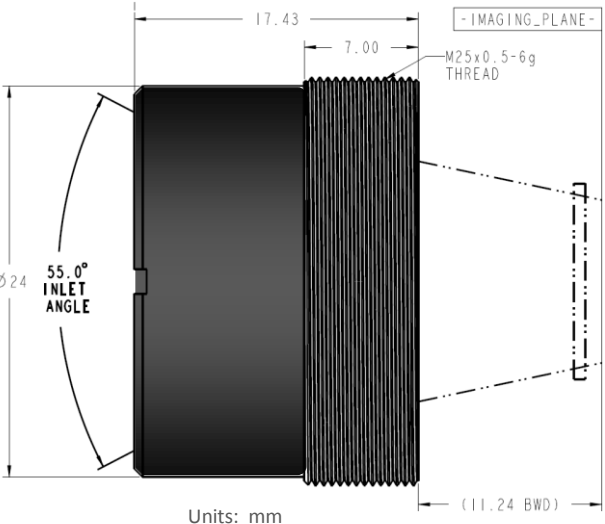


15mm EFL, f/1.0

Part #7100350

Thermal Imaging Lens Assembly

NEW! BD6™ Material
Enabling Optical
Athermalization²



LightPath®
TECHNOLOGIES

KEY FEATURES

Optical:

- 15mm EFL, f/1.0 Lens
- 25deg HFOV on 384X288/17μm detector¹
- Low-cost dual element design
- Utilizes aspheric and diffractive performance
- High efficiency AR coating for LWIR (8-14μm)
- **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 ↓	160x120	320x240	384x288	640x480	1024x768
34μm	21°	42°	51°	N/A	N/A
25μm	15°	31°	37°	65°	N/A
17μm	10°	21°	25° Optimal¹	42°	73°
12μm	7°	15°	18°	30°	48°
10μm	6°	12°	15°	25°	40°

¹Lens optimized for this format. Data for other formats available upon request.

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

³Outer threads must also be sealed at installation

Optical Performance for 384x288 / 17μm Detector ¹

Parameter	Notes	Design Value	Unit
MTF – Min Sag/Tan at Nyquist (50cyc/mm)	Diffraction Limited MTF (<i>Ref. Only</i>)	62	%
	On-axis	62	%
	VFOV	58	%
	HFOV	54	%
	Corner	46	%
EFL	Magnification-based	15	mm
F/#	Aperture-based	1.0	
Field of View	Vertical	19	Deg
	Horizontal	25	Deg
	Diagonal (corner)	31	Deg
Relative Illumination	At HFOV	90	%
	At Corner Field	86	%
Distortion	At HFOV	-2	%
	At Corner Field	-3	%
Fixed Focus Range (Range if used <u>without</u> manual focus, allowing ~10% MTF drop at Nyq/2)	Depth of Field (target range)	5 – Infinity	m
	Athermal Temperature Range ²	-25 to +65	°C
Operational Waveband	LWIR thermal waveband	8 – 14	μm
Transmission	HEAR coated witness samples (8-12μm)	>96	%

Mechanical Parameters

Parameter	Notes	Design Value	Unit
Height	Front to back of lens assembly	17.4	mm
Thread Interface	Lens assembly outer thread (ASME)	M25x0.5-6g	
Working Distance to Image Plane (FPA)	Assumes 0.7mm Si window, nominal focus at infinity	11.2	mm
Max Exposure Temp	Storage / post-processing	140	°C
Internal Seal	Threads must also be sealed at installation	IP67	