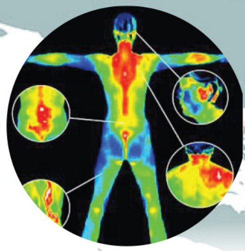


Lens

Facilities

IR Optics Solution

ViewNyx

Technologies

Facilities

Molded LWIR Lens

- FL 35.0 mm f/1.0
- FL 25.0 mm f/1.0
- FL 19.0 mm f/1.0
- FL 18.6 mm f/1.0
- FL 15.0 mm f/1.0
- FL 13.8 mm f/1.0
- FL 12.0 mm f/1.0
- FL 10.7 mm f/1.0
- FL 8.0 mm f/1.1
- FL 7.1 mm f/1.0
- FL 6.7 mm f/1.3
- FL 6.5 mm f/1.1
- FL 6.2 mm f/1.0
- FL 5.4 mm f/1.1
- FL 4.7 mm f/1.1
- FL 4.7 mm f/1.0
- FL 4.3 mm f/1.4
- FL 4.0 mm f/1.2

Technology

ViewNyx
www.viewnyx-en.com

Contents

Leading the way In large volume infrared

About ViewNyx

Supplier of molded IR lens by self-production

History

2022 Expand to a new factory

2021 Attract 2 billion won investment from Sungwoo Hitech Co. Ltd
Supply of LWIR lens to Hanhwa systems and Hanhwa techwin

2020 Achieved 500,000 dollars of export

2018 Patent registration
(The optical lens and mold having pattern and stepped structure)

2017 Opening of business in Gwangju
Production line for infrared optical lens

2016 Establishment of ViewNyx Co. Ltd

Contact

Headquarters

Tel | +82-62-971-7638

Fax | +82-62-971-7639

Mail | cha.dh@viewnyx-en.com

Address | 61-3, Cheomdan venture so-ro
37beon-gil, Buk-gu, Gwangju,
61003 Republic of Korea

International sales

USA Takore Inc. | Francis Hwang

- mobile | +1-925-219-2689
- e-mail | Fhwang@takore.com

Japan Techno En.LLC | Sam Okada

- tel | +81(0)50-3740-9295
- mobile | +81(0)90-1445-0738
- e-mail | sam3663@key.ocn.ne.jp

ViewNyx Technologies

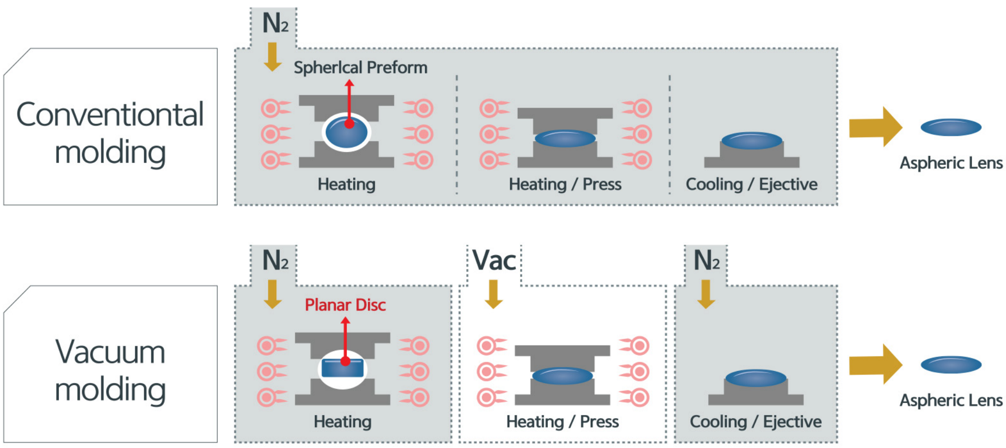
Save the manufacturing costs by about 20~30%

- Vacuum molding using unique mold
- Molding of diffractive-aspheric lens
- Fabrication of preform using a thermal process
- Finished lens molding(FLM) without post-processing

Key Technology 1

Vacuum-molding technique

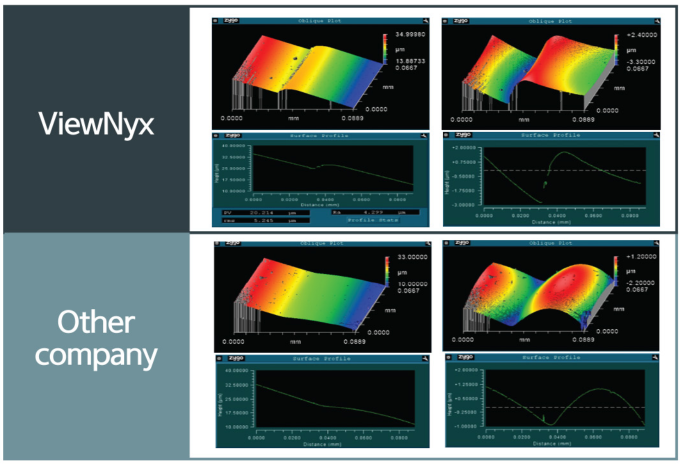
- Molding under high-vacuum(below 0.1 Pa) condition to use a planar-type preform
- Unique design of mold for vacuum molding



Key Technology 2

Molding technique of diffractive-aspheric lens

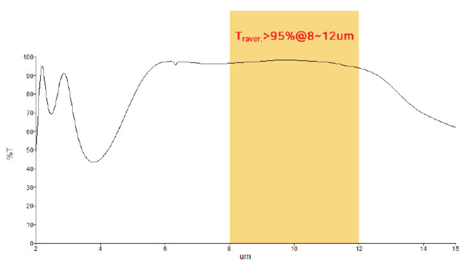
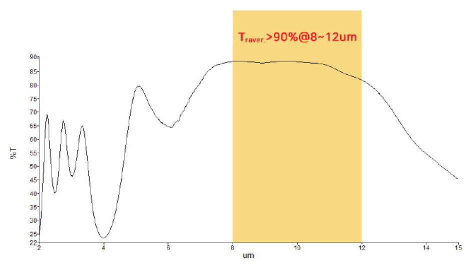
- Mass-production of diffractive-aspheric lens
- Fabrication of high-quality diffractive-aspheric lens



Key Technology 3

High efficiency coating technique for FIR range (@ 8~12 um)

- AR(anti-reflective) coating
- DLC(diamond-like-carbon) coating

	AR coating	DLC coating
Taverage @8~12 um	> 95 %	> 90 %
		

Horizontal FOV Across Compatible Detector Formats

Horizontal Resolution of Detector (pixels)	Pixel pitch	VN 4.012	VN 4.314	VN 4.710	VN 4.711	VN 5.411	VN 6.210	VN 6.511	VN 6.713	VN 7.110	VN 8.010	VN 1110	VN 1210	VN 1410	VN 1510	VN 1810	VN 1910	VN 2510	VN 3510
EFL (mm)		4.0	4.3	4.7	4.7	5.4	6.2	6.4	6.7	7.1	8.0	10.7	12	13.8	15	18.6	19	25	35
Fno.		1.2	1.4	1.0	1.1	1.1	1.0	1.3	1.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80	35 um		36.7			**30.0**													
80	25 um					21.4													
80	17 um																		
80	12 um																		
160	35 um																		
160	25 um	56.6	52.7	52.4															
160	17 um	38.8	35.6	34.2		29.2													
160	12 um					20.5													
320	25 um																		
320	17 um	75.9	73.1		66.0		51.4		47.0	44.8	40.2	29.4	25.6	22.7	20.8	16.7	16.2	12.4	8.9
320	12 um	54.4	50.5	**50.0**	**46.7**	41.5	36.0		33.0	31.2	28.0	20.6	18.2	16.0	14.7	11.8	11.5	8.8	6.3
384	25 um																		
384	17 um	**90.0**	**90.0**		79.3		62.5		**57.0**	54.4	**48.6**	35.5	30.6	27.3	**25.0**	20	19.4	14.8	10.7
384	12 um	64.9	61.1	62.0	56		43.3		40.0	37.6	33.8	24.8	21.8	19.2	17.6	14.2	13.8	10.5	7.5
640	17 um							91.4		99.2		61.4					32.2	24.5	17.7
640	12 um				**93.7**		**75**	65.5		**65.0**	58.3	**42.0**	35.8	**32.2**	29.5	**23.5**	22.8	**17.4**	**12.5**
640	10 um	88.4	87.9	97.5	77.7		61.2	54.9	55.8		47.6	34.8	**30.0**	46.2	24.5	19.6	19.1	14.6	13.0
1024	17 um																		
1024	12 um							**103.0**											
1024	10 um							86.2											

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

MEMO

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 35.0 mm f/1.0 (Model VN3510)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 35.0 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Light and passively athermalized LWIR lens
- **Suitable for use with VGA and qVGA detectors and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Thermal security cameras

Optical Specifications

• Focal length	35.0 mm
• Aperture-based f-number	f/1.0
• Maximum image circle	15mm
• Waveband	8~12 um
• Focus range	12.8 m to infinity
• Transmittance	> 95 % (AR coating)
	> 90 % (DLC coating)

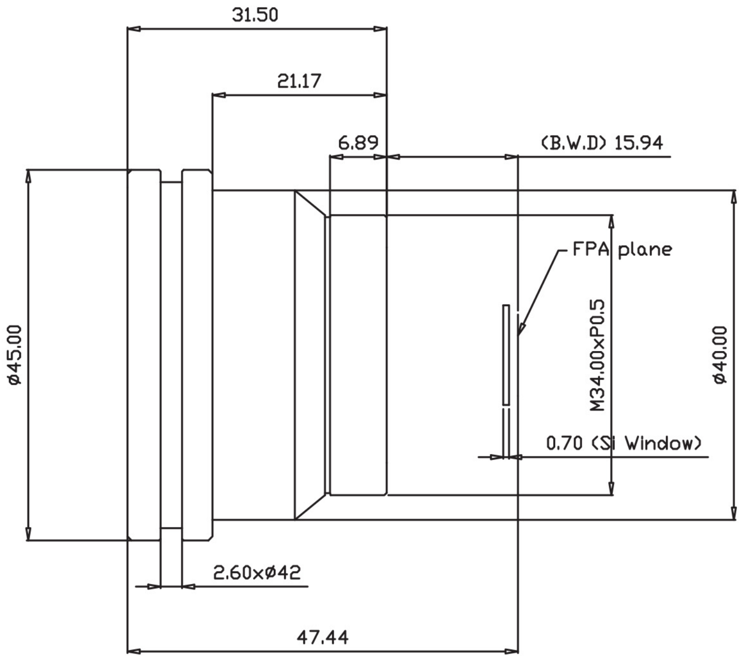
- Field of view (FOV)

Sensor Array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	17	17.7	13.3	22.0
	12	**12.5**	**9.4**	**15.6**
384 X 288	17	10.7	8.0	13.3
	12	7.5	5.7	9.4
320 X 240	17	8.9	6.7	11.1
	12	6.3	4.7	7.8

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M34 x P0.5)
- **Weight** 87.1g
- **Sealing** IP67 / on front
- **Dimension**



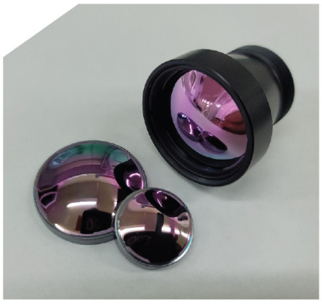
Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 25.0 mm f/1.0 (Model VN2510)

Introduction



- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 25.0 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, VGA and qVGA lens
- **Suitable for use with VGA and qVGA detector and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Drone thermal imaging

Optical Specifications

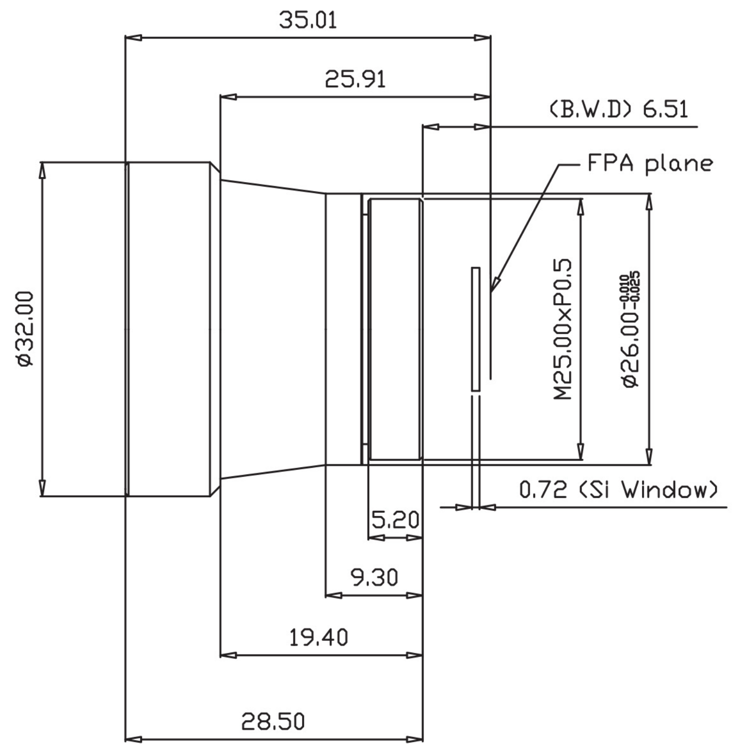
- **Focal length** 25.0 mm
- **Aperture-based f-number** f/1.0
- **Maximum image circle** 11 mm
- **Waveband** 8~12 um
- **Focus range** 6.5 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	17	24.5	18.5	30.7
	12	**17.4**	**13.1**	**21.7**
384 X 288	17	14.8	11.2	18.5
	12	10.5	7.9	13.1
320 X 240	17	12.4	9.3	15.6
	12	8.8	6.6	11.0

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M25 x P0.5)
- **Weight** 32.2 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 19 mm f/1.0 (Model VN1910)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 19 mm, f/1.03 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, passively athermalized LWIR lens
- **Suitable for use with VGA and qVGA detectors and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Automotive vision enhancement

Optical Specifications

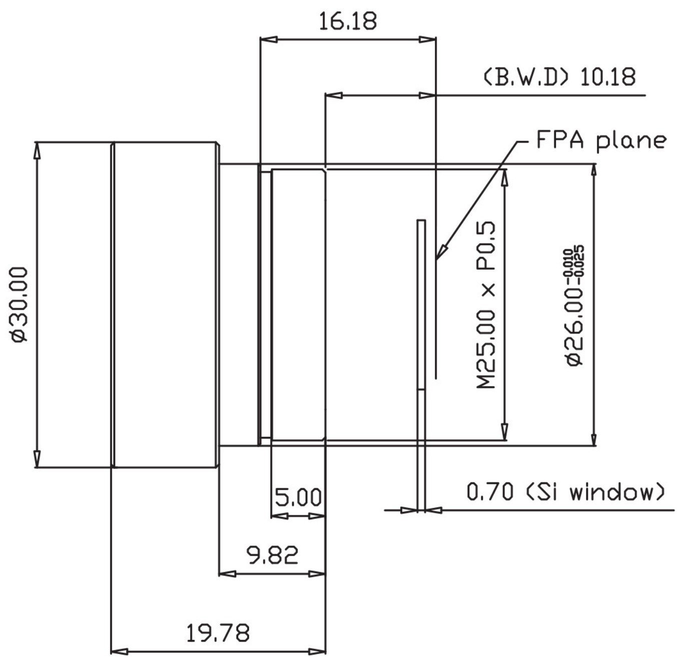
- **Focal length** 19 mm
- **Aperture-based f-number** f/1.03
- **Maximum image circle** 14.2 mm
- **Waveband** 8~12 um
- **Focus range** 2.7 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor Array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	17	**32.2**	**24.2**	**40.1**
	12	22.8	17.2	28.4
384 X 288	17	19.4	14.6	24.2
	12	13.8	10.4	17.2
320 X 240	17	16.2	12.2	20.2
	12	11.5	8.6	14.3

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M25 x P0.5)
- **Weight** 35 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 18.6 mm f/1.0 (Model VN1810)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 18.6 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, VGA and qVGA lens
- **Suitable for use with VGA and qVGA detector and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Drone thermal imaging

Optical Specifications

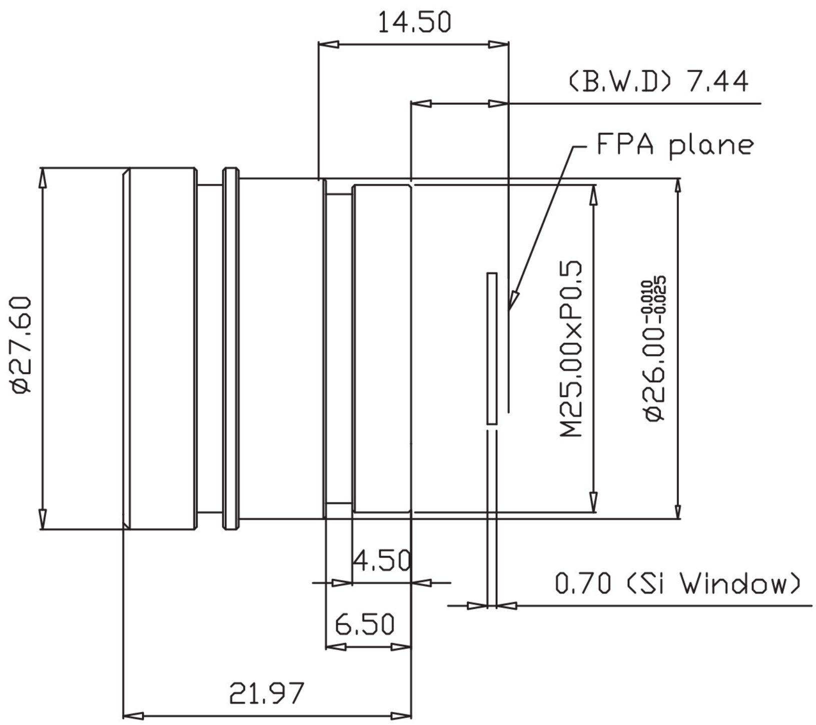
- **Focal length** 18.6 mm
- **Aperture-based f-number** f/1.0
- **Maximum image circle** 10.6 mm
- **Waveband** 8~12 um
- **Focus range** 3.6 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 512	12	23.5	18.8	30.1
640 X 480	12	**23.5**	**17.7**	**29.4**
384 X 288	17	20	15	25
	12	14.2	10.6	17.7
320 X 240	17	16.7	12.5	20.8
	12	11.8	8.9	14.7

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M24 x P0.5)
- **Weight** 25.9 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 15 mm f/1.0 (Model VN1510)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 15 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, passively athermalized LWIR lens
- **Suitable for use with VGA and qVGA detectors and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Automotive vision enhancement

Optical Specifications

• Focal length	15.0 mm
• Aperture-based f-number	f/1.03
• Maximum image circle	8.16 mm
• Waveband	8~12 um
• Focus range	1.7 m to infinity
• Transmittance	> 95 % (AR coating)
	> 90 % (DLC coating)

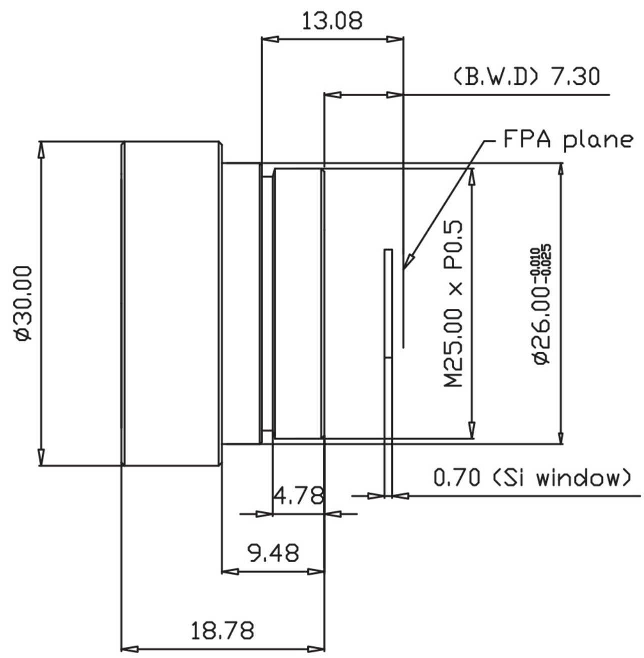
- Field of view (FOV)

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	12	29.5	22.0	37.3
384 X 288	17	**25.0**	**18.7**	**31.4**
	12	17.6	13.2	22.0
320 X 240	17	20.8	15.6	26.1
	12	14.7	11.0	18.4

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M25 x P0.5)
- **Weight** 30 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 13.8 mm f/1.0 (Model VN1410)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 13.8 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, VGA and qVGA lens
- **Suitable for use with VGA and qVGA detector and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Drone thermal imaging

Optical Specifications

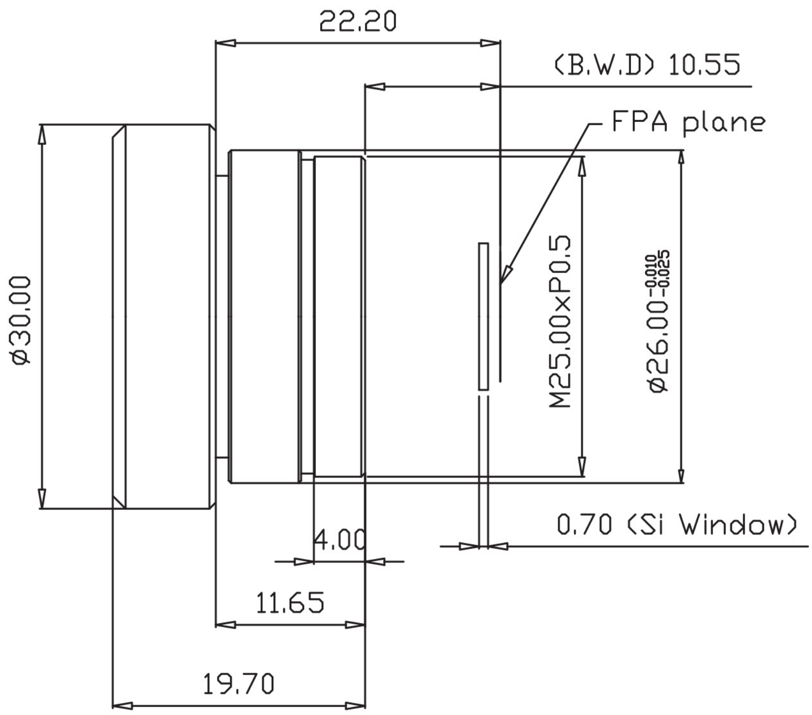
- **Focal length** 13.8 mm
- **Aperture-based f-number** f/1.0
- **Maximum image circle** 11 mm
- **Waveband** 8~12 um
- **Focus range** 2.0 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	17	46.2	34.3	59.1
	12	**32.2**	**24.1**	**40.5**
384 X 288	17	27.3	20.4	34.3
	12	19.2	14.4	24.1
320 X 240	17	22.7	17.0	28.5
	12	16.0	12.0	20.0

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M25 x P0.5)
- **Weight** 31.8 g
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 12.0 mm f/1.0 (Model VN1210)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 12 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, passively athermalized LWIR lens
- **Suitable for use with qVGA and qqVGA detectors and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Automotive vision enhancement

Optical Specifications

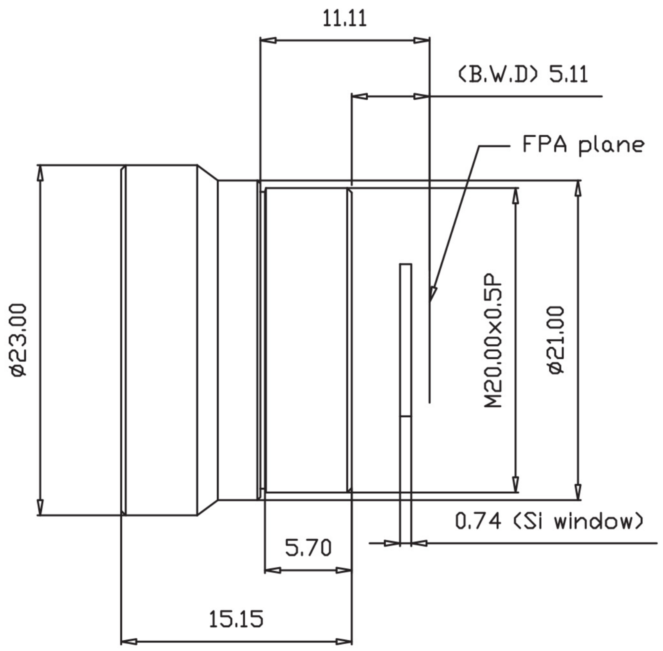
- **Focal length** 12.0 mm
- **Aperture-based f-number** f/1.0
- **Maximum image circle** 9.0 mm
- **Waveband** 8~12 um
- **Focus range** 1.8 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	12	35.8	27.1	44.5
	10	**30**	**22.6**	**37.2**
384 X 288	17	30.6	23.1	38
	12	21.8	16.4	27
320 X 240	17	25.6	19.3	31.8
	12	18.2	13.7	22.7

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M20 x P0.5)
- **Weight** 14.8 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 10.7 mm f/1.0 (Model VN1110)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 10.7 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, VGA and qVGA lens
- **Suitable for use with VGA and qVGA detector and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Drone thermal imaging

Optical Specifications

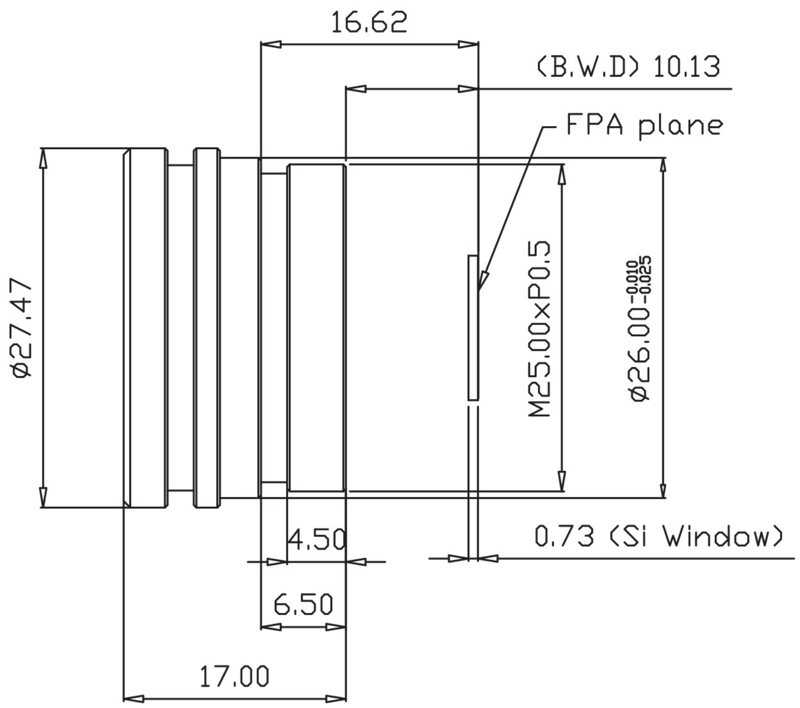
- **Focal length** 10.7 mm
- **Aperture-based f-number** f/1.0
- **Maximum image circle** 11 mm
- **Waveband** 8~12 um
- **Focus range** 1.2 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	17	61.4	44.8	81.2
	12	**42.0**	**31.2**	**53.3**
384 X 288	17	35.5	26.4	44.8
	12	24.8	18.6	31.2
320 X 240	17	29.4	21.9	37.0
	12	20.6	15.4	25.9

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M25 x P0.5)
- **Weight** 25.6 g
- **Sealing** IP67 / on front
- **Dimension**



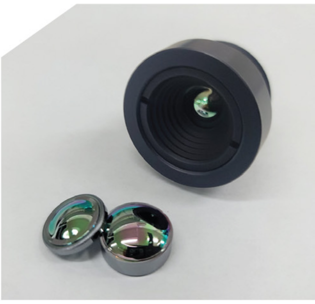
Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 8.0 mm f/1.0 (Model VN8.010)

Introduction



- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 8.0 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, passively athermalized LWIR lens
- **Suitable for use with qVGA and qqVGA detectors and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Automotive vision enhancement

Optical Specifications

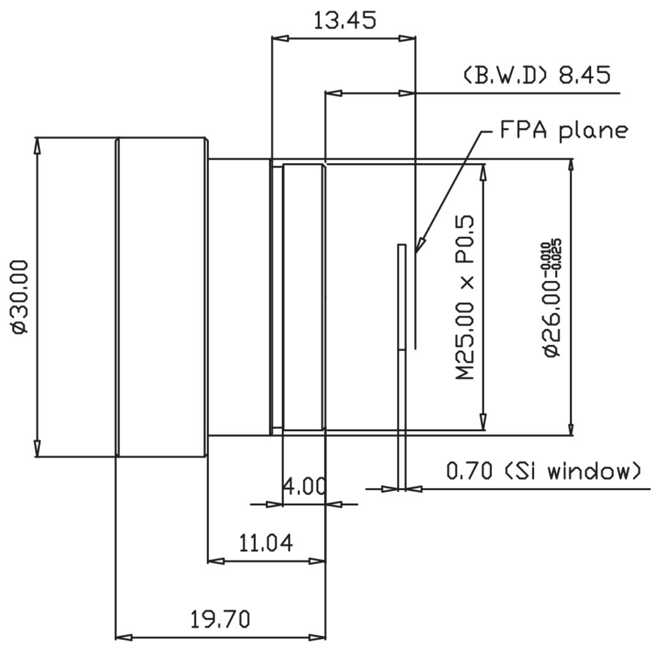
- **Focal length** 8.0 mm
- **Aperture-based f-number** f/1.0
- **Maximum image circle** 8.7 mm
- **Waveband** 8~12 um
- **Focus range** 0.48 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	12	58.3	42.5	76.5
	10	47.6	35.1	61.1
384 X 288	17	**48.6**	**35.8**	**62.5**
	12	33.6	25.0	42.5
320 X 240	17	40.0	29.6	50.8
	12	27.8	20.8	35.0

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M25 x P0.5)
- **Weight** 27.5 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 7.1 mm f/1.0 (Model VN7.110)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 7.1 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, VGA and qVGA lens
- **Suitable for use with VGA and qVGA detector and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Drone thermal imaging

Optical Specifications

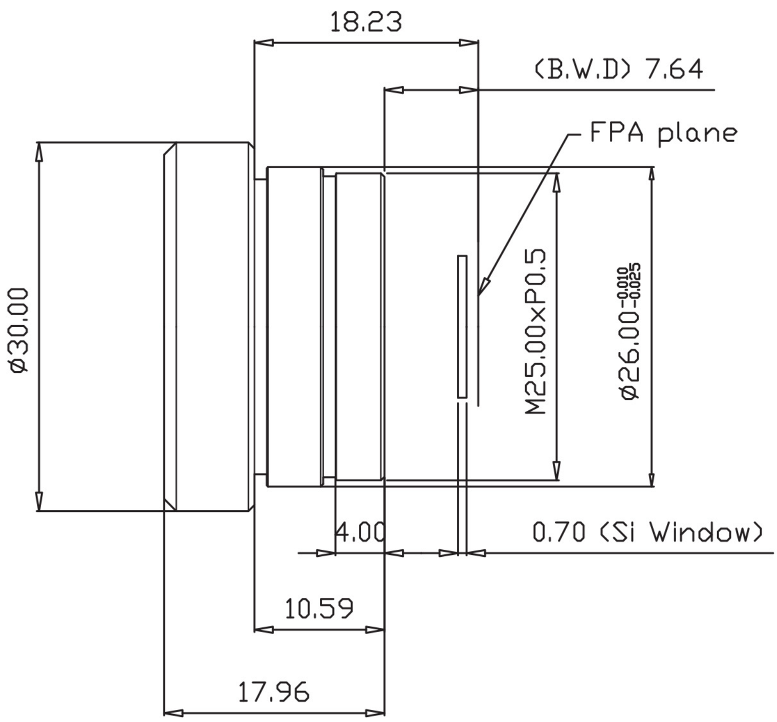
- **Focal length** 7.1 mm
- **Aperture-based f-number** f/1.0
- **Maximum image circle** 11 mm
- **Waveband** 8~12 um
- **Focus range** 0.5 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	17	99.2	69.6	69.6
	12	**65.0**	**47.5**	**84.3**
384 X 288	17	54.4	40.1	69.6
	12	37.6	28.0	47.5
320 X 240	17	44.8	33.2	56.8
	12	31.2	23.3	39.3

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M25 x P0.5)
- **Weight**
- **Dimension**



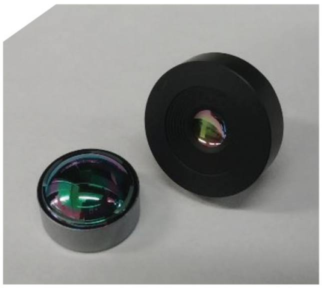
Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 6.7 mm f/1.3 (Model VN6.713)

Introduction



- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 6.7 mm, f/1.3 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, passively athermalized LWIR lens
- **Suitable for use with qVGA and qqVGA detectors and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Automotive vision enhancement

Optical Specifications

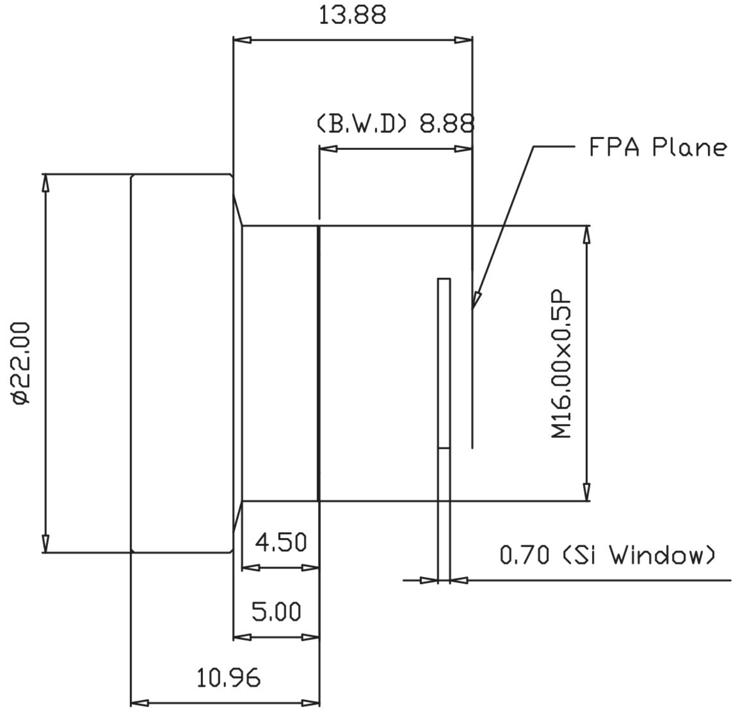
- **Focal length** 6.7 mm
- **Aperture-based f-number** f/1.3
- **Maximum image circle** 8.4 mm
- **Waveband** 8~12 um
- **Focus range** 0.26 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
384 X 288	17	**57.0**	**42.3**	**72.5**
	12	40.0	30.0	50.0
320 X 240	17	47.0	35.0	60.0
	12	33.0	25.0	41.4

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M16 x P0.5)
- **Weight** 9.7 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 6.5 mm f/1.1 (Model VN6.511)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 6.5 mm, f/1.1 lens
  Use of diffractive-aspheric lens
  Light and Passively athermalized LWIR lens
- **Suitable for use with XGA and VGA detector and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Thermal security cameras

Optical Specifications

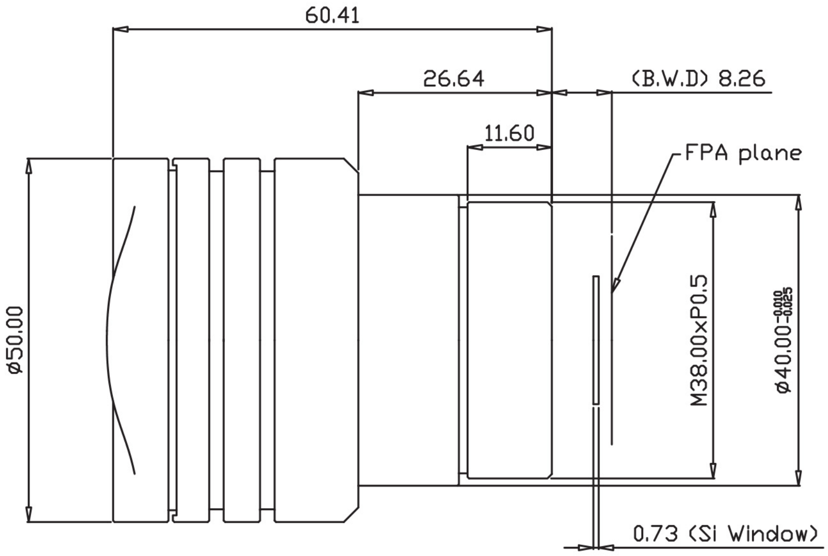
- **Focal length** 6.5 mm
- **Aperture-based f-number** f/1.1
- **Maximum image circle** 17 mm
- **Waveband** 8~12 um
- **Focus range** 0.4 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
1024 X 768	12	**103.0**	**78.0**	**130.6**
	10	86.2	65.5	107.3
640 X 480	17	91.4	69.4	114.2
	12	65.5	49.6	81.0
	10	54.9	41.5	68.1

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M35 x P0.5)
- **Weight** 213.4 g
- **Sealing** IP67 / on front
- **Dimension**



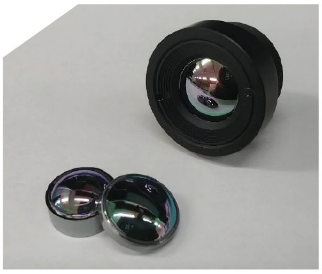
Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 6.2 mm f/1.0 (Model VN6.210)

Introduction



- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 6.2 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, passively athermalized LWIR lens
- **Suitable for use with qVGA and qqVGA detectors and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Automotive vision enhancement

Optical Specifications

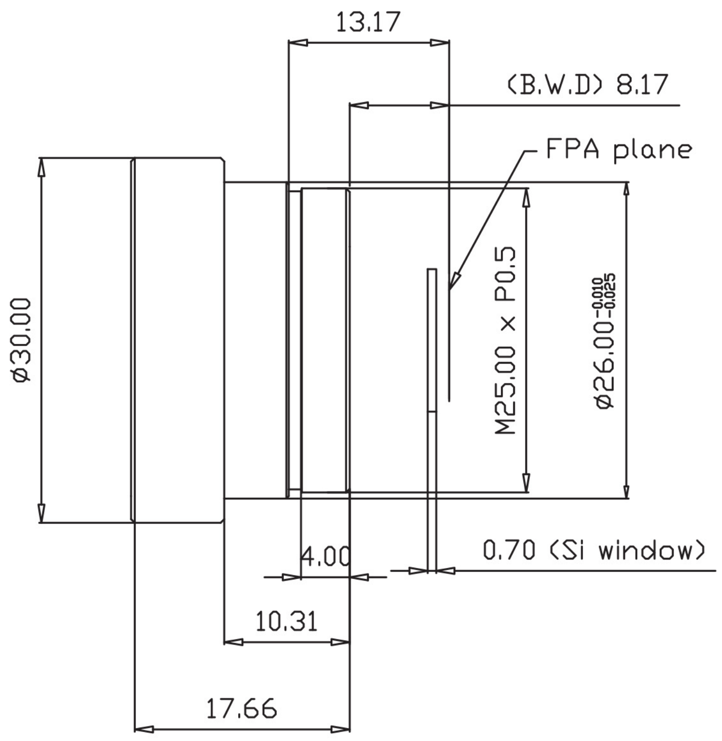
- **Focal length** 6.2 mm
- **Aperture-based f-number** f/1.0
- **Maximum image circle** 10 mm
- **Waveband** 8~12 um
- **Focus range** 0.41 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	12	**75.0**	**54.6**	**99.5**
384 X 288	17	62.5	46.0	80.5
	12	43.3	32.2	54.6
320 X 240	17	51.4	38.2	65.4
	12	36.0	26.8	45.1

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M25 x P0.5)
- **Weight** 30 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 5.4 mm f/1.1 (Model VN5.411)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 5.4 mm, f/1.1 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, passively athermalized LWIR lens
- **Applications and capabilities**
  Thermal imaging and thermography

Optical Specifications

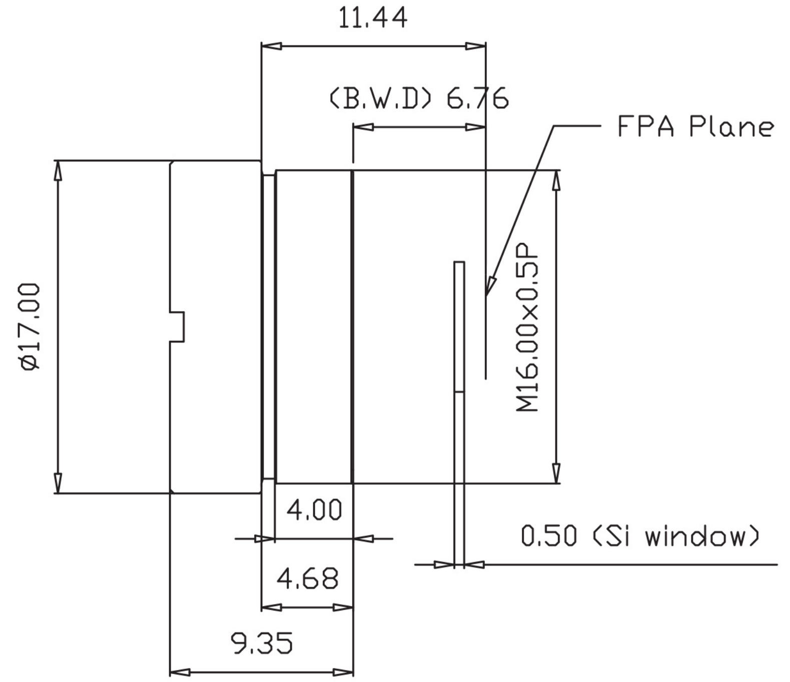
- **Focal length** 5.4 mm
- **Aperture-based f-number** f/1.14
- **Waveband** 8~12 um
- **Focus range** 0.2 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
320 x 240	12	41.5	30.9	52.4
160 x 120	17	29.2	21.8	36.6
	12	20.5	15.4	25.7
80 x 60	35	**30.0**	**22.5**	**37.7**
	25	21.4	16.0	26.8

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M16 x P0.5)
- **Weight** 5.6 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 4.7 mm f/1.1 (Model VN4.711)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 4.7 mm, f/1.1 lens
  Use of diffractive-aspheric lens
  Wide-angle, passively athermalized LWIR lens
- **Suitable for use with VGA and qVGA detectors and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Thermal security cameras

Optical Specifications

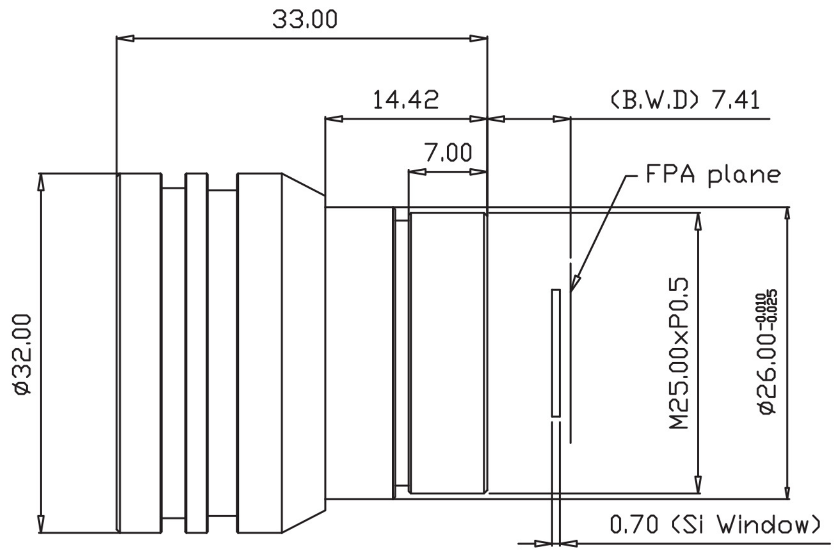
- **Focal length** 4.7 mm
- **Aperture-based f-number** f/1.1
- **Maximum image circle** 13.8 mm
- **Waveband** 8~12 um
- **Focus range** 0.4 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
640 X 480	12	**93.7**	**70**	**119**
384 X 288	17	79.3	60	100
	12	56	42	70
320 X 240	17	66	49.6	82.7
	12	46.7	35	58.3

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M25 x P0.5)
- **Weight** 53.2 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 4.7 mm f/1.0 (Model VN4.710)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 4.7 mm, f/1.0 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, passively athermalized LWIR lens
- **Applications and capabilities**
  Thermal imaging and thermography

Optical Specifications

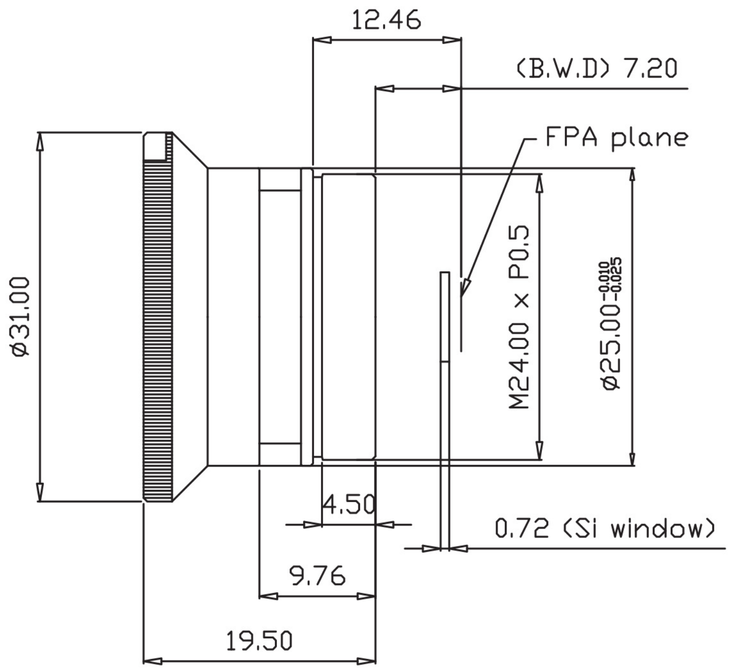
- **Focal length** 4.7 mm
- **Aperture-based f-number** f/1.05 mm
- **Waveband** 8~12 um
- **Focus range** 0.24 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor array	Pixel size (um)	FOV (deg)		
		H	V	D
384 x 288	12	62	44.4	83
320 x 240	12	**50**	**36.4**	**65.2**
160 x 120	25	52.4	38	68.6
	17	34.2	25.3	43.6

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M24 x P0.5)
- **Weight** 20.2 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 4.3 mm f/1.4 (Model VN4.314)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 4.3 mm, f/1.4 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, passively athermalized LWIR lens
- **Applications and capabilities**
  Thermal imaging and thermography

Optical Specifications

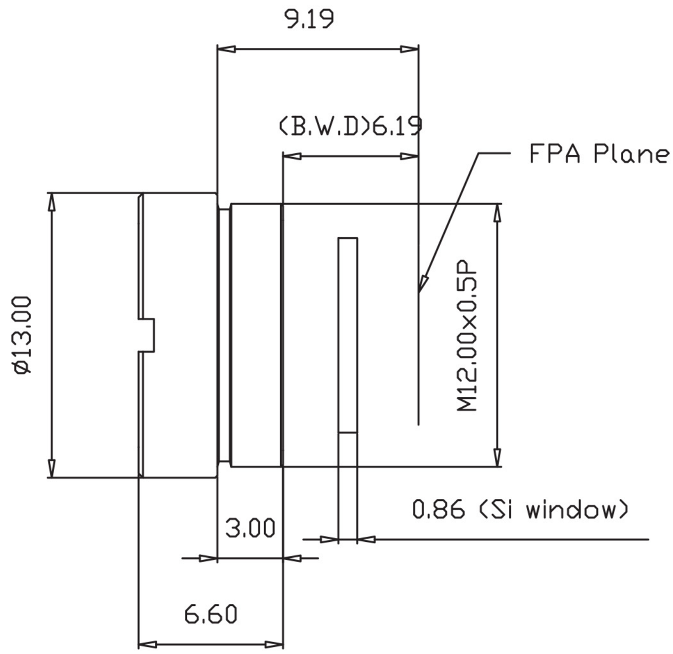
- **Focal length** 4.3 mm
- **Aperture-based f-number** f/1.39
- **Waveband** 8~12 um
- **Focus range** 0.1 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor Array	Pixel size (um)	FOV (deg)		
		H	V	D
384 X 288	17	**90**	**65.2**	**120**
	12	61.1	45.4	78
320 X 240	17	73.1	53.8	94.5
	12	50.5	37.7	63.8
160 X 120	25	52.7	39.3	66.7
	17	35.6	26.7	44.6
80 X 60	35	36.7	27.5	46

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M12 x P0.5)
- **Weight** 2.3 g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
Athermalized fixed focus

Molded LWIR Lens FL 4.0 mm f/1.2 (Model VN4.012)

Introduction

- **Precision molded LWIR lenses using chalcogenide glass**
  High-volume, cost effective manufacturing
  Optimized for the 8~12 um wavelength range
- **High performance LWIR lenses**
  FL 4.0 mm, f/1.18 lens
  Use of diffractive-aspheric lens
  Ultralight, wide-angle, passively athermalized LWIR lens
- **Suitable for use with qVGA and qqVGA detectors and smaller**
- **Applications and capabilities**
  Thermal imaging and thermography
  Automotive vision enhancement

Optical Specifications

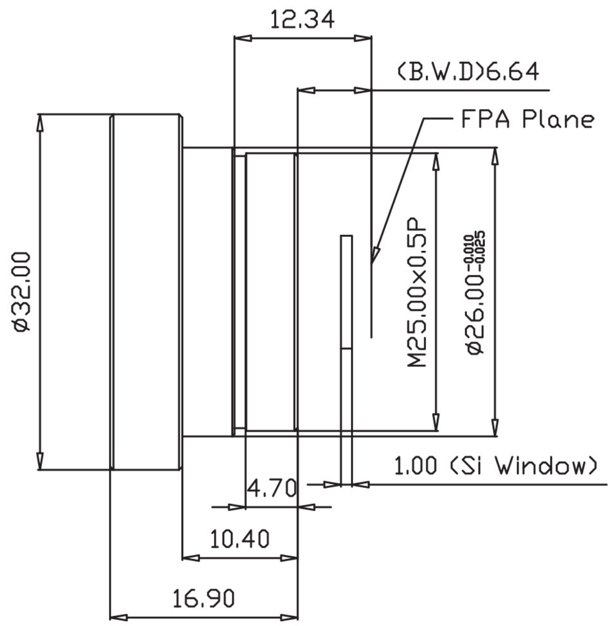
- **Focal length** 4.0 mm
- **Aperture-based f-number** f/1.18
- **Maximum image circle** 8.6mm
- **Waveband** 8~12 um
- **Focus range** 0.1 m to infinity
- **Transmittance** > 95 % (AR coating)
  > 90 % (DLC coating)
- **Field of view (FOV)**

Sensor Array	Pixel size (um)	FOV (deg)		
		H	V	D
384 X 288	17	**90**	**68.7**	**112.6**
	12	64.9	49	80.1
320 X 240	17	75.9	57.7	93.5
	12	54.4	41.1	67.4
160 X 120	25	56.6	42.7	70.1
	17	38.8	29.2	48.3

Note : Each lens is optimized for a specific detector format represented by bold values.
This table shows values for other compatible detector formats with non-optimal performance.

Mechanical Specifications

- **Lens mount** Threaded (M25 x P0.5)
- **Weight** 28g
- **Sealing** IP67 / on front
- **Dimension**



Environmental Specifications

- **Operating temperature** -35 ~ +60 ℃
- **Storage temperature** -55 ~ +85 ℃

ViewNyx
www.viewnyx-en.com

Gwangju Headquarters

TEL +82-62-971-7638 | FAX +82-62-971-7639
Head office 61-3, Cheomdan venture
so-ro 37beon-gil, Buk-gu, Gwangju, 61003 Republic of Korea