TECHSPEC® 6mm FL, Liquid Lens M12 Lens

#37-521

TECHSPEC® Liquid Lens M12 Imaging Lenses

TECHSPEC® Liquid Lens M12 Lenses feature a high-resolution f/2.4 optical design with an integrated liquid lens, allowing for fast electronic focus, superior image performance, and a quick autofocus solution. When combined with appropriate camera and software, the focus tunable liquid lens provides the active focus control needed to achieve an autofocus solution. The high light throughput f/2.4 aperture is ideal for high-speed machine vision applications. TECHSPEC® Liquid Lens M12 Lenses incorporates a 2-piece housing design for easy access and replacement of the included liquid lens. The liquid lens can also be rotated 180° inside the imaging lens for quickly accessing the liquid lens control cable.

These lenses won the 2nd place 2019 Inspect Award.

Note: Driver and software are required for operation and must be purchased separately unless camera in use has liquid lens control capability. Various drivers and software are included in the Electronics Development Kit (#28-773). Individual drivers can also be purchased separately if software is not needed (#12-247 or #12-248).

Phone: 1-800-363-1992 or 1-856-573-6250, Fax: 1-856-573-6295
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General

Note:	Separate driver not included. Electronic development kit #28-773 recommended. When using a Maxim driver board (#12-247, #12-248, or #17-172) the jumper at ST2 **must** be removed before use to ensure optimal performance and product lifetime. Watch this video for more information.
Type:	M12 Imaging Lens
Integrated Liquid Lens Model:	Corning® Varioptic® A-39N0
IR Cut Filter:	No

Physical & Mechanical Properties

Iris Option:	Fixed
Length (mm):	27.20
Maximum Diameter (mm):	23
Outer Diameter (mm):	18.0
Weight (g):	14
Maximum Rear Protrusion (mm):	7.7
Flange Distance (mm):	14.025

Optical Properties

Horizontal Field of View, 1/2" Sensor:	129.2mm - 61.1°
Horizontal Field of View, 1/3" Sensor:	92.5mm - 45.8°
Maximum Image Circle (mm):	8.00
Numerical Aperture NA, Object Side:	0.0117
Horizontal Field of View @ Max Sensor Format:	129.2mm - 61.1°
Number of Elements (Groups):	6(5)
Wavelength Range (nm):	400 - 700
Horizontal Field of View, 1/2.5" Sensor:	114.9mm - 55.3°
Focal Length FL (mm):	6.00
Primary Magnification PMAG:	0.058X
Working Distance (mm):	100 - ∞
Aperture (f/#):	f/2.4
Distortion (%):	-14.91 @ Full Field
Coating Specification:	λ/4 MgF_2 @ 550nm
Entrance Pupil Position (mm):	7.41
Horizontal Field of View, 1/4" Sensor:	67.6mm - 34.3°
Object Space Principal Plane (mm):	11.93
Image Space Principal Plane (mm):	1.08
Field of View at Max Sensor Format:	Horizontal: 128.6mm - 60.8° Vertical: 92.1mm - 45.6° Diagonal: 170.8mm - 75.8°
Exit Pupil Position (mm):	-17.28
Lens Wavelength Range:	VIS

Sensor

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Maximum Sensor Format:	1/2"

Threading & Mounting

Mount:	M12 x 0.5 (S-Mount)

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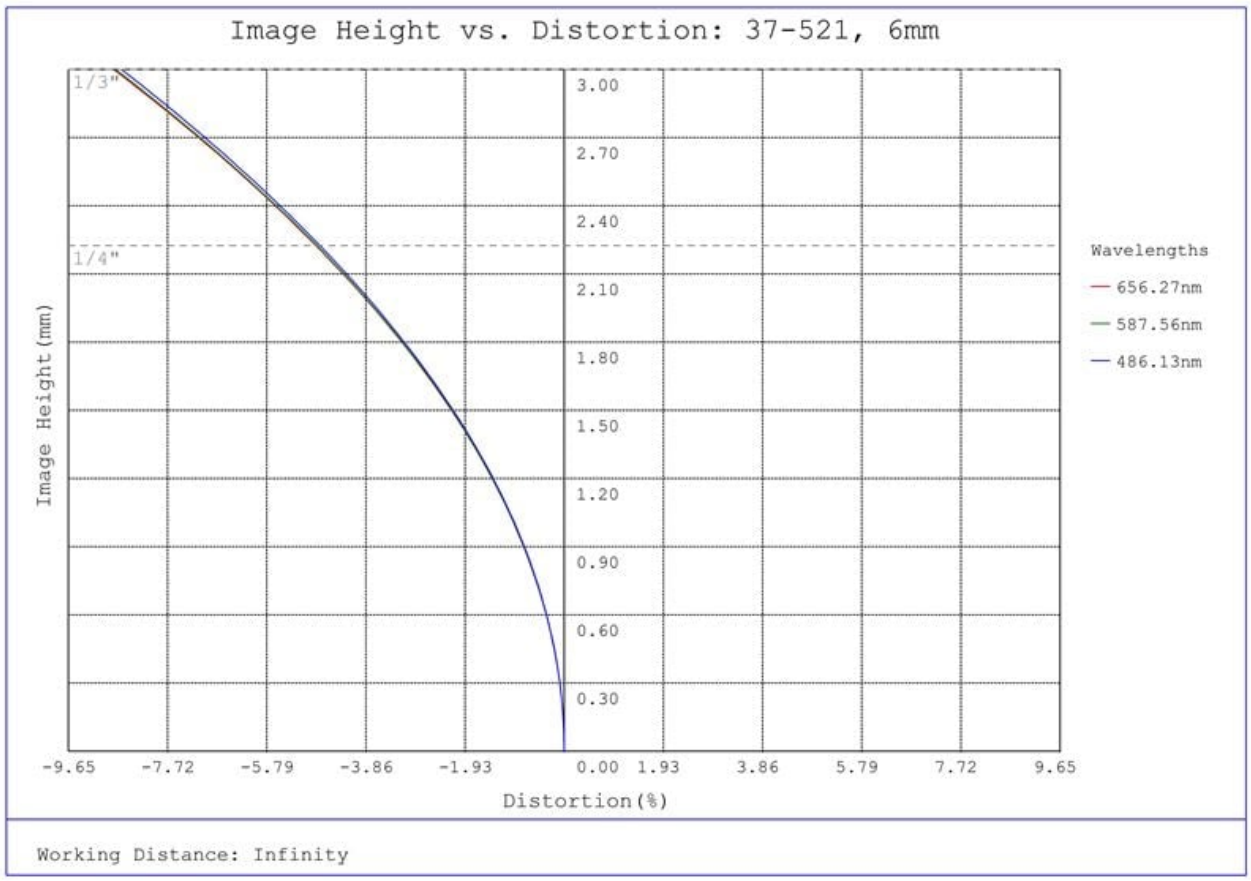

#37-521, 6mm FL, Liquid Lens M12 Lens, Distortion Plot

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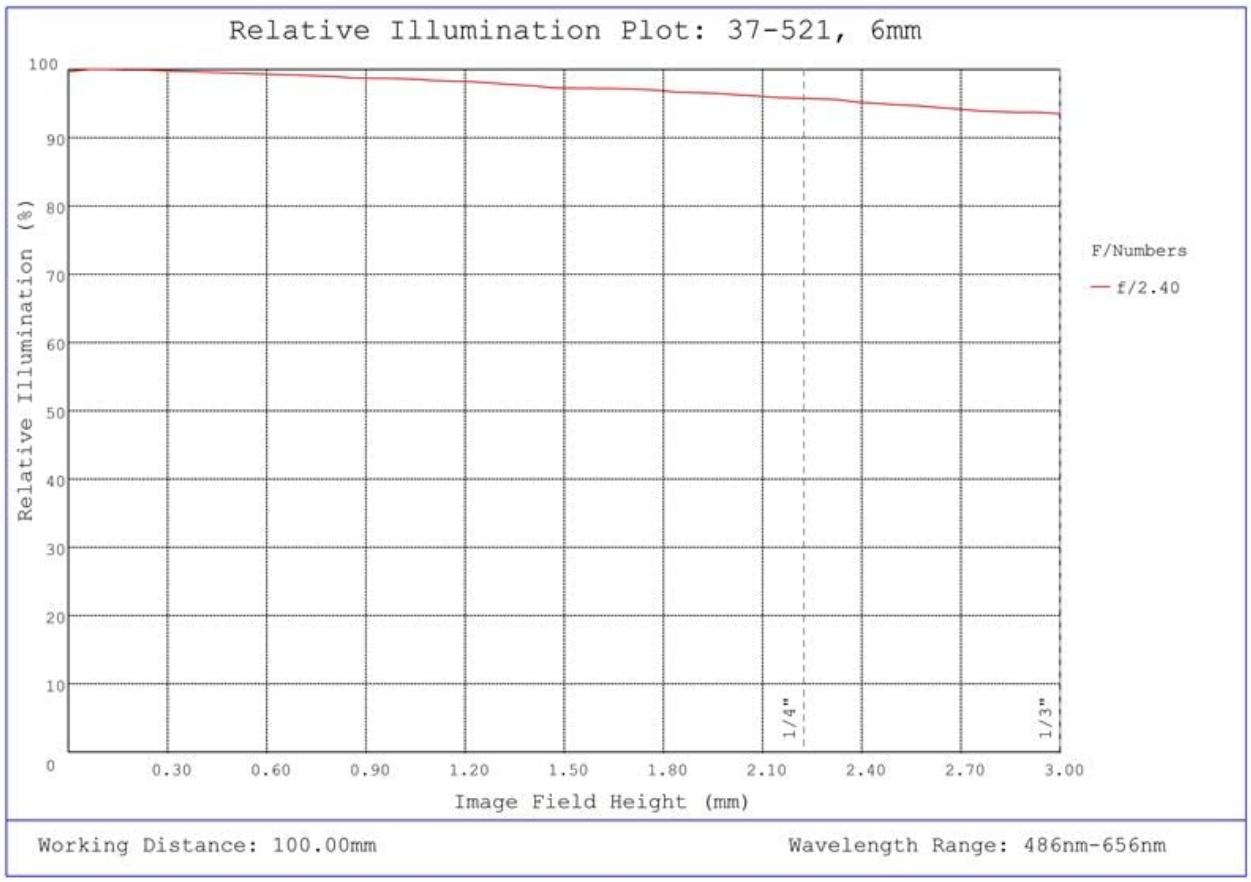

#37-521, 6mm FL, Liquid Lens M12 Lens, Relative Illumination Plot

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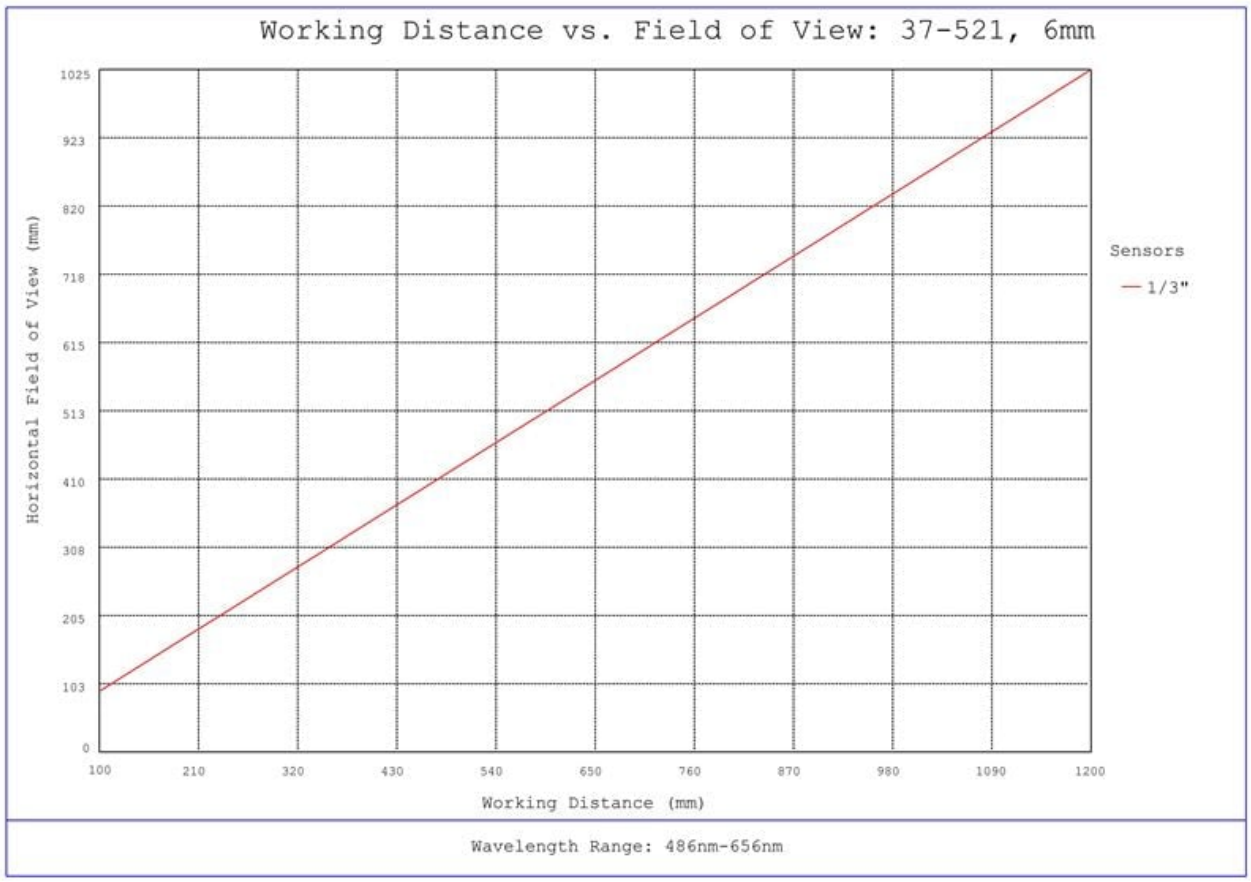

#37-521, 6mm FL, Liquid Lens M12 Lens, Working Distance versus Field of View Plot

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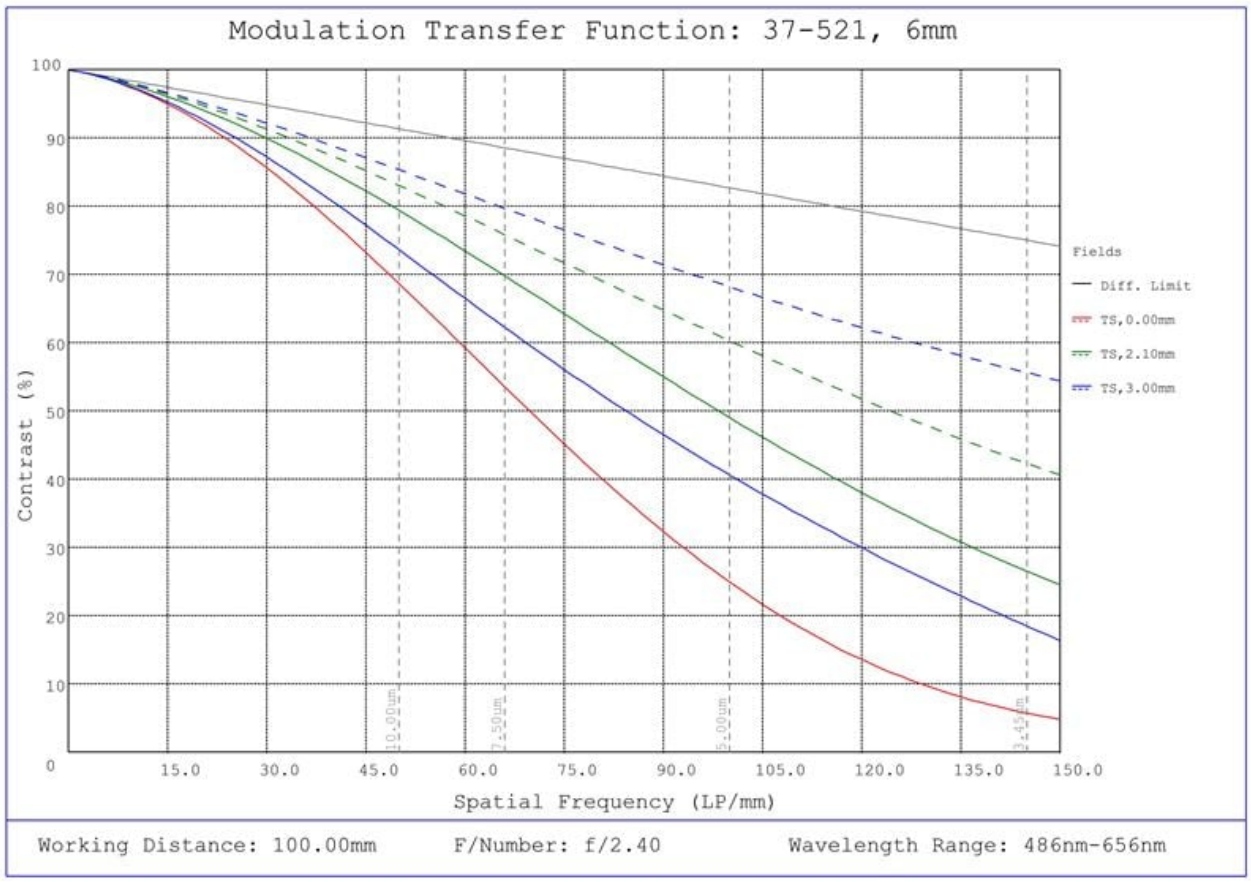

#37-521, 6mm FL, Liquid Lens M12 Lens, Modulated Transfer Function (MTF) Plot, 100mm Working Distance, f2.4

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#37-521, 6mm FL, Liquid Lens M12 Lens, Depth of Field Plot, 100mm Working Distance, f2.4

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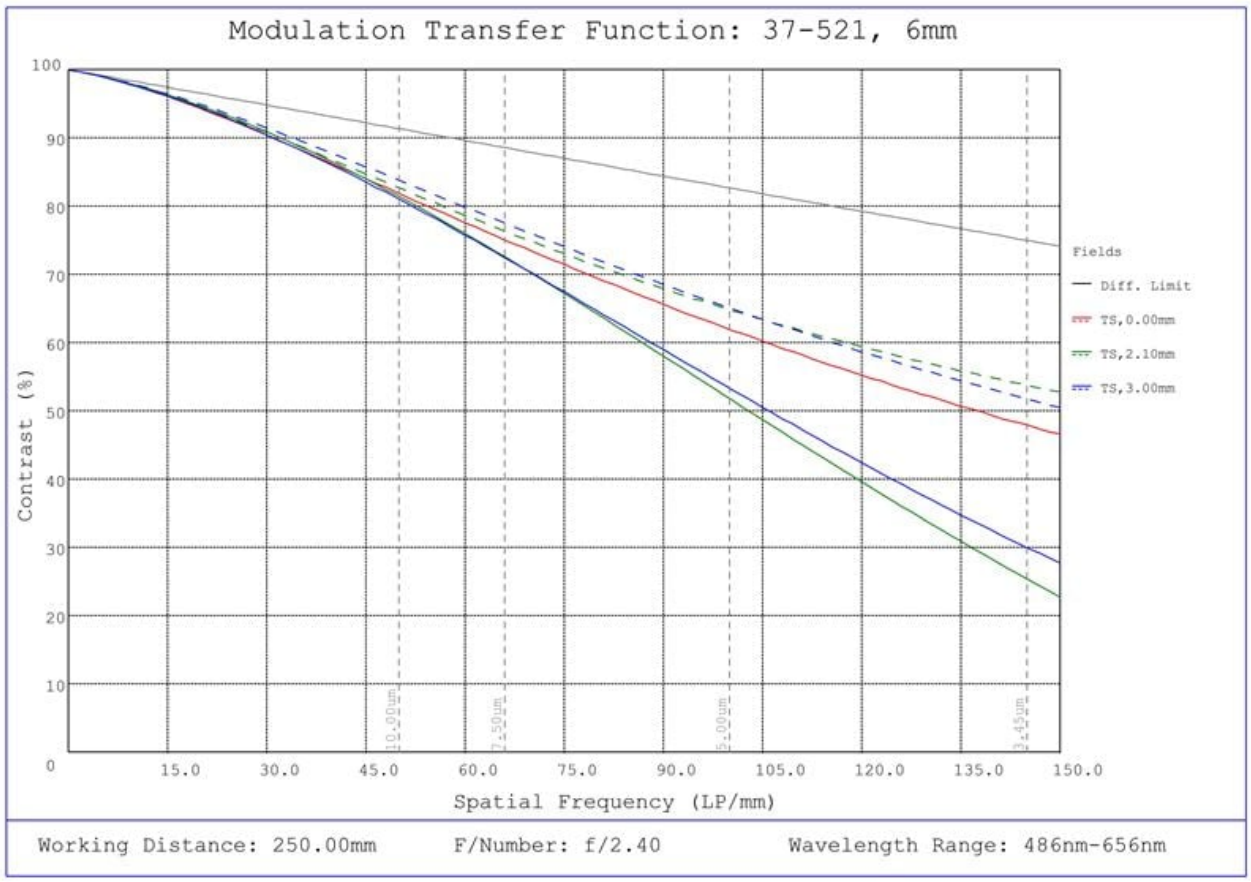

#37-521, 6mm FL, Liquid Lens M12 Lens, Modulated Transfer Function (MTF) Plot, 250mm Working Distance, f2.4

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#37-521, 6mm FL, Liquid Lens M12 Lens, Depth of Field Plot, 250mm Working Distance, f2.4

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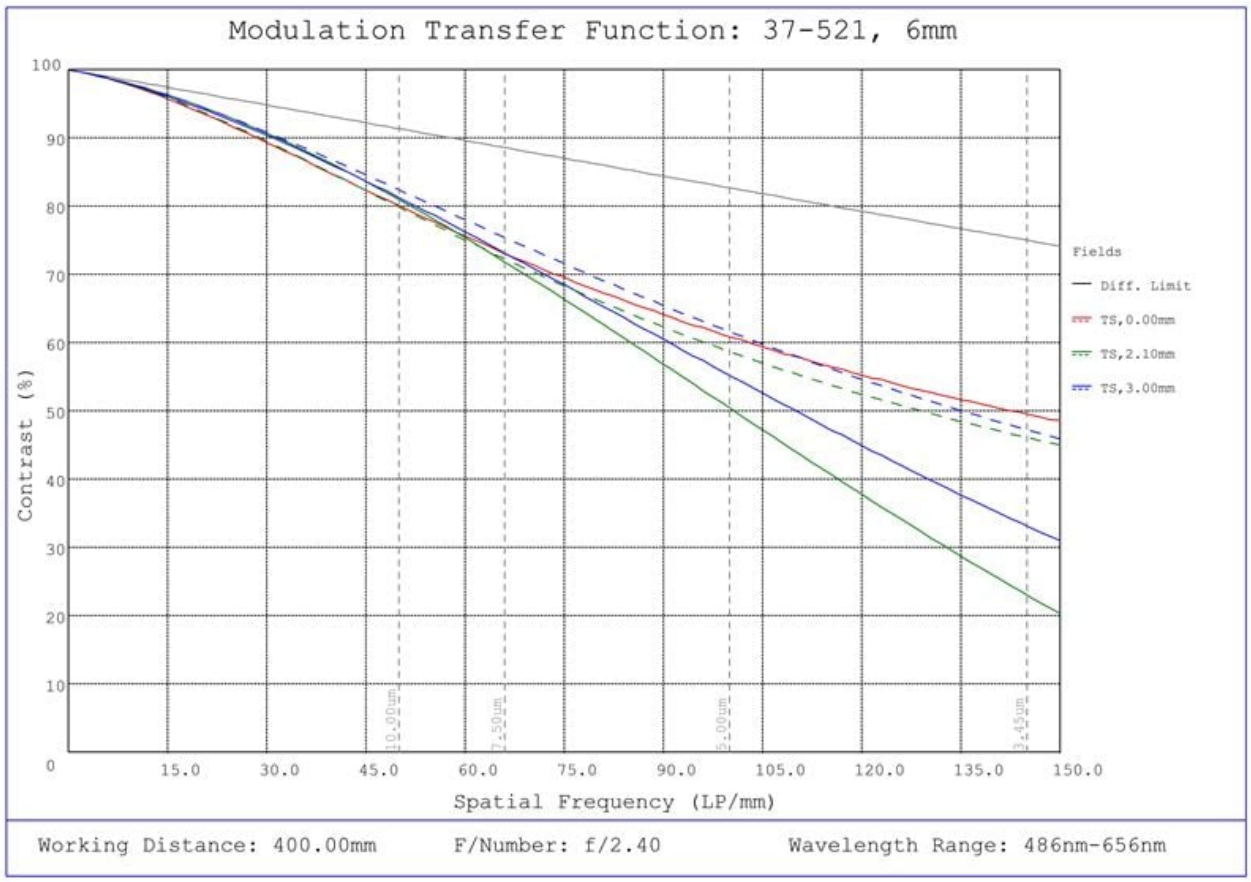

#37-521, 6mm FL, Liquid Lens M12 Lens, Modulated Transfer Function (MTF) Plot, 400mm Working Distance, f2.4

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#37-521, 6mm FL, Liquid Lens M12 Lens, Depth of Field Plot, 400mm Working Distance, f2.4

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April 09, 2025

To Whom It May Concern,

This document certifies that the product stated below has been reviewed as requested by Edmund Optics:

Stock No.	*Description*
37-521	6mm FL, Liquid Lens M12 Lens

This item is EU RoHS (2011/65/EU) compliant without the use of exemptions.

This certification means that:

- EO's suppliers have confirmed the material composition of this product.
- EO has implemented rigorous procedures to document this compliance.
- The information provided may, or may not, be based upon actual test data, or on information from our Vendors, Raw Material Suppliers or Subcontractors.

Jay Budd, Director of Corporate Compliance
April 09, 2025

Edmund Optics Inc. - 101 E Gloucester Pike, Barrington, NJ 08007 | 1-800-363-1992 | Compliance@edmundoptics.com

April 09, 2025

Stock No.	*Description*
37-521	6mm FL, Liquid Lens M12 Lens

Edmund Optics certifies that all articles included in this shipment are in compliance with the terms and conditions of this order. The company also certifies that the articles included in this shipment are in accordance to all agreed upon specifications and quality assurance provisions. Please call 1-800-363-1992 should any questions arise from this shipment.

Jeff Harvey- EVP of Operations

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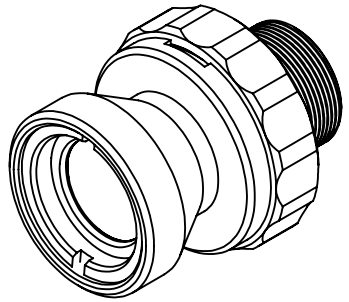

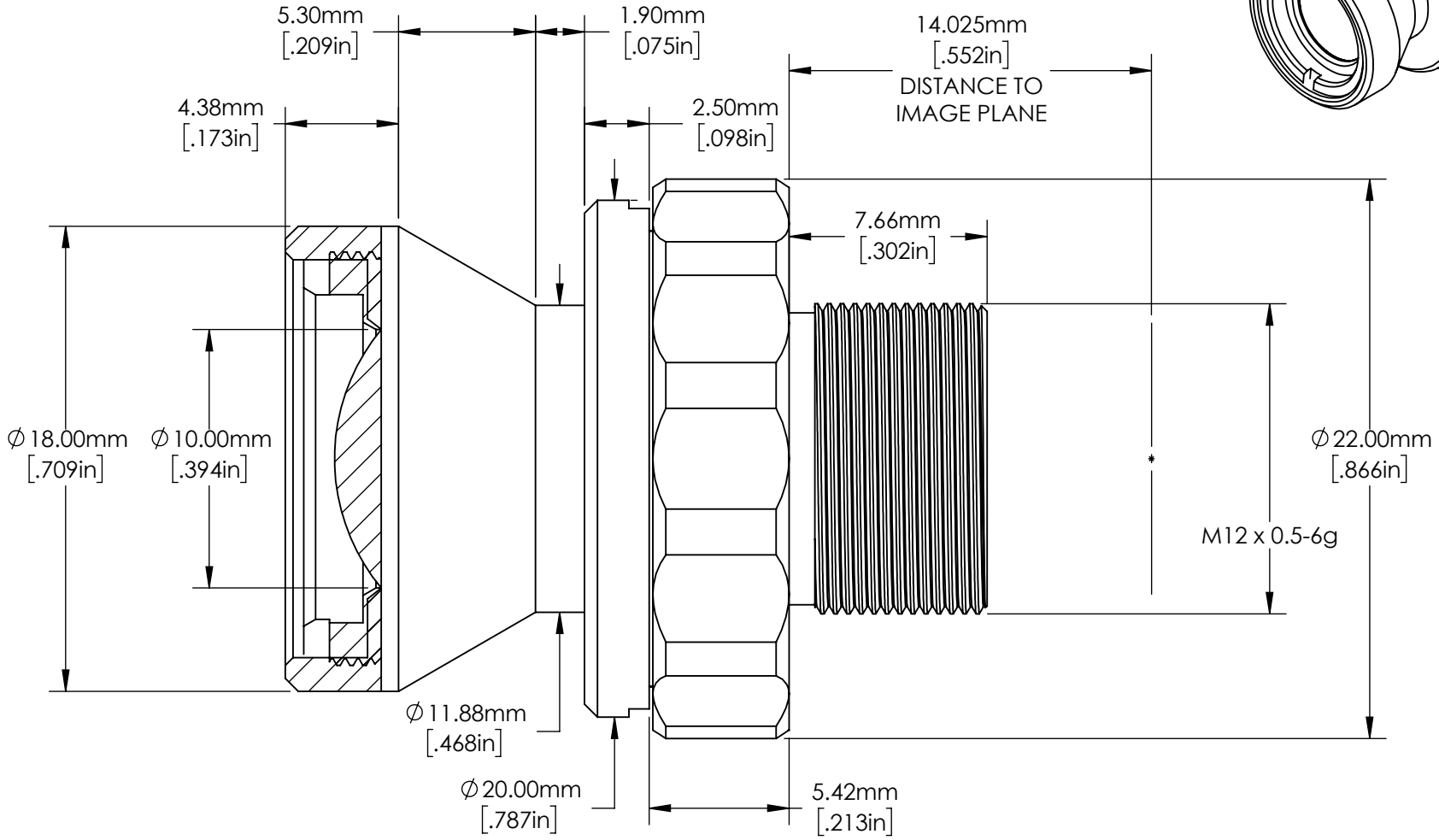

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THIRD ANGLE PROJECTION		TITLE	6mm FL, LIQUID LENS M12 IMAGING LENS
ALL DIMS IN	mm	DWG NO	37521
			SHEET 1 OF 1