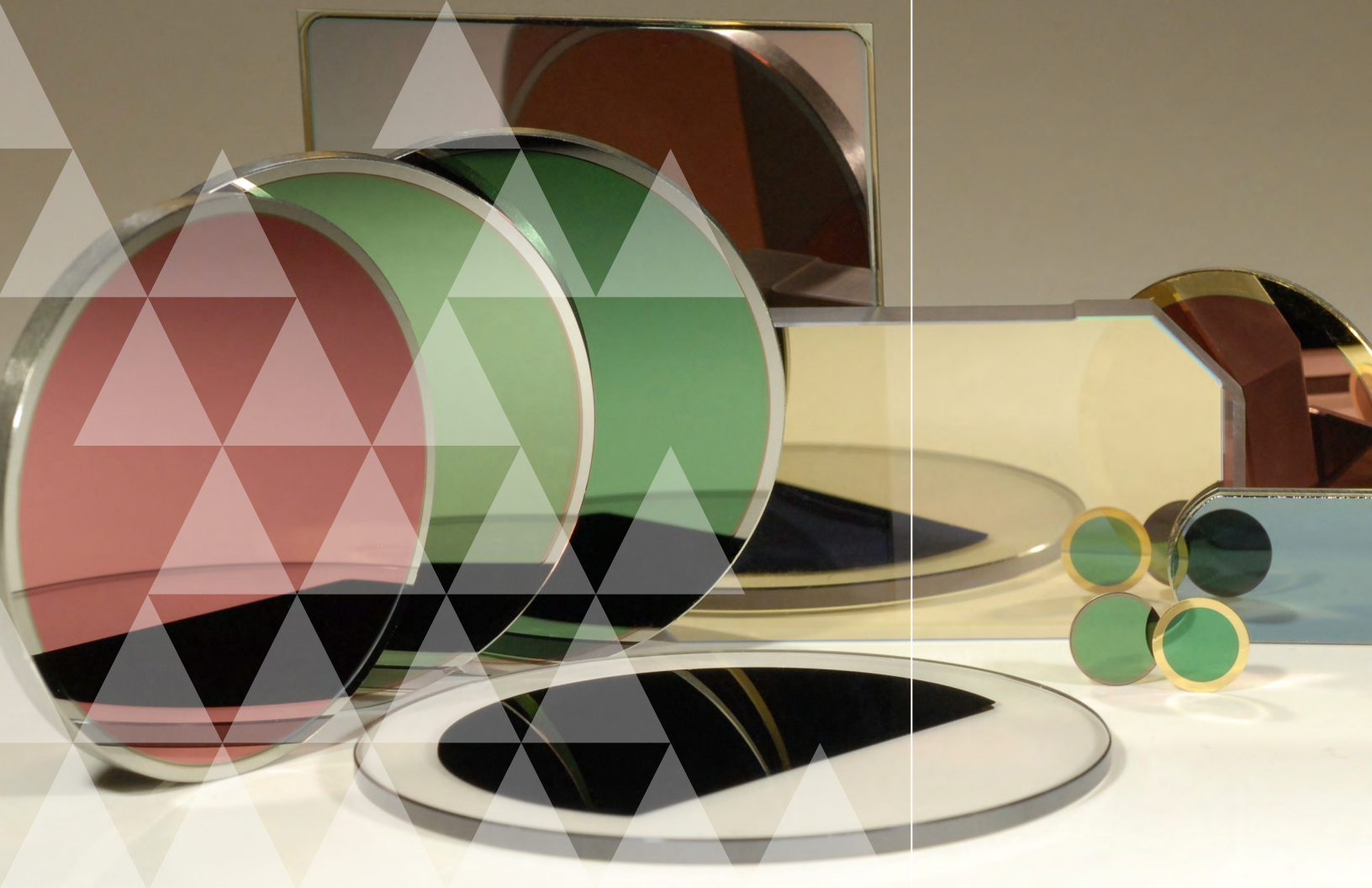




MATERION



PRECISION OPTICS

ProIR™ Filters

ProIR™ Filters

The Challenge

As the IR sensing market continues to evolve and expand into numerous applications which now include consumer electronics and smart home applications, there is a growing demand from the industry for superior quality optical filters which will yield optimal performance when coupled to a detector. To support these existing and emerging applications, it is of the utmost importance to quickly turn-around rapid prototypes at low cost to ensure timely product launch.

The Solution

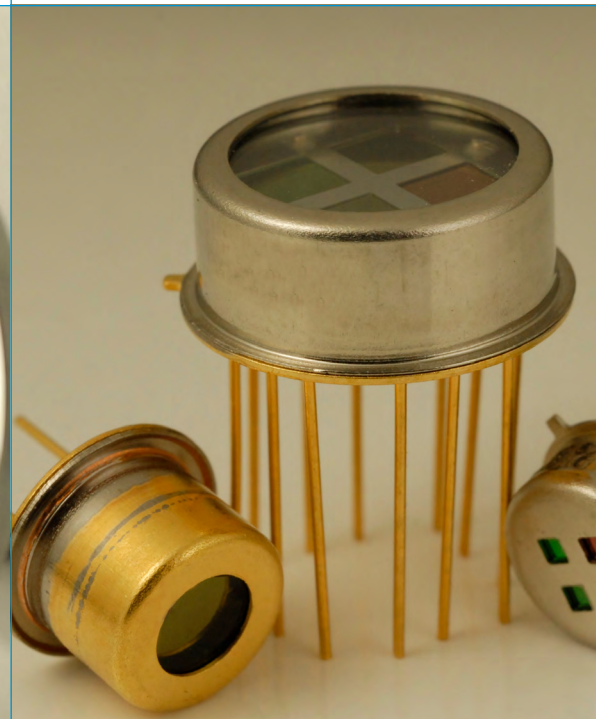
To resolve these challenges, Materion Precision Optics proudly offers its new line of ProIR™ filters. A broad range of mid-wave through long-wave filters are now available in stock offering spectral characteristics that are far superior to the competition. To better support the R&D phase or low rate initial production (LRIP), these off-the-shelf products allows for rapid prototyping and cost-effective experimentation. If the need cannot be met using the stock materials, Materion can also provide customized design solutions for those with specific requirements.

BENEFITS

- Materion's heritage of 40 years of optical filter experience
- Available stock for rapid prototyping
- Customizing available
- State-of-art durability
- State-of-art spectral performance
- Quick turn-around

MARKETS

- Automotive
- Medical Gas (CPAP, Anesthesiology)
- HVAC
- Environmental Sensing
- Motion Sensing
- Flame & Gas Detection
- Hydrocarbon Gas Detection
- Thermal /Infrared
- Smart Home
- Consumer Electronics



ProIR™ AVAILABLE IN STOCK MidWave – LongWave	
Gas to be Detected	CWL
HC	3.33um
CO ₂	4.26um
CO	4.60um
NO	5.3um
Motion/Thermal	8 – 14um WB
Atmospheric	3 – 5um WB
Reference	3.08um 3.85um
*Custom design options available	

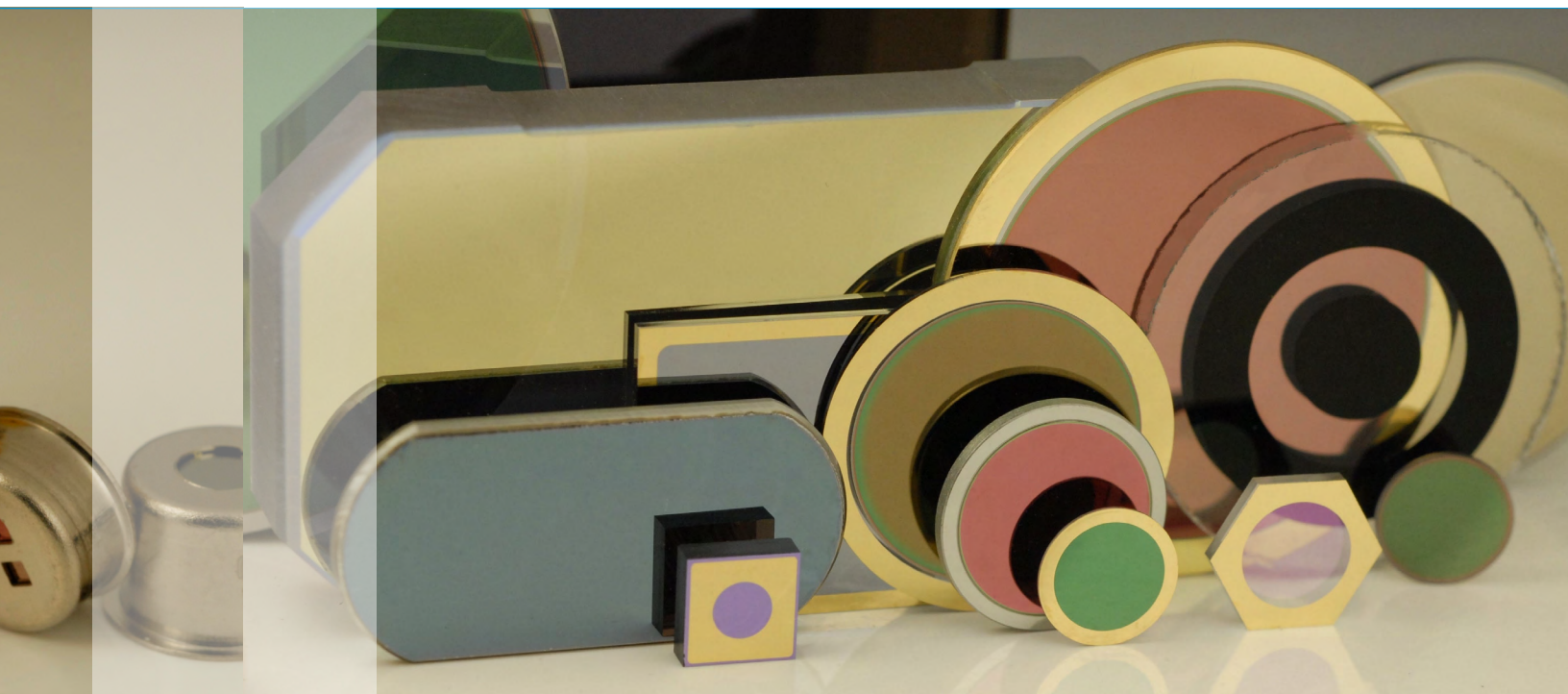
TECHNICAL ADVANTAGES

- 3 + Cavity NB designs
- Steep cut-on/cut-off slopes
- Highest transmission available
- Superior durability per MIL standards
- Low in band ripple
- Low angular shift
- Low temperature drift
- Better signal-to-noise ratio
- Volume production of MWIR/LWIR NB coatings
- Lot-to-lot repeatability

CAPABILITIES

- Precision patterning/array manufacturing
- Wafer level processing
- Metalization for hermetic sealing
- Getter coatings
- Spectral testing from 200 nm – 50u
- Temperature testing as low as 4 Kelvin
- Precision dicing with superior edge chip quality
- Flatness/Bow Measurements

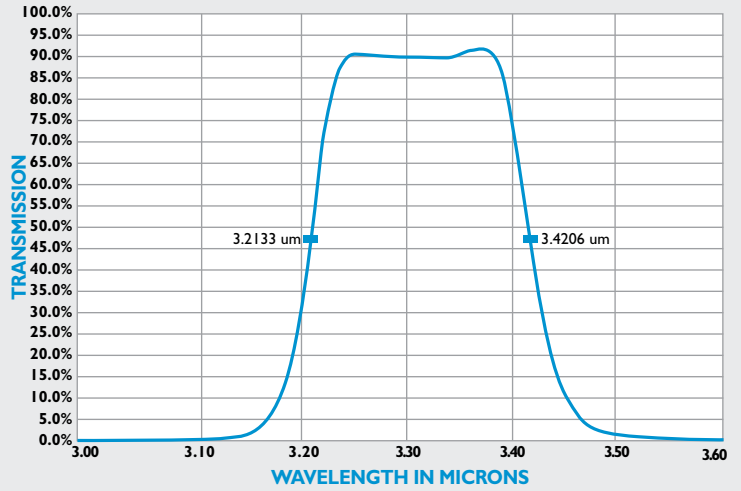
Materion ... Delivering New Levels of Innovation



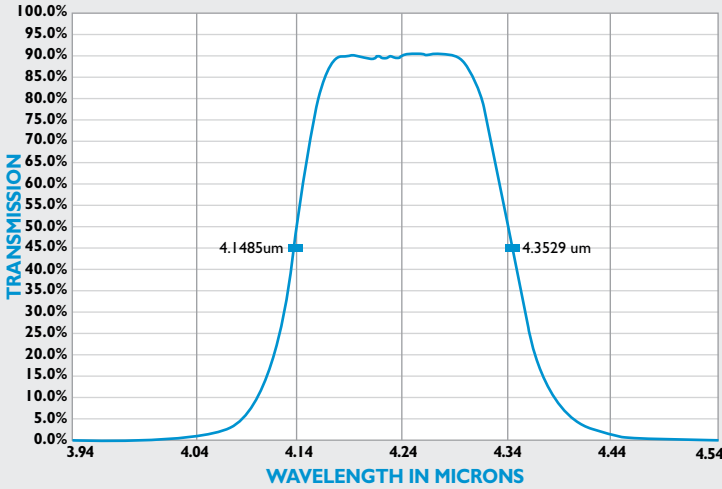
Performance Plots

Spectral curves demonstrating typical performance of the ProIR™ midwave and longwave series of filters featured in ProIR™ Available in Stock table.

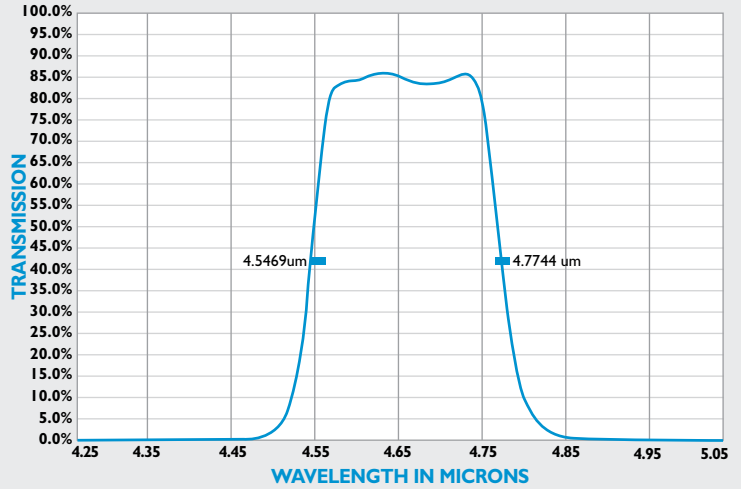
3.33um NB – STOCK



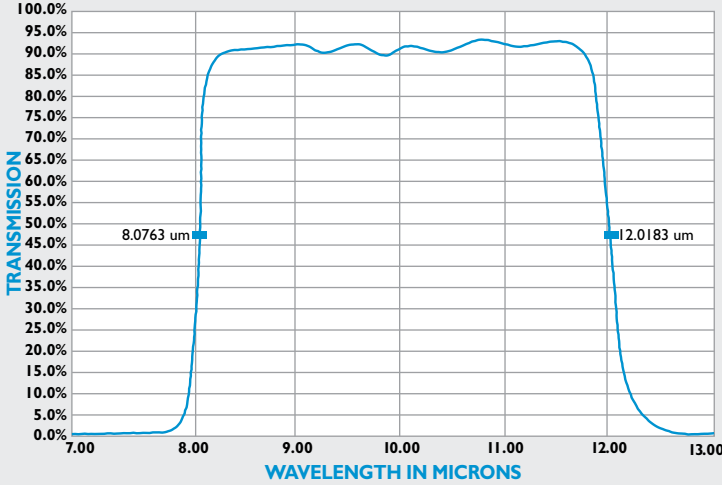
4.26um NB – STOCK



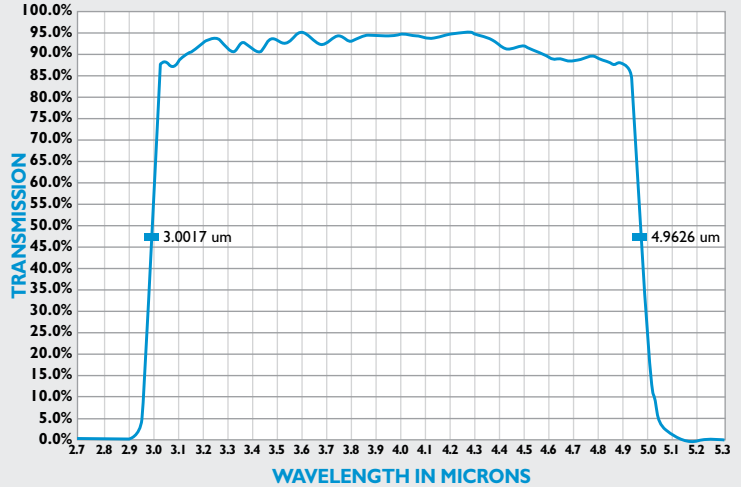
4.66um NB – STOCK



8-12um WB – STOCK



3-5um WB



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MATERION CORPORATION
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MATERION PRECISION OPTICS is the world's leading provider of precision optical filters and custom thin film coating services. We employ innovative process technologies to produce a broad array of products including complex optical filters, filter arrays, wafer level coatings, thin film getters, mirrors, color wheels, and complex optical sub assemblies. We offer solutions for diverse markets and applications including consumer electronics, image sensing, smart sensing, defense, space, life sciences, medical, infrared flame & gas detection, astronomy, 3D Sensing, LIDAR and thermal Imaging.