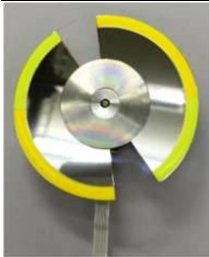


## Boost Projection System Performance with Gen 1.5



Materion continues to produce innovative solutions for the emerging solid state projector market with its next generation phosphor wheel. Our Generation 1.5 Phosphor Wheel delivers superior performance for projection systems utilizing lasers greater than 100 watts of power and is the perfect solution for the mid-to-high end projector and projection TV markets. Materion led the way in support of this new technology with the introduction of the Gen 1.0 phosphor wheel and now steps up its game with a new and improved product offering.

Gen 1.5 improves upon the Gen 1.0 phosphor wheel by utilizing a proprietary optical coating that increases the conversion efficiency by about 10%. At the same time, it also enhances the overall thermal efficiency of the component and allows it to operate at higher temperatures. The greater the illumination level - the more heat produced. So, improvement in conversion efficiency and thermal performance are critical attributes for companies striving to gain maximum brightness levels. Materion phosphor wheels offer low noise characteristics, a high degree of flexibility and stable color generation. Gen 1.5 will be available for green, red and yellow colors. A segmented structure with multiple colors will also be offered.

[Read More...](#)

## Soaring Demands for Wafer Level Packaging

The demand for wafer level packaging (WLP) technology is becoming increasingly more important in order to address the needs of the commercial market. Driven primarily by mobile applications, there is a greater demand for small form factors and lower costs. As wafer level packaging (WLP) continues to mature, Materion Precision Optics has kept pace with the challenging technological demands of WLP technology.

Materion is a leader in the deposition of thin film coatings on the most challenging of wafers with complex topographies. To meet stringent cleanliness requirements, wafers are manufactured in a state-of-the art Class 1000 clean room. As there is no standard WLP wafer in the industry, each die on the wafer typically presents a unique set of challenges for Materion to solve. These can include: the substrate material to be coated, the topography of the wafer including different feature shapes and sizes, and demanding handling requirements for materials of varying thickness.

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## The Right Material Makes the Difference

The concept of a narrow band pass filter is simple. These are devices that let a specific range of wavelengths pass, while rejecting others. This article will present the salient aspects of a typical narrow band filter.

The Peak Transmission is the highest level obtained in the pass band; Ripple is the variation in transmission in the pass band. The shape of the filter can be specified in many ways, the simplest is to specify the full width at one half of the peak transmission (Full Width at Half Maximum, FWHM). Other widths, such as the 90% and 10%, serve to further constrain the performance. The rejection band is the region in which most of the incident light is not transmitted. It can either be reflected or absorbed, and for filters that have wide rejection bands, both.

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## Optical Innovation News

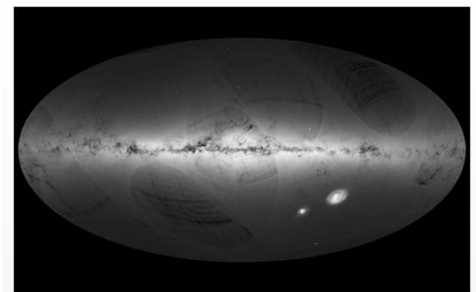
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## ESA Satellite Locates Over a Billion Stars

Gaia's first catalog of more than a billion stars, the largest all-sky survey of celestial objects. Photo by European Space Agency.



After three years of anticipation by astronomers worldwide, the Gaia mission has published the most precise map ever completed of the Milky Way galaxy. The European Space Agency (ESA) has published the largest all-sky survey of celestial objects that will revolutionize our understanding of the stars. The concentrated information from ESA will allow ground-based astronomers for the first time to follow-up from land and study such data as stars' distance, precise position and movements across the sky.

Materion Precision Optics contributed to this major event by enabling the science behind it.

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## Events - Join us!

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