Wide Angle Diffusers

PoG Diffuser 115x90

Features and Advantages

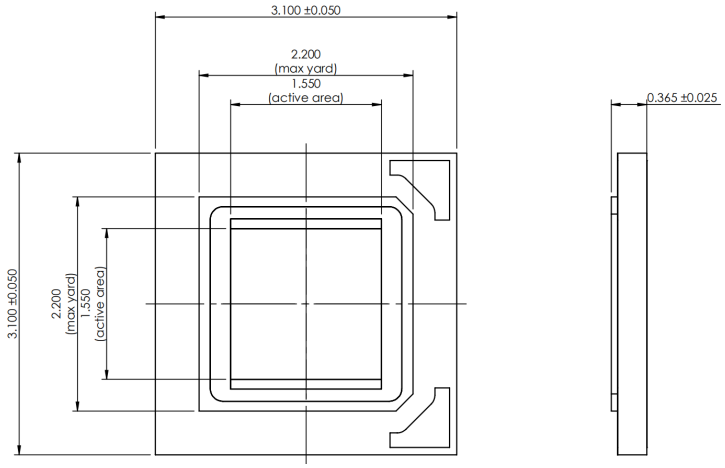
The PoG (Polymer on Glass) diffuser combines a micro-structured polymer layer on a glass substrate, offering wide wavelength coverage (450–2000 nm), high transmission (>90%), customizable divergence angles (10°–130°) with various beam shapes, and excellent thermal stability (–40 °C to 125 °C, reflow soldering up to 260 °C), making it a cost-effective, reliable, and scalable solution for VCSEL-based applications such as 3D sensing, LiDAR, in-cabin monitoring, robotics, and machine vision.

Product Specifications

Product Code		120206000558 [1]
Specification Data	**Unit**	
Typical FOI Angle (FWHM) Horizontal [2][3]	°	116
Typical FOI Angle (FWHM) Vertical [2][3]	°	88
Material		Epoxy on glass
Length (L)	mm	3.1 ± 0.05
Width (W)	mm	3.1 ± 0.05
Thickness (T)	mm	0.365 ± 0.025
Clear Aperture (Al x Aw)	mm^2	1.55 x 1.55
Design Wavelength [4]	nm	940nm
AR Coating [5]	nm	uncoated
Transmission [6]	%	90

[1] Example for customization — design, dimensions and coating on request.
[2] Angle at 50% level normalized to the centroid. Based on radiant intensity.
[3] Typical VCSEL under typical driving conditions. Different VCSEL sources or different driving conditions could lead into different FOI values.
[4] Optimization design based on VCSEL@940nm.
[5] Optional for customized AR coating on glass surface.
[6] Transmission is 90% for uncoated, and will be 94% with AR coating on glass surface.

Product Drawing (mm)



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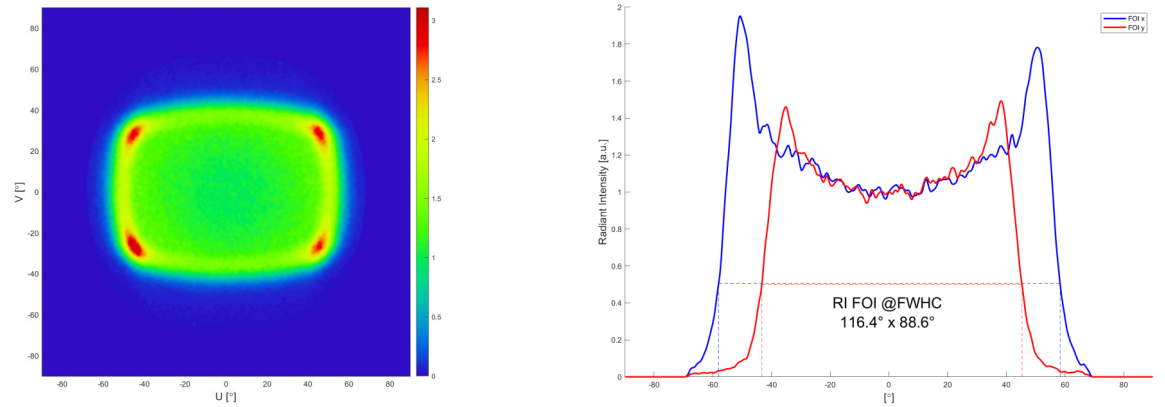
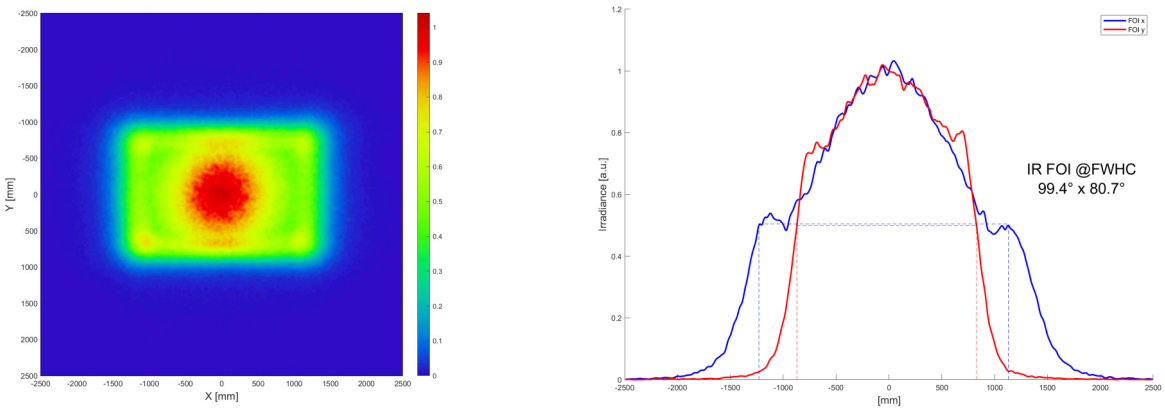
Optical Simulation Results [7]



Radiant Intensity Distribution Pattern (Left) and Radiant Intensity Output Profile (Right)



Irradiance Distribution Pattern (Left) and Irradiance Output Profile (Right)

[7] Simulation based on measurements of a typical module product.

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