

Overview

PowerPhotonic's fibre coupling lens array products offer a wide range of configurations, focal lengths, and forms. Using PowerPhotonic's unique laser direct-write process, we can create a wide range of lens array optics without the need for a mask or mold tooling.

One-dimensional arrays are available with a standard lens pitch of 250um, or can be supplied with customer-specified pitch.

Two-dimensional arrays are available with sphere, asphere, astigmatic, cylindrical or acylindrical lenses on a regular or customer specified grid.

The lens array can be fabricated within a larger planar substrate to enable ease of mounting, without the mount impinging on the clear aperture of the lens array.

Key Features

- Large range of lens arrays possible
- One or two dimensional grid
- High uniformity of RoC, conic and pitch
- Free choice of lens form; sphere, asphere, astigmatic, cylindrical, acylindrical
- UV-fused silica

Benefits

- Application-specific lens arrays – avoids the design compromises imposed by the use of catalog parts
- Optimized lens profile for best performance
- Low scatter and low crosstalk

About Us

PowerPhotonic is a global leader in precision laser machined micro-optics products. Our business was founded with the objective of providing unsurpassed excellence in all aspects of design and manufacture of micro-optics for optical and laser applications. Our world-class design skills are supported by an innovative and flexible manufacturing process that allows the company to design both a broad range of state-of-the-art standard micro-optics products and uniquely, to offer a low cost and rapid fabrication service for creating completely freeform optical surfaces



Target Applications

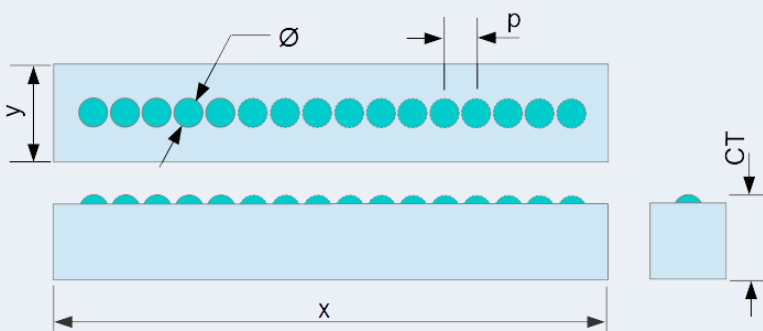
- Fiber array collimators
- WSS systems
- R/OADM systems
- Optical interconnects
- High performance optical communications

Customization Program

Due to the unique nature of the PowerPhotonic manufacturing process, our standard products can be easily modified to meet specific requirements. Please contact PowerPhotonic for additional information.

Product Selection – Linear Array

Part Number	Array Pitch p (um)	# Channels Per Array	Effective Focal Length (um)	Pitch Accuracy (um) typ.	Lens Profile	Numerical Aperture (N.A.)	Insertion Loss (dB)	Surface Roughness (nm)	Substrate Size x (mm)	Substrate Size y (mm)	Thickness CT (mm)
PP-LAL-P250-N4-AR22	250	4	710	±0.2	Plano-Convex	0.15	<1	<1	1.35	1.0	1.0
PP-LAL-P250-N8-AR22	250	8	710	±0.2	Plano-Convex	0.15	<1	<1	2.35	1.0	1.0
PP-LAL-P250-N12-AR22	250	12	710	±0.2	Plano-Convex	0.15	<1	<1	3.35	1.0	1.0
PP-LAL-P250-N16-AR22	250	16	710	±0.2	Plano-Convex	0.15	<1	<1	4.35	1.0	1.0
PP-LAL-Pxxx-Nx-ARx	Custom	Custom	Custom	±0.2	Plano-Convex	Custom	<1	<1	Custom	Custom	Custom



Options

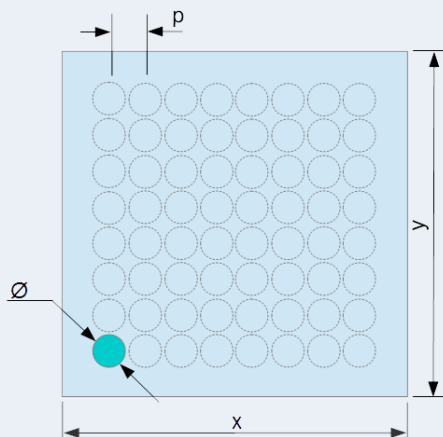
- Array Pitch, Lens Diameter
- Number of lenses, X and Y
- Spherical, aspherical, astigmatic lenses
- Substrate size (x, y, CT)

Coatings

- Anti-Reflectance Coating: 1260-1620nm, R<0.5% per side, other coatings on request

Product Selection – Square Grid

Part Number	Array Pitch p (um)	Array Size	Effective Focal Length (um)	Pitch Accuracy (um) typ.	Lens Profile	Numerical Aperture (NA)	Insertion Loss (dB)	Surface Roughness (nm)	Substrate Size x (mm)	Substrate Size y (mm)	Thickness CT (mm)
PP-LAS-P250-N4-AR22	250	4x4	710	±0.2	Plano-Convex	0.15	<1	<1	1.35	1.35	1.0
PP-LAS-P1000-N4-AR22	1000	4x4	3166	±0.2	Plano-Convex	0.15	<1	<1	5.85	5.85	1.0
PP-LAS-Pxxx-Nx-ARx	Custom	Custom	Custom	±0.2	Plano-Convex	Custom	<1	<1	Custom	Custom	Custom



Options

- Array Pitch, Lens Diameter
- Number of lenses, X and Y
- Spherical, aspherical, astigmatic, cylindrical, acylinder lenses
- Substrate size (x, y, CT)

Coatings

- Anti-Reflectance Coating: 1260-1620nm, R<0.5% per side, other coatings on request

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