powerphotonic

enhancing beam performance

Product Data Sheet Lens Array

Overview

PowerPhotonic's lens array products offer a wide range of lens configurations, focal lengths, and forms.

One-dimensional arrays are available as both cylinder or acylinder lenses, to standard or customer-specified lens prescription.

Two-dimensional arrays are available as sphere, asphere, or astigmatic lenses, on rectangular, hexagonal or customer-specified grids.

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 standard lens arrays possible •

- Linear, square or hexagonal grid
- High uniformity of RoC, conic and pitch •
- Free choice of lens form: • cylinder/acylinder/sphere/asphere/astigmatic
- UV-fused silica

Benefits

- Application-specific lens arrays avoids the design • compromises required from use of catalog parts
- Optimized lens profile for best performance •
- High CW and short-pulse power handling capability •
- Low scatter

Target Applications

- Homogenizers
- Beam shapers
- Fibre array collimators
- High power diode lasers
- Solid-state laser pumping
- Laser material processing

How it is Used



Standard Product Selection – Square Arrays											
Part Number	Effective Focal Length EFL (mm)	Pitch P (mm)	Width W (mm)	Height H (mm)	Thickness T (mm)	# Lenses X NX	# Lenses Y NY				
PP-LA-S-F800-P100-V1-AR1	8.00	1.00	25.4	25.4	1.00	15	15				
PP-LA-S-F500-P100-V1-AR1	5.00	1.00	25.4	25.4	1.00	15	15				
PP-LA-S-F200-P50-V1-AR1	2.00	0.50	25.4	25.4	1.00	30	30				
PP-LA-S-Fxxx-Pxx-Vx-ARx	tbd	tbd	tbd	tbd	tbd	tbd	tbd				
Standard Product Selection – Hexagonal Arrays											
Part Number	Effective Focal Length EFL (mm)	Pitch P (mm)	Width W (mm)	Height H (mm)	Thickness T (mm)	# Lenses X NX	# Lenses Y NY				

PP-LA-H-Fxx-Pxx-Vx-ARx Standard Product Selection – Cylinder Arrays

2.00

tbd

Part Number	Effective Focal Length EFL (mm)	Pitch P (mm)	Width W (mm)	Height H (mm)	Thickness T (mm)	# Lenses X NX	# Lenses Y NY
PP-LA-C-F220-P50-V1-AR1	2.20	0.50	25.4	25.40	1.00	30	1
PP-LA-C-F400-P50-V1-AR1	4.00	0.50	25.4	25.40	1.00	30	1
PP-LA-C-F800-P50-V1-AR1	8.00	1.00	25.4	25.40	1.00	15	1
PP-LA-C-Fxx-Pxx-Vx-ARx	tbd	tbd	tbd	tbd	tbd	tbd	tbd

25.4

tbd

0.50

tbd

AR1 optical coating: Broadband 900-1100nm R<0.25%, %, other coatings on request

EFL: Effective focal length @ 808 nm P: Pitch of lens

PP-LA-H-F200-P50-V1-AR1

All tbd parameters can be customer specified

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.

W: Width [+/-0.10 mm) H: Height (+/- 0.10 mm) T: Thickness (+/- 0.02 mm)

25.4

tbd

1.00

tbd

30

tbd

30

tbd

Options

- EFL, Pitch, Width, Height and Thickness
- Number of lenses, X and Y
- Aspherical and acylindrical lenses
- Non-uniform, chirpped or randomized grid
- Dual-surface lenses: BCX/BCV/meniscus

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 microoptics products and uniquely, to offer a low cost and rapid fabrication service for creating completely freeform optical surfaces

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