

Fiber Coupling Microlens Array

Overview:

Collimation and coupling of fibers can be made simple with the use of a PowerPhotonic fiber microlens array. PowerPhotonic standard microlens arrays are designed for coupling or collimation of SMF-28 single mode fibers.

Multi-channel optical communication systems require microlens arrays for coupling between laser sources, fiber and waveguide arrays, optical multiplexing and optical switching.

Made from fused silica, these microlens arrays minimise channel cross talk due to extremely low scatter and minimise insertion loss due to surface accuracy.

The PowerPhotonic Effect:

<3%

Radius of Curvature Tolerance

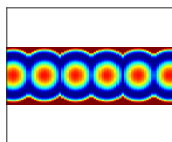
<5 μ m

Lens Centration Accuracy

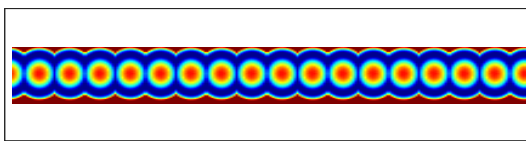
<0.25%

Reflectance (Coated Side)

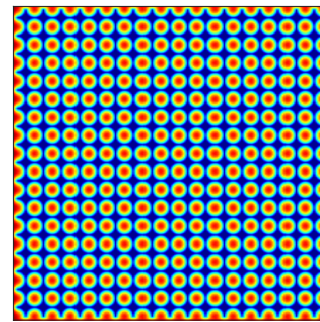
Example



PP-LAL-P250-N4-AR



PP-LAL-P250-N16-AR



PP-LAS-P250-N16-AR

Key Features:

- High Uniformity of RoC, Conic and Pitch
- High Transmission
- Very Low Scatter
- High LIDT Capabilities

Target Applications:

- Fiber Array Collimation
- Wavefront Selective Switching
- High Performance Telecoms



Fiber Coupling Microlens Array

Standard Part: Line Array

| Part Number | Design Wavelength (nm) | Number of Lenslets (X) | Lenslet Pitch (μm) | Radius of Curvature (mm) |
|--------------------|------------------------|------------------------|---------------------------------|--------------------------|
| PP-LAL-P250-N4-AR | 1550 | 4 | 250 | 0.315 |
| PP-LAL-P250-N8-AR | 1550 | 8 | 250 | 0.315 |
| PP-LAL-P250-N12-AR | 1550 | 12 | 250 | 0.315 |
| PP-LAL-P250-N16-AR | 1550 | 16 | 250 | 0.315 |

Standard Part: Square Array

| Part Number | Design Wavelength (nm) | Number of Lenslets (X) | Lenslet Pitch (μm) | Radius of Curvature (mm) |
|--------------------|------------------------|------------------------|---------------------------------|--------------------------|
| PP-LAS-P250-N16-AR | 1550 | 16 | 250 | 0.315 |

General Specification:

| Parameter | Value |
|----------------------------------|-------------------------|
| Line Array Length (mm) | 1.35 to 4.35 \pm 0.05 |
| Line Array Width (mm) | 1.10 \pm 0.05 |
| Square Array Length & Width (mm) | 4.35 \pm 0.05 |
| Part Thickness (mm) | 1.01 \pm 0.01 |

Performance:

| Parameter | Value |
|---|-------|
| Radius of Curvature Tolerance (%) | <3% |
| Coating Reflectance, Convex Side Only (%) | <0.25 |

Coating Wavelength Band = 1260 - 1620

Custom Options:

PowerPhotonic Line and Square Arrays can be customised for different sizes and lenslet specification upon request.

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