



OZ Optics

shop.ozoptics.com
www.ozoptics.com

219 Westbrook Road
Ottawa, ON, Canada, K0A 1L0

Toll-free: 1-800-361-5415
Telephone: 1-613-831-0981
Fax: 1-613-836-5089
sales@ozoptics.com

PRECISION FIBER OPTIC COLLIMATOR/FOCUSER ARRAY

PRELIMINARY

Features

- High density, small footprint
- Generate a precise array of collimated beams or focused spots
- Evenly spaced linear configuration
- Single mode and polarization maintaining fiber available
- High polarization extinction ratio
- Ribbon or individual fibers
- Low insertion loss
- Low backreflection
- Custom wavelength ranges available
- Custom configuration possible

Applications

- Arrayed Waveguide (AWG) devices
- Planar Lightwave Chips (PLC)
- Dense Wavelength Division Multiplexers (DWDM)
- MEMS devices
- Miniaturized or integrated fiber optic components
- Source to fiber array coupling
- Fiber to detector array coupling

Product Description

OZ Optics collimator/focuser array assemblies assist in developing next generation photonic devices. The arrays are manufactured using precision V-Groove technology in conjunction with a single element lens arrays, enabling sub-micron alignment accuracy.

OZ Optics fiber collimators and focusers are designed to collimate or focus light exiting a fiber to a desired beam diameter or spot size. By utilizing diffraction limited lenses, spot sizes of a few microns can be achieved. These devices can be used with Photonic Integrated Circuits (PIC), Arranged Wave Guides (AWG) other fiber optic devices. Collimators and focusers can be used as matched pairs to couple light in and out of optical devices. This makes them ideal for dense fiber packaging devices.

OZ Optics Precision Fiber Optic Collimator/focuser array assemblies are available with singlemode or Polarization Maintaining (PM) fibers. Customization can even include different types of fibers assembled into a single array.

PM fibers offer a means to control the polarization of optical signals throughout the system thus minimizing Polarization De-



pendant Losses (PDL) and Polarization Mode Dispersion (PMD) effects. This control is crucial in developing next generation coherent detection systems. We can also use customer supplied fibers to build devices.

Standard PANDA style PM arrays are manufactured with the polarization axis (stress rods) aligned vertical to the V-Groove base within 3°. High grade assemblies with one to eight channels can be provided with the stress rods aligned to 1°. Arrays can also be provided with the fibers aligned parallel to the base, alternating axes or at custom angles. When supplied with a breakout and connectors, the alignment of the connector is also to the slow axis, within 3° for standard connectors or available to within 1.5° for high grade connectors.

The collimator/focuser array assemblies can be manufactured with a hermetic feedthrough attached. This enables the development of multichannel photonic devices capable of meeting Telcordia requirements. Fiber breakouts can also be added, to convert ribbonized fibers into separated fibers, capable of being connectorized.

Ordering Information for Custom Parts

OZ Optics welcomes the opportunity to provide custom designed products to meet your application needs. As with most manufacturers, customized products do take additional effort so please expect some differences in the pricing compared to our standard parts list. In particular, we will need additional time to prepare a comprehensive quotation, and lead times will be longer than normal. These points will be carefully explained in your quotation, so your decision will be as well-informed as possible. We strongly recommend buying our standard products.

Part Number

LPCA-N-S-W-a/b-F-BD-BL-X-JD-L-B

N = Number of fibers
2,4,8,16 or specify

S = V-Groove Spacing (in microns)
250, 500, 750, or 1000
Other pitch sizes can be provided
on a case-by-case basis

W = Operating Wavelength

a/b = Fiber Core/Cladding Diameter
9/125 for Corning SMF-28 SM fiber
6/125 for Corning Flexcore 1060 SM fiber
7/125 for 1300nm PANDA PM fiber
8/125 for 1550nm PANDA PM fiber

F = Fiber type
S = Singlemode
P = Polarization maintaining

BD = Beam Diameter, in mm

BL = Backreflection level:
30dB for singlemode or polarization
maintaining assemblies. Lower return
loss versions are available on a case-by-
case basis. Contact OZ Optics for other
wavelengths.

B = Breakout length (in meters)
2 meter maximum, 0.5 meter is
typical

L = Overall Length (in meters)
Standard length is 1–2 meters

JD = Jacket Diameter
0.25 = bare fiber, 250µm coated
and ribbon fiber
1 = 900µm jacketed (Hytrel)

X = Connector Code
Note: Standard assemblies have
the same connectors on all fibers
3S = Super FC/PC
3U = Ultra FC/PC
3A = Angled FC/PC
8 = ST
SC = SC
SCU = Ultra SC
SCA = Angled SC
LC = LC
LCA = Angled LC
MU = MU
X = No Connector

Part Number

LPFA-N-S-W-a/b-F-M-WD-BL-X-JD-L-B

N = Number of fibers
2,4,8,16 or specify

S = V-Groove Spacing (in microns)
250, 500, 750, or 1000
Other pitch sizes can be provided
on a case-by-case basis

W = Operating Wavelength

a/b = Fiber Core/Cladding Diameter
9/125 for Corning SMF-28 SM fiber
6/125 for Corning Flexcore 1060 SM fiber
7/125 for 1300nm PANDA PM fiber
8/125 for 1550nm PANDA PM fiber

F = Fiber Type
S = Singlemode
P = Polarization Maintaining

M = Magnification Factor

WD = Working Distance, in mm

BL = Backreflection level:
30dB for singlemode or polarization
maintaining assemblies. Lower return
loss versions are available on a case-by-
case basis. Contact OZ Optics for other
wavelengths.

B = Breakout length (in meters)
2 meter maximum, 0.5 meter
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LC = LC
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MU = MU
X = No Connector