

Multi-mode Micro Lens Array (MLA) P1L

Flat and Right Angle Type Micro Lens
Arrays Provide Low Cost Optical
Connections in Free Space Applications

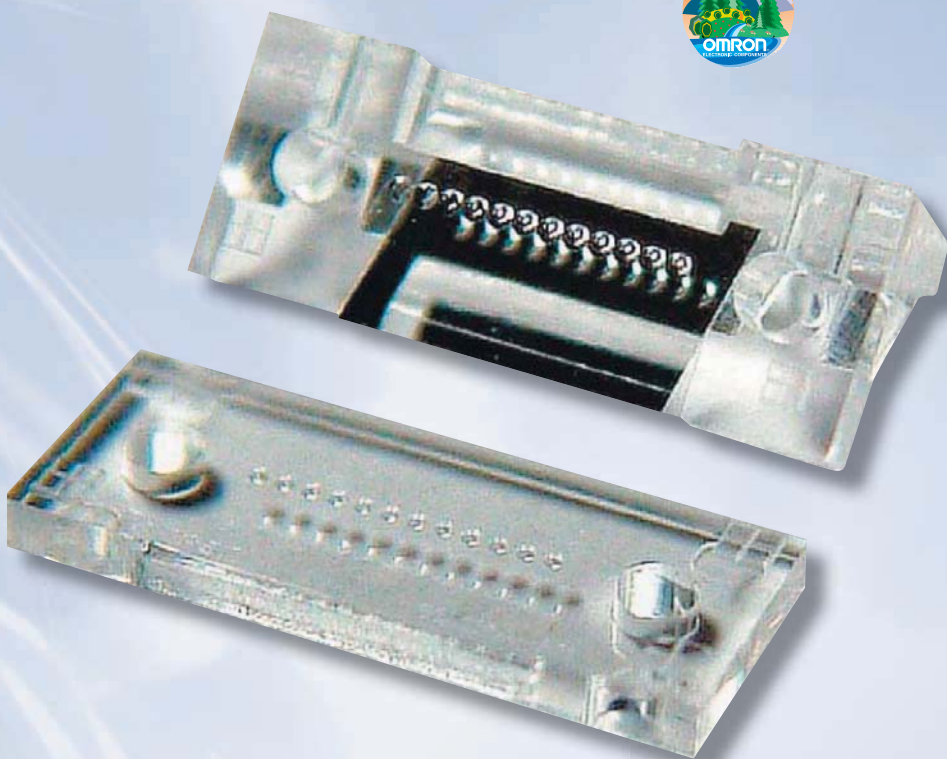
12ch Flat - **P1L12A-C1/-C2/-F1/-F2**
12ch Right Angle - **P1L12C-F1/-F2**

Features

- Easy alignment with high precision positioning holes based on MT guide pins
- Low cost achieved by high precision injection molding
- Anti-reflective (AR) coating available
- Insertion loss (IL) can be reduced through customization
- Custom lens and various channel configurations available (i.e. 1 x 4, 2 x 12, etc.)

Applications

- Free-space Optical Connectivity
- Transceiver (For Parallel Optical Link)
- Optical Interconnection
- Board-to-board
- Chip-to-chip Interconnection



Specifications	P1L12A-C1/-C2	P1L12A-F1/-F2	P1L12C--F1/-F2
Type	Flat (Collimator Type)	Flat (Focuser Type)	Right Angle
Number of Lens	1 x 12	1 x 12	2 x 12
Insertion Loss	≤2.0dB (Typ. 1.2dB) *1	≤2.5dB (Typ. 1.5dB) *2	≤ 2.5dB (Typ. 1.5dB) *3,*4
Cross Talk	≥50dB	≥50dB	≥ 50dB
Lens Position Tolerance	0.005mm*5	0.005mm*5	0.005mm *5
Operating Temp. Range	-40 to +85°C	-40 to +85°C	-40 to +85°C
Storage Temp. Range	-40 to +85°C	-40 to +85°C	-40 to +85°C
Dimensions	W2.5 x L6.4 x H0.55mm	W2.5 x L6.4 x H0.55mm	W2.6 x L6.4 x H2.6m

*1 Light Source: 850nm (Steady State Mode by LED)/Air Gap: 1.5mm (Lens to Lens) Attached to the MT guide pin without any other alignment and matching glue

*2 Light Source: 850nm_VCSEL(*12um, Divergence < 30°)/Air Gap: 0.3mm (VCSEL to Lens), 0.3mm (Lens to Fiber) active alignment for VCSEL side, non active alignment for fiber side without matching glue between fiber and lens

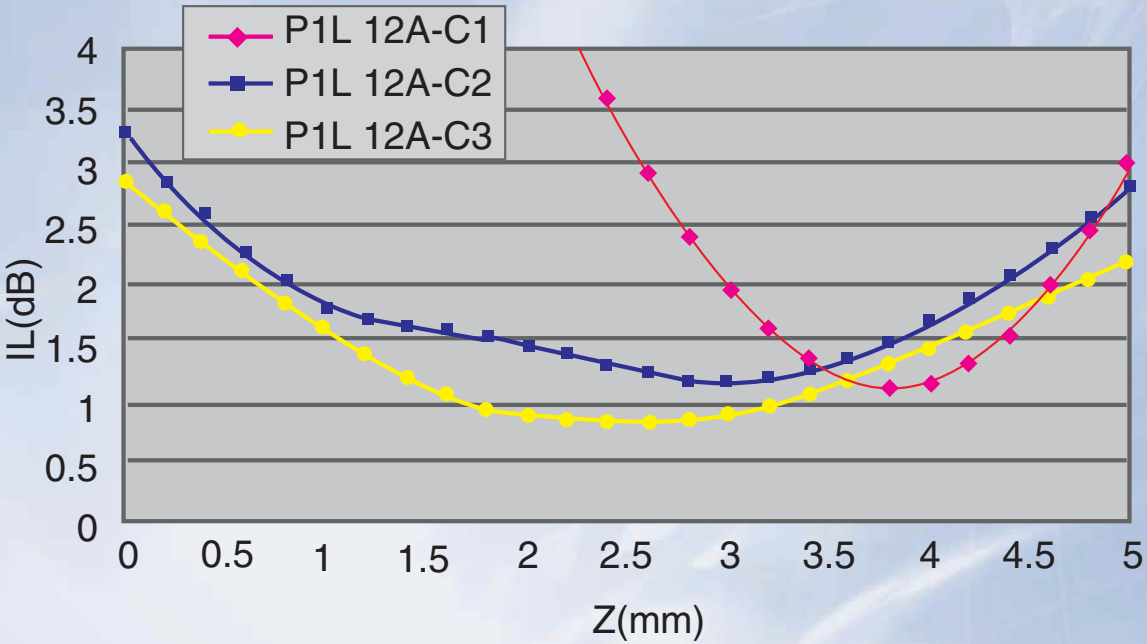
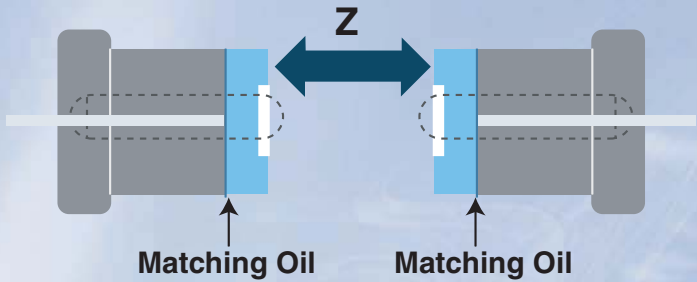
*3 Light Source: 850nm (Steady State Mode by LED)/Air Gap: 0.4mm (Fiber to Lens) Attached to the MT guide pin without any other alignment and matching glue (F2)

*4 Light Source: 850nm, VCSEL(*12um, Divergence<30°)/Air Gap: 0.3mm(VCSEL to Lens), 0.5mm(Lens to Fiber) active alignment for VCSEL side, non active alignment for fiber (F1)

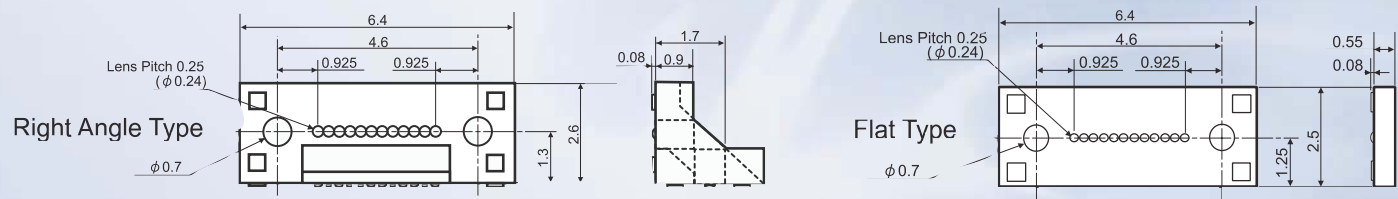
*5 Lens position tolerance is defined as an error to the true position referred to the center point of alignment holes

Example of free-space coupling efficiency in a SM application.

Fiber SMF
Light Source 1310nm LD
Without AR coating



Dimensions (mm)



Building A Part Number

P1L12

Type:

Working Distance: C1=1.5nm, C2=2.5nm

Focus VCSEL to lens: F1=.2nm, F2=.3nm

Type of I/O: F1=Fiber to Fiber, F2=VCSEL to Fiber