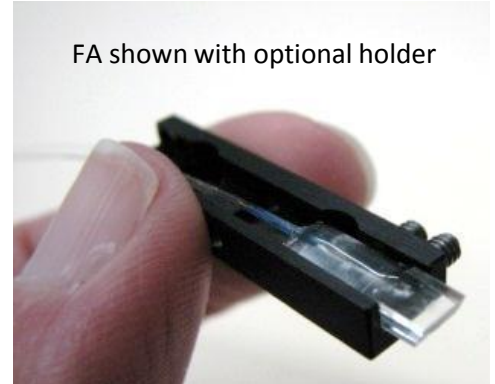
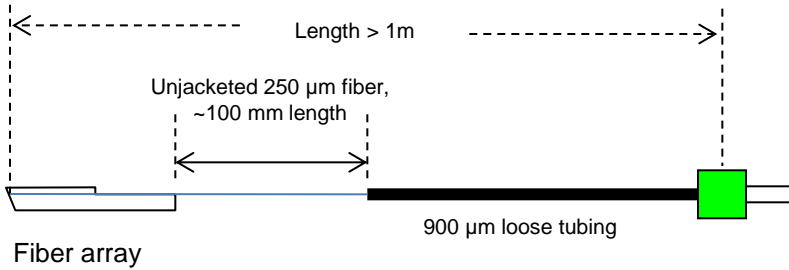




## PM or SM Fiber Arrays for Grating Coupler Launch



FA shown with optional holder

Front edge of lid is beveled to tops of fibers to remove sharp tip and allow easier core positioning above couplers

Silicone to protect bare glass fibers

125μm bare fiber

250μm buffer

900μm loose tubing

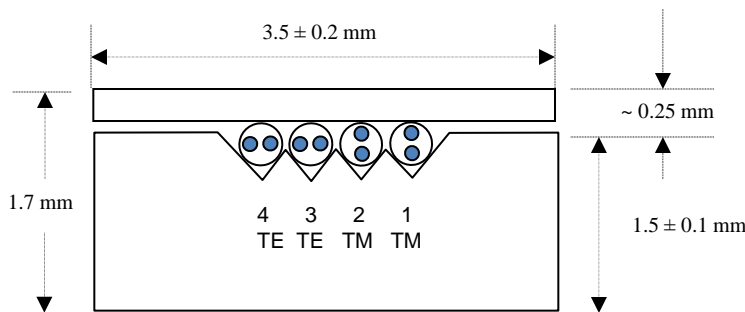
Glass lid

~5 mm

~12 ± 3 mm

Ø<sub>polish</sub>

**Not to scale, all dimensions nominal  
Dimensions and specifications subject to change**



### Specifications

- 2 to 64 channels, 127 or 250μm contiguous pitch, others available
- SM or PM fiber, FC connectors, nominal fiber length > 1 m
- PM extinction ratio ≥ 21 dB
- Typical excess loss ≤ 0.3 dB
- Specify Ø<sub>polish</sub> for desired Ø<sub>Launch</sub>
- Glass lid on fibers is optional; arrays can be provided with only thin adhesive layer on fiber-tops
- Array-tip can be re-polished to accommodate angle-changes or handling-damage

#### Example only

- View is facing into polished facet
- Specify when ordering -
  - a) # of fibers, SM or PM
  - b) Fiber pitch
  - c) Slow axis orientation (for PM fiber)
  - d) Connector terminations

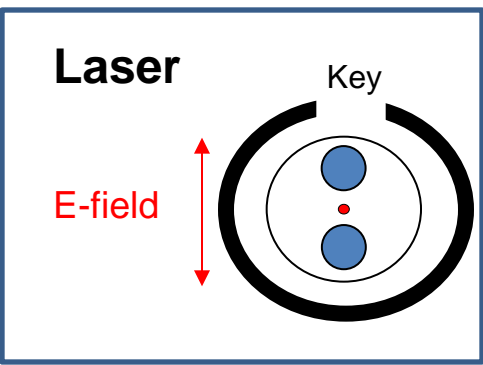
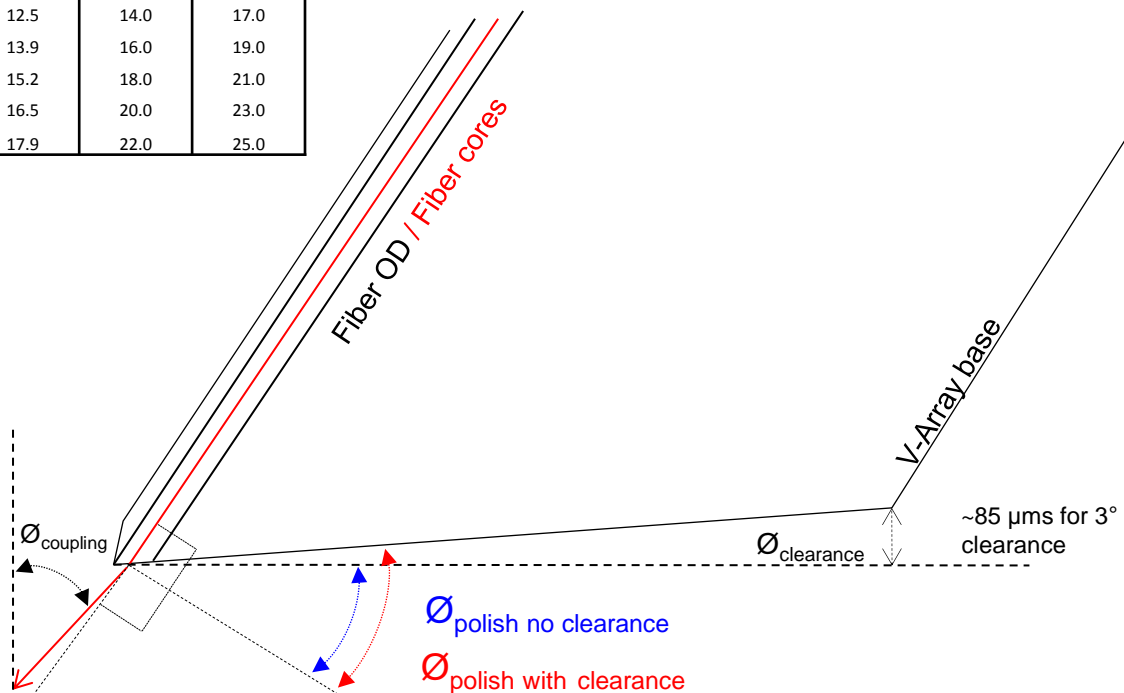


## PM or SM Fiber Arrays for Grating Coupler Launch

Fiber array polish angle

Ideal Coupling Angle	Air Gap No Clearance	Air gap 3° Clearance	Index Match 0° Clearance	Index match 3° Clearance
8	5.5	8.5	8.0	11.0
10	6.8	9.8	10.0	13.0
12	8.2	11.2	12.0	15.0
14	9.5	12.5	14.0	17.0
16	10.9	13.9	16.0	19.0
18	12.2	15.2	18.0	21.0
20	13.5	16.5	20.0	23.0
22	14.9	17.9	22.0	25.0

For general testing of grating couplers, it is desirable to polish with a larger angle than ideal so that the base of the fiber array does not contact the Si die, and allows some tuning of the launch angle. A 3° polish clearance is shown as an example, but any polish angle can be specified



All PM FC connectors provided by PLCC will have the fiber slow-axis (stress rods) aligned parallel with the connector key. This is an industry standard.

The customer should verify that the E-field from their source (either FC bulk-head fitting on a laser or a PM Jumper cable) is aligned with connector key.

In the example FA below, fibers 1 and 2 will launch TE into grating coupler, and fibers 3 and 4 will launch TM.

View is facing into the polished facet

