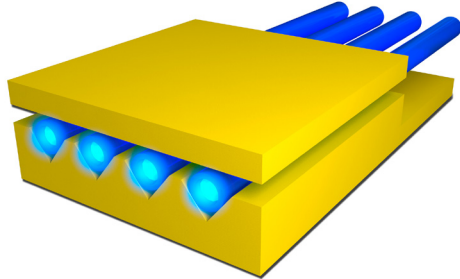
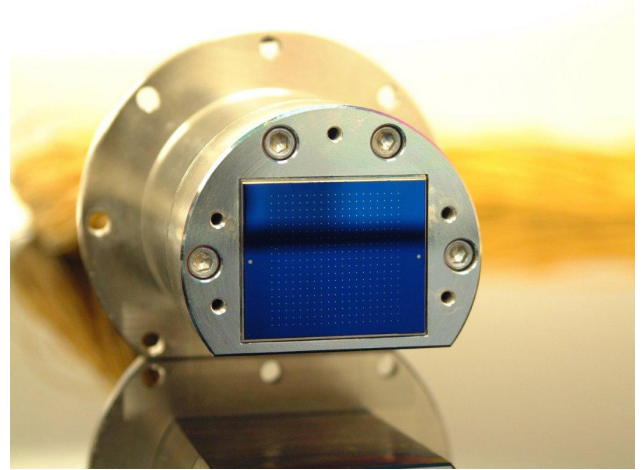


# Fiber Optic V-Grooves & Arrays



**V-Groove**



**2D-Array**

Fiberguide produces extremely tight tolerance one-dimensional (V-Grooves) and two-dimensional arrays using our patented manufacturing techniques.

These arrays range from a few fibers to thousands of fibers depending on the application. Optical Arrays are used in optical switching and in sensing applications where spatial optical data is necessary, such as DNA sequencing, astronomy, and nuclear research.

#### **STANDARD SPECIFICATIONS:**

- Single Mode, Multimode, PM/PZ
- Array End: Precision Machined or Silica V-Grooves, Custom Silicon Wafers
- Connector Options: SMA, FC, ST, SC, LC, MTP, etc.
- Packaging: Fiberguide can design and fabricate custom array housings and sheathing arrangements to protect the fiber depending on the application.
- Standard Temperature Range: -40°C to +100°C / -40°F to +212°F

#### **APPLICATIONS:**

- Fiber Optic Switch
- Signal Processing
- Astronomical Analysis
- Military Mapping
- DNA Micro-array technology
- Optical Tomography

# Fiber Optic V-Grooves & Arrays

## V-Grooves

<b>Fiber Type</b>	Single Mode, Multimode, Polarization Maintaining (PM/PZ)		
<b>Fiber Size (μm)</b>	Cladding OD = 125		
<b>Fiber Count</b>	≤ 128		
<b>Fiber to Fiber Pitch (μm)</b>	≥ Cladding OD + 2μm = 127		
<b>** Fiber Height Above Substrate (μm)</b>	0 or 10-100 ± 0.5		
<b>* Flatness (Peak to Valley) (μm)</b>	≤ 5		
<b>RMS Fiber Roughness (nm)</b>	≤ 100		
<b>Fiber Yield</b>	≥ 98%		
	<b>Single Mode</b>	<b>Multimode</b>	<b>PM/PZ</b>
<b>Fiber Core True Position (μm)</b>	≤ 1	≤ 3	≤ 3
<b>Maximum Fiber Angularity (Fiber to Substrate)(mrad)</b>	≤ 30	≤ 50	≤ 50
<b>Visual Alignment</b>	N/A	N/A	± 3°

## 2D Arrays

<b>Fiber Type</b>	Single Mode, Multimode, PM/PZ		
<b>Fiber Size (μm)</b>	Cladding OD = 125 - 220		
<b>Fiber Count</b>	≤ 4096		
<b>Fiber to Fiber Pitch (μm)</b>	≥ Cladding OD + 45		
<b>** Fiber Height Above Substrate (μm)</b>	0 ± 0.5		
<b>* Flatness (Peak to Valley) (μm)</b>	≤ 0.5		
<b>RMS Fiber Roughness (nm)</b>	≤ 30		
<b>Fiber Yield</b>	98%		
	<b>Single Mode</b>	<b>Multimode</b>	<b>PM/PZ</b>
<b>Fiber Core True Position (μm)</b>	≤ 2	≤ 5	≤ 5
<b>Maximum Fiber Angularity (Fiber to Substrate)(mrad)</b>	≤ 15	≤ 20	≤ 20
<b>Visual Alignment</b>	N/A	N/A	± 3°

**Note:**

\* = 25mm x 25mm measurement area (Max)

\*\* = Adjacent to Fiber Location