

# 1D Fiber Array

## Devices for connection to Optical Waveguide (OWG), Laser, sensors, and others.

Optical Fiber Arrays are devices used for Coherent Optical Communication Systems by connecting and coupling fibers to optical waveguide devices. The array products position the optical fiber cores with precision and accuracy within the V-Groove Blocks by an ultra precision processing technology. The process requires accuracy on a submicron level in order to reduce the connection loss.

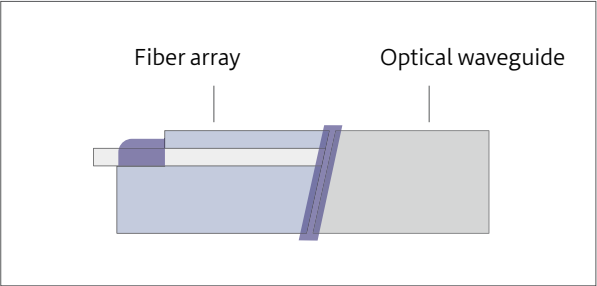
In addition, we also offer a unique, high density and accurate optical lead frame which is a low loss, high-reliability narrow pitch array which enables direct fiber coupling of high-density array devices of LDs and PD Waveguides.

### Example of use

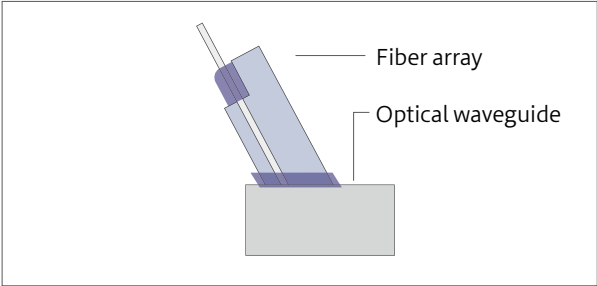
- Optical transceiver
- Micro ICR
- Wavelength-Multiplexing Device
- Splitter
- OADM
- Bandpass filter
- Laser related equipment of each wavelength
- Other multiple high-density fiber integration devices and such.

# Conceptual diagram connected with various optical waveguide elements

Edge coupling



Grating coupler



## Each size・tolerance example

	item	minimum	General	maximum	unit
substrate	length	2	10	100	[mm]
	length tolerance	±0.3			[mm]
	width	0.9		20	[mm]
	width tolerance	±0.1			[mm]
	thickness	V-groove 0.4 / Lid 0.3	1/1	5/5	[mm]
	thickness tolerance	±0.05	±0.1		[mm]
	pitch	50um (when disconnected)	127/250um		[ μ m]
	pitch tolerance	±0.5um: within 20 cores (half pitch), 8 cores (normal pitch) Please contact us for the variation of fiber types and other conditions.			[ μ m]
Material Properties	Pyrex	○			
	Silica	○(Please contact us )			
	Silicon	○			
End-Face AR Coating	Anti-reflective coating	○			
lens	Collimator	○			
	other structure	○(Please contact us )			
Fiber cores	performance	160 cores			

