Fiber Optic Singel Mode Pigtailed Ferrules

400–2500 nm, SM, PM, 10W, PER 28

DATASHEET

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We offer a comprehensive range of fiber-pigtailed ferrules for single-mode and polarization-maintaining fibers, covering wavelengths from 400 to 2300 nm with polarization extinction ratios up to 29 dB and optical power handling up to 10 W. The FPIG fiber-pigtailed ferrules are designed for packaging with lenses to form miniature collimators with low insertion loss, high return loss, and high optical power handling. Protected inside glass ferrules, they are integrated into many of our products. We also specialize in custom solutions to meet specific application requirements.

Features

- Miniature
- High PER
- Low Loss
- High Power

Applications

- Device
- Special Solution

Specifications

Parameter		Min	Typical	Max	Unit
Insertion Loss [1]	630, 632, 650 ±20nm		0.3	0.5	dB
	780, 850, 980 ±20nm		0.2	0.3	
	1060, 1220 ±30nm		0.1	0.2	
	1310 - 1600 nm		0.1	0.2	
	1900 - 2400nm		0.3	0.5	
Working Distance		1	5	100	mm
PMD (SMF Switch only)			0.1	0.3	ps
Extinction Ratio (PMF only)		18	25		dB
Return Loss			55	60	dB
Optic power Handling [4]	Normal power version		0.3	0.5	W
	High power version			5, 10	W
Operating Temperature	Standard	-5		75	°C
	Special version	-40		100	
Storage Temperature		-45		85	°C

Notes:

[1]. Measured with a pair with collimating lens and without connectors

RoHS COMPLIANT

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link]:

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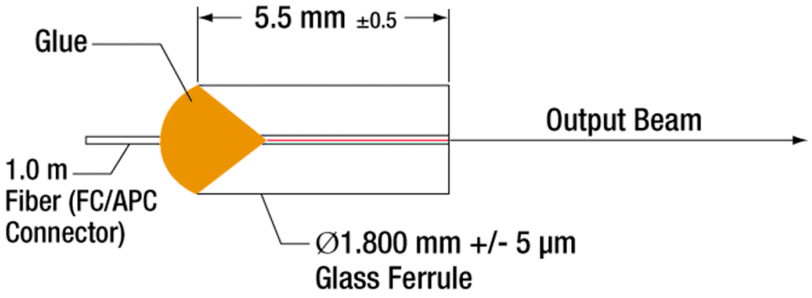
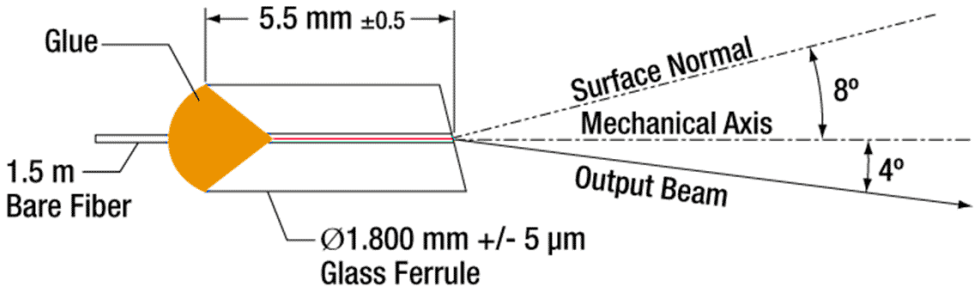
Mechanical Dimensions Standard for beam size <0.8mm (Unit: mm)





*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

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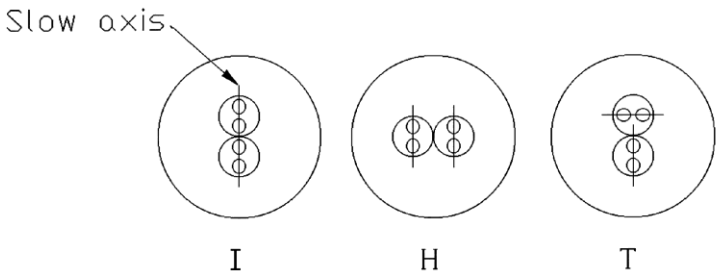
PM Stress Field Orientation



Ordering Information (Part Number)

	☐	☐	☐	☐	☐	☐	☐	☐☐	☐	☐	☐
Prefix	**# Fiber**	**PM Fiber Orientation[1]**	**Wavelength**	**Face Angle**	**PER**	**Power [2]**	**Max Temperature [3]**	**Fiber Type**	**Fiber Cover**	**Fiber Length**	**Connector [4]**
FPIG-	Single = 1 Dual = 2 Special =0	N/A = S I = 1 H = 2 T = 3 Special = 0	1550 = 5 1060 = 1 2000 = 2 1310 = 3 1480 = 4 1625 = 6 980 = 9 850 = 8 780 = 7 650 = E 550 = F 400 = G 1265~1620 =L Special = 0	8 degree = 8 0 degree = 0 Special = 0	N/A = S 18 dB = 1 22 dB = 2 28 dB = 3 29 dB = 4	0.5W = 1 2W = 2 5W = 5 10W = 6	75 °C = 1 85 °C = 2 100 °C = 3 120 °C = 4 150 °C = 5	SM28 = 01 Special = 00 ***Select Below***	Bare fiber = 1 0.9mm tube = 3 Special = 0	0.5m = 1 1.0m = 2 1.5 m = 3 Special = 0	None = N FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 ST/PC = 6 LC/PC = 7 LC/APC = A LC/UPC = U Special = 0

[1]. For single fiber I and H is aligned to slow axis, T to fast axis. For 8-degree dual fiber ferrule, the polishing default is parallel to the two fibers

[2]. For wavelength >1310nm, for shorter wavelength power handling is reduced accordingly due to fiber core reduction.

[3]. High temperature reduces the polarization extinction ratio.

[4]. The default connector configuration uses fiber with 0.9 mm buffer protection. The connector cannot be installed directly onto bare fiber because the bare fiber is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer may remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SMF-28 fiber and decreases further for smaller-core fibers.

Fiber Type Selection Table:

01	**SMF-28**	34	**PM1550**	71	**MM 50/125µm**
02	**SMF-28e**	35	**PM1950**	72	**MM 62.5µm**
03	**Corning XB**	36	**PM1310**	73	**105/125µm**
04	**SM450**	37	**PM400**	74	**200 µm NA 0.22**
05	**SM1950**	38	**PM480**	75	**400 µm NA 0.22**
06	**SM600**	39	**PM630**	76	**STP 50/125**
07	**Hi780**	40	**PM850**	77	**IRZS23**
08	**SM800**	41	**PM980**	78	**IRFS32**
09	**SM980**	42	**PM780**	79	
10	**Hi1060**	43	**PM350**	80	**PCF**
11	**SM400**	44	**PM405**	81	**UV180nm**
12		45	**PM460**	82	**LMA-PM-10**
13		46			

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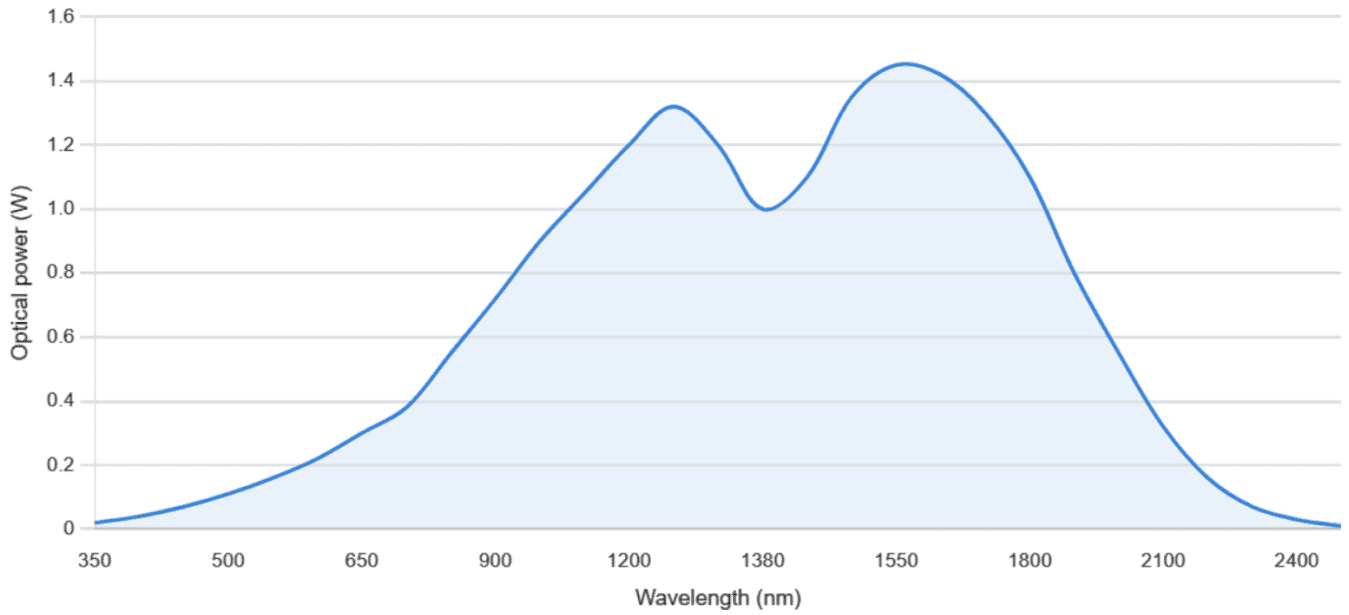
Regular Single Mode / Polarization Maintaining Fiber Optical Power Handing vs Wavelength



Single mode fiber optical power is limited by nonlinear effects in addition to absorption that increase loss and generate heat. The curve shows the approximate safe CW power envelope for standard single-mode fiber. Actual limits depend on fiber design, core size, length, and laser characteristics. Specialty fibers can significantly increase the power limit.

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