High Power PLC Splitter

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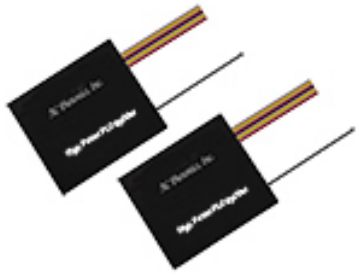

A planar lightwave circuit (PLC) splitter is an optical power management device fabricated using silica optical waveguide technology to distribute optical signals from the Central Office (CO) to multiple premise locations. Bare fiber splitter is a kind of ODN product suitable for PON networks that can be installed in the pigtail cassette, test instrument, and WDM system, which minimizes space occupation.

Features

- Wide Wavelength
- Ultra Low Excess Loss
- Low PDL
- Highly Stable & Reliable
- High Uniformity
- Low Cost
- Telcordia Qualified

Applications

- Telecommunications
- FTTX
- CATV
- LAN
- Passive Optical Network (PON)

Specifications

Parameter		Min	Typical	Max	Unit
Wavelength		1260		1650	nm
Insertion Loss [1], [2]	1x16		14.1		dB
	2x16		14.8		
	1x32		17.5		
	2x32		18.5		
	1x64		20.8		
	2x64		21.2		
Uniformity	1x16		1.5		dB
	2x16		2.0		
	1x32		2.0		
	2x32		2.5		
	1x64		2.5		
	2x64		3.0		
PDL	1x16		0.3		dB
	2x16		0.4		
	1x32		0.3		
	2x32		0.4		
	1x64		0.3		
	2x64		0.3		
Return Loss			50		dB
Directivity			55		dB
Power Handling			1		W
Working Temperature		-40		85	°C
Storage Temperature		-40		85	°C
Fiber type		Corning SMF28			
Connector Type		Custom specified			

Notes:

[1]. Measured without connectors at room temperature

[2]. For devices with connectors, ass 0.3dB to the IL

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

Package Type	Package Dimensions (H x W x L), mm	PLC Splitters Port Configuration		
		1x16; 2x16	1x32; 2x32	1x64; 2x64
1	18 x 80 x 120	x		
2	14.5 x 102 x 142	x	x	
3	18 x 115 x 141	x	x	x
4	19” Rack Single Wide	x	x	
	19” Rack Double Wide			x
5	LGX Box Single Wide			
	LGX Box Double Wide	x		

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

Ordering Information (Part Number)

	A	☐	☐☐	☐	☐	☐	☐	☐
Prefix		**Wavelength**	**Port**	**Package**	**Fiber Type**	**Fiber Length**	**Input Connector**[2]	**Output Connector**[2]
PLCH-		1310 = 1 1550 = 2 1310/1550 = 3 Special = 0	1x16 = 01 2x16 = 02 1x32 = 03 2x32 = 04 1x64 = 05 2x64 = 06	Standard = 1 Aerospace [1] = A Special = 0	250um = 1 900um tube = 3 Special = 0	0.25m = 1 0.5 m = 2 1.0 m = 3 1.5 m = 4 2.0 m = 5 Special = 0	None = 1 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	None = 1 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]. Aerospace-grade package featuring an aluminum metal casing filled with a specially formulated RTV compound that is both vibration-resistant and thermally conductive, specifically designed to endure repeated thermal shock cycles from -45°C to 90°C.

[2]. 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.

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Application Notes

Fiber Core Alignment
Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness
Fibers with smaller core diameters (<5 μm) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power
Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the how handling by expanding the core side at the fiber ends.

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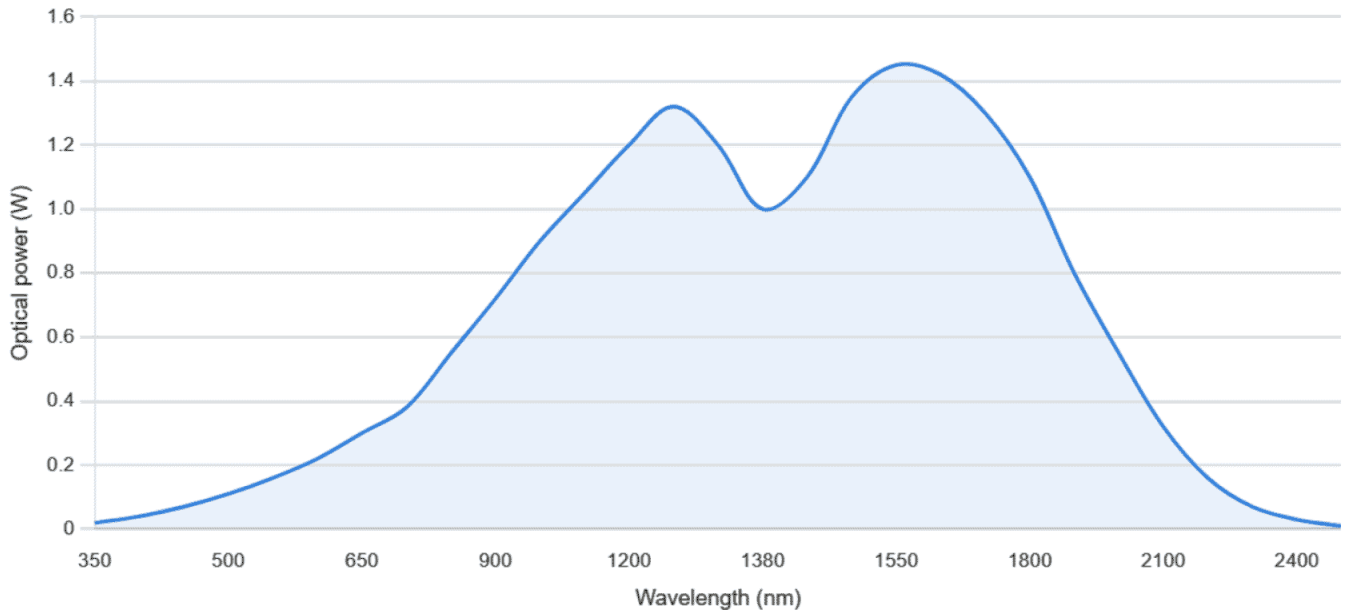
Regular Single Mode / Polarization Maintaining Fiber Optical Power Handing vs Wavelength



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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