



SIDE-COUPLED MULTIMODE POWER COMBINER WITH PM SIGNAL FEED-THROUGH FOR 2 μM OPERATION

Fused Fiber TFB

Gooch & Housego's side-coupled TFB series power combiners has been expanded to include the 2 μm operating window.

G&H proprietary manufacturing techniques allow the precise fusion of multimode pump fibers to a PM (polarization maintaining) signal feed-through fiber and a PM dual clad output fiber providing high coupling efficiency over a wide pump wavelength range.

Available in a standard (1+1)x1 and (2+1)x1 configuration, the combiner can be fabricated from a range of industry standard fibers for ease of splicing to commercially available laser diodes, signal and gain fibers

Custom options cover large mode area (LMA), large diameter (LDF) and Active signal feed-through fibers and are available on request.

Please contact the sales team for further information.



Key Features

- 1.9 μm - 2.1 μm signal feed-through available
- All fiber construction
- High power design
- High coupling efficiency
- Custom configurations available

Applications

- Cladding pumped fiber lasers
- Cladding pumped fiber amplifiers
- Telecoms
- IR Imaging
- Biomedical
- Industrial
- Defense
- IR Counter measures

Optical Specifications¹

Parameter	Specification
Pump input fiber NA	0.15 or 0.22
Pump input wavelength	750 - 850 nm
Signal input wavelength	1900 - 2100 nm
Pump (MM) transmission efficiency ²	≥90% (typ. >95%)
Signal transmission efficiency ³	≥93% (typ. >97%)
Signal PER (polarization extinction ratio)	≥17 dB
Return loss	≥40 dB
Operating temperature	-5 - +75°C
Storage temperature	-40 - +85°C

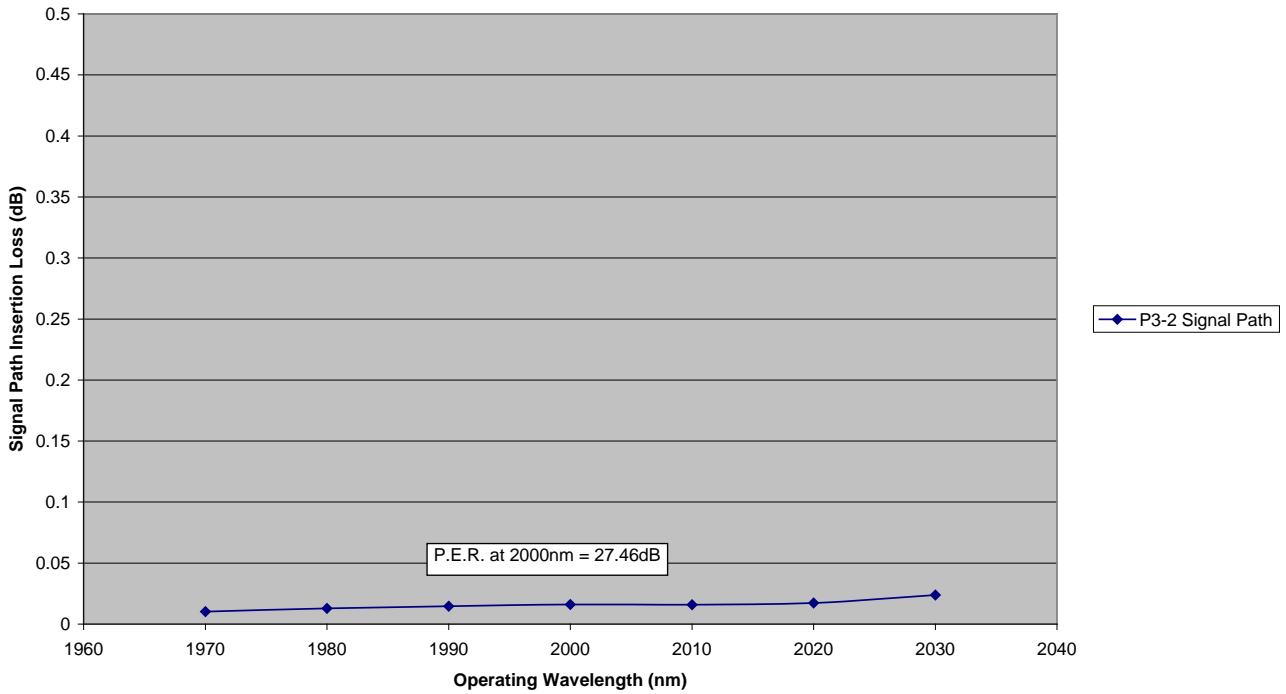
¹ All specifications are for operation at room temperature.

² MM transmission efficiencies based on typical system mode fill conditions and 0.5 m pigtailed. Reported at 790 nm as standard.

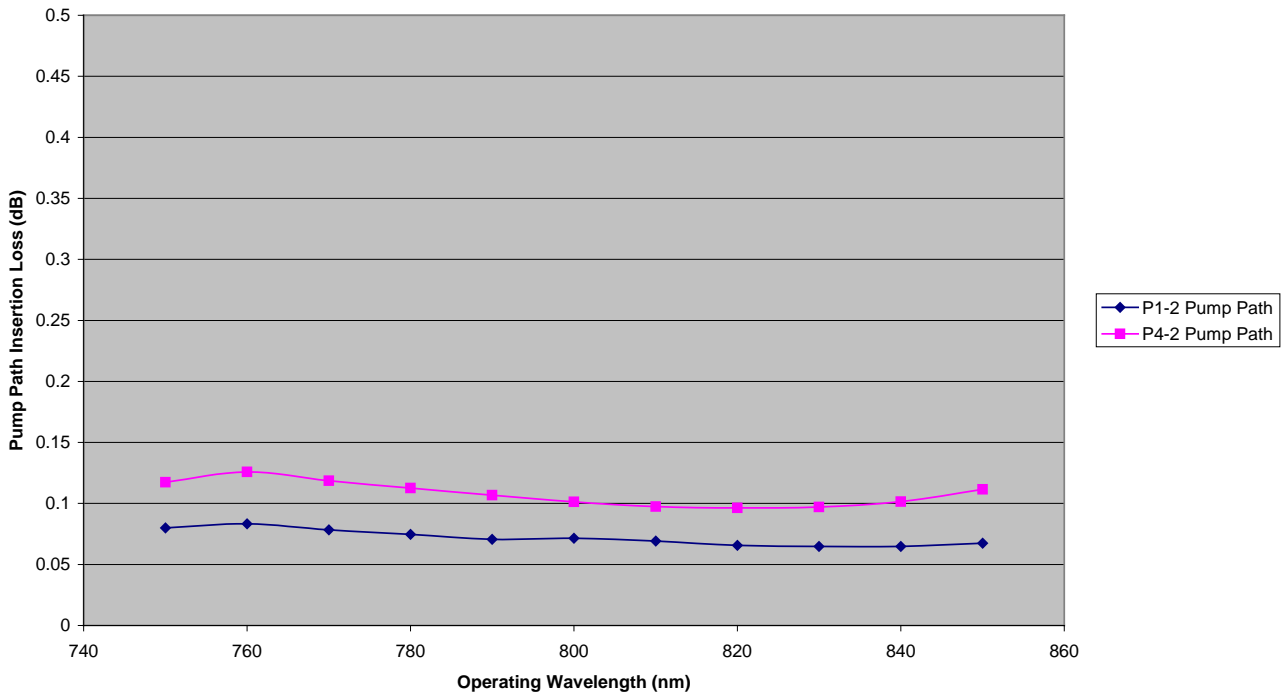
³ Signal (feed-through) transmission efficiency reported at center wavelength

Typical Optical Performance

2000nm PM2+1x1 Combiner (SFO2300 - 30170302)



2000nm PM2+1x1 Combiner (SFO2300 - 30170302)



Order code

Order codes are comprised of a standard device prefix (e.g. TFB) followed by code letters or numbers which correspond to available options.

Sample: TFB-PY5212A71 (2+1x1 PM tapered fiber bundle, 1950 nm signal, two 105/125 μm 0.22 NA pump inputs, 10/130 μm 0.15/0.45 NA signal feed-through in level 1 high power, 1 m pigtails).

Order code				①	②	③	④	⑤	⑥	⑦	⑧	⑨
T	F	B	-	P				1				
② ③	Signal wave length ¹			1900 nm		1950 nm		2000 nm		2050 nm		
	Code			Y0		Y5		Z0		Z5		
④	Configuration (No. of pump inputs)			1 pump input				2 pump inputs				
	Code			1				2				
⑤	Pump input fiber			105/125 μm								
	Code			1								
⑥	Pump input fiber NA			0.15				0.22				
	Code			1				2				
⑦	Signal feed through fiber ²			10/130 μm 0.15/0.45 NA				PM1950+10/130 μm				
	Code			A				B				
⑧	Housing ³			Regular $\varnothing 3 \times 65$ mm (max)			Level 1 high power 5 mm ² x 65 mm (max)		Level 2 high power 5 mm ² x 65 mm (max)			
	Code			3			7		8			
⑨	Pigtail length ⁴			0.5 m			1 m		2 m			
	Code			0			1		2			

1 Single-mode feed-through DCF, other DCF including LMA available on request.

2 Other fiber types available, please contact the sales team for further information. Fibers are passive.

3 Maximum housing lengths. Note- Adequate heat-sinking is required for high power operation. High power multimode combiner applications note (PEC 0134) on website or consult sales dept.

4 Minimum pigtail lengths.

Ordering Information:



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Ph: 203-401-8093

Email orders to: sales@xsoptix.com
Fax orders to: 800-878-7282

For further information

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