SUB-MINIATURE TAP COUPLER

Fused Fiber Coupler

DATASHEET

The subminiature tap coupler provides low loss splitting and monitoring in an ultra-short 32 mm length package.

Designed for space constrained applications, the product is manufactured using Ø 80 µm cladding fiber. This enables low fiber bend radius within modules, without compromising mechanical integrity.

Standard wavelengths of operation are the C, L, C+L or S bands for fiber amplifier applications. Many other wavelengths are available for requirements such as sensing, fiber lasers and fiber Gyros. Do not hesitate to contact us with your specific requirements.

Reliability is assured through qualification to Telcordia GR-1221.

Key Features

- 32 mm package length
- Ø 80 µm cladding fiber
- 1/99 – 50/50 coupling ratio
- Ultra-low (typical <0.5 dB) excess loss
- High power handling
- Proven reliability

Applications

- Miniature optical amplifiers
- Miniature modules
- Fiber Gyros
- Fiber lasers
- Sensors

Compliance

- Telcordia GR-1221

Optical Specifications

C or L band

Coupling Ratio	Grade	Signal Path					Tap Path				
		Insertion Loss[1,2] (dB)		WDL[3] (dB)	PDL[4] (dB)	TDL[5] (dB)	Insertion Loss[1,2] (dB)		WDL[3] (dB)	PDL[4] (dB)	TDL[5] (dB)
Example[6]		Min	Max	Max	Max	Max	Min	Max	Max	Max	Max
1%	A		0.18	0.05	0.05	0.02	17.6	22.4	0.35	0.25	0.20
2%	A		0.20	0.05	0.05	0.02	15.8	18.2	0.30	0.20	0.15
3%	A		0.28	0.05	0.05	0.04	13.8	17.0	0.26	0.20	0.15
5%	A		0.40	0.05	0.05	0.08	11.9	14.4	0.20	0.20	0.15
10%	A		0.70	0.06	0.06	0.08	9.2	11.2	0.18	0.15	0.13
50%	A	2.70	3.40	0.15	0.10	0.10	2.7	3.4	0.15	0.10	0.10

C+L or S band

Coupling Ratio[6]	Grade	Signal Path					Tap Path				
		Insertion Loss[1,2] (dB)		WDL[3] (dB)	PDL[4] (dB)	TDL[5] (dB)	Insertion Loss[1,2] (dB)		WDL[3] (dB)	PDL[4] (dB)	TDL[5] (dB)
Example[6]		Min	Max	Max	Max	Max	Min	Max	Max	Max	Max
1%	A		0.18	0.06	0.05	0.02	17.4	23.0	1.20	0.25	0.20
2%	A		0.20	0.07	0.05	0.02	15.2	20.0	1.00	0.20	0.15
3%	A		0.28	0.07	0.05	0.04	13.7	17.4	0.90	0.20	0.15
5%	A		0.40	0.08	0.05	0.08	11.8	14.8	0.80	0.20	0.15
10%	A		0.70	0.09	0.06	0.08	9.0	11.4	0.60	0.15	0.13
50%	A	2.60	3.50	0.40	0.10	0.10	2.6	3.5	0.40	0.10	0.10

1 Insertion loss over operating wavelength range (not including PDL and TDL).
2 In 2x2 couplers insertion loss is not specified for launch through second input port P4 (coloured blue).
3 Change in insertion loss over the operating wavelength range.
4 Change in insertion loss over all input polarization states at band center wavelength.
5 Change in insertion loss from -5 – 75ºC.
6 Any coupling ratio available – contact G&H for specification of coupling ratios not listed.

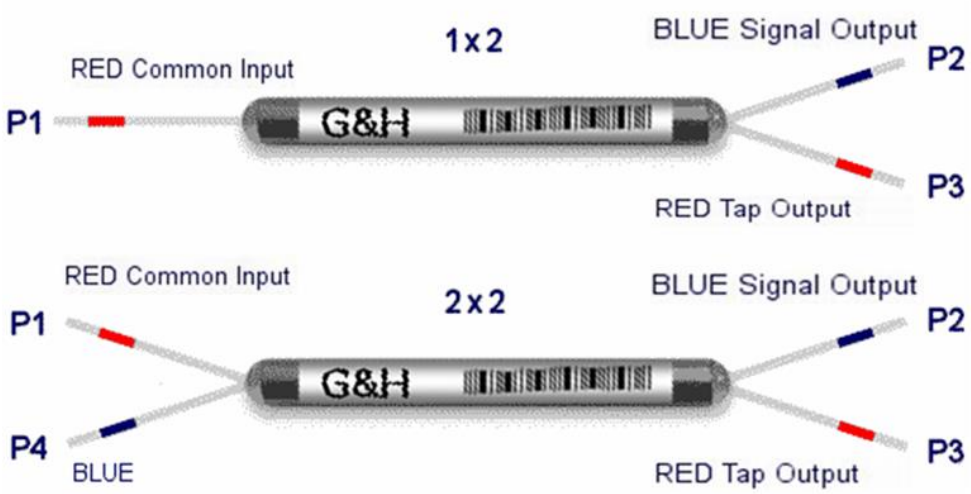
Parameter		Specification
Operating wavelength range	C	1528-1563 nm
	L	1570-1605 nm
	C+L Band	1528-1605 nm
	S Band	1425-1500 nm
Return loss/directivity[1]		55 dB
Pigtail tensile load		5 N
Optical power handling		4 W
Operating/storage temperature range		-40 to +75°C / -40 to +85°C
Environmental qualification		Telcordia GR 1221

1 Return loss is the ratio of power launched to power reflected for port P1. Directivity for the 2x2 component is the ratio of power launched to P1 to the power reflected to P4.

Housing Option

Housing Code	Description	1x2, 2x2 Dimensions (mm)	Pigtail
1	Sub-miniature	Ø 3.0 x 32 (L)	Primary-coated fiber, Ø 80 µm cladding

Configuration



Order code

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

Sample: FFC-C211AB310 (C Band, 2% tap, sub-miniature housing, 1x2 port configuration, A grade, Ø 80 µm cladding fiber, 1 m pigtails, no connector).

Order code				①	②	③	④	⑤	⑥	⑦	⑧	⑨
F	F	C	-			1		A	B			0

①	**Passband**	C band	L band	C+L band	S band		
	Code	C	L	1	S		
②	**Coupling ratio**[2]	1%	2%	3%	5%	10%	50%
	Code	1	2	3	5	A	K
③	**Housing**	Subminiature					
	Code	1					
④	**Port configuration**	1x2	2x2				
	Code	1	2				
⑤	**Grade**	Grade A					
	Code	A					
⑦	**Fiber type**	Ø 80 µm cladding fiber	Ø 80 µm cladding high NA fiber				
	Code	3	8				
⑧	**Pigtail length**[1]	0.5 m	1 m				
	Code	0	1				
⑨	**Connector**	None					
	Code	0					

1 Minimum pigtail length. Further pigtail lengths available on request.
2 Any coupling ratio available – contact G&H for specification and ordering codes of coupling ratios not listed.