



FIXED ATTENUATOR

Fused Fiber Attenuator

DATASHEET

The fixed attenuator is a compact fused fiber component that reduces optical power by a specified amount.

Gooch & Housego's proprietary manufacturing technology provides accurate attenuation with low wavelength, temperature and polarization dependence.

Designed for use where optical power levels need to be managed, the component has standard attenuation values ranging from 1 - 20 dB. Standard wavelength windows are the C, L, C+L or S bands.

Attenuators may also be optimized for custom attenuation levels, tolerances and wavelengths.

Please contact the sales office for further information.



Key Features

- Fixed attenuation
- High performance
- Low back reflection
- Proven reliability
- C, L, C+L or S band
- Custom parts available

Applications

- Power management in optical networks
- Receiver protection
- WDM system channel balancing
- Test equipment
- Fiber lasers
- Sensors

Compliance

- Telcordia GR-1221



info@amstechnologies.com
www.amstechnologies-webshop.com

Contact us 

Optical Specifications

Wavelength Range		C band, L band				C+L, S band			
Attenuation (dB)	Grade	Tolerance (dB)	WDL ¹ (dB)	PDL ² (dB)	TDL ³ (dB)	Tolerance (dB)	WDL ¹ (dB)	PDL ² (dB)	TDL ³ (dB)
Example ⁴		±	Max	Max	Max	±	Max	Max	Max
1	A	0.2	0.10	0.80	0.10	0.3	0.25	0.80	0.10
1	B	0.4	0.15	0.10	0.10	0.5	0.40	0.10	0.10
2	A	0.2	0.10	0.80	0.10	0.3	0.25	0.80	0.10
2	B	0.4	0.15	0.10	0.10	0.5	0.40	0.10	0.10
3	A	0.2	0.10	0.80	0.10	0.3	0.25	0.80	0.10
3	B	0.4	0.15	0.10	0.10	0.5	0.40	0.10	0.10
4	A	0.3	0.10	0.09	0.10	0.3	0.30	0.09	0.10
4	B	0.5	0.15	0.11	0.10	0.5	0.45	0.11	0.10
5	A	0.3	0.10	0.10	0.10	0.6	0.30	0.10	0.10
5	B	0.5	0.15	0.15	0.10	0.8	0.50	0.15	0.10
7	A	0.5	0.12	0.10	0.10	0.8	0.37	0.10	0.10
7	B	0.8	0.15	0.15	0.10	1.1	0.55	0.15	0.10
10	A	0.6	0.13	0.10	0.13	0.9	0.40	0.10	0.13
10	B	1.0	0.18	0.15	0.13	1.2	0.60	0.15	0.13
13	A	0.8	0.15	0.12	0.15	1.1	0.45	0.12	0.15
13	B	1.2	0.20	0.20	0.15	1.5	0.80	0.20	0.15
15	A	0.9	0.18	0.14	0.15	1.2	0.50	0.14	0.15
15	B	1.4	0.26	0.20	0.15	1.9	0.90	0.20	0.15
17	A	1.0	0.22	0.15	0.15	1.3	0.60	0.15	0.15
17	B	1.5	0.30	0.20	0.15	2.4	1.00	0.20	0.15
20	A	1.4	0.25	0.20	0.20	2.4	0.90	0.20	0.20
20	B	2.4	0.35	0.25	0.20	2.8	1.20	0.25	0.20

¹ Change in insertion loss over the operating wavelength range.

² Change in insertion loss over all input polarization states at band center wavelength.

³ Change in insertion loss from -5 – 75°C.

⁴ Any attenuation available – contact G&H for specification of attenuation not listed.

Parameter	Specification	
Operating wavelength range	C band	1528-1563 nm
	L band	1570-1605 nm
	C+L Band	1528-1605 nm
	S Band	1425-1500 nm
Return loss ¹	55 dB	
Pigtail tensile load	5 N	
Operating temperature range ²	-40 - +75°C	
Storage temperature range	-40 - +85°C	
Environmental qualification	Telcordia GR 1221	

¹ Return loss is the ratio of power launched to power reflected for input port P1.

² For connectorized component, operating temperature range is -5 - +75°C.

Housing Option

Housing Code	Description	Dimensions (mm)	Pigtail
3	Regular	3.0 (Ø) x 55 (L)	Primary-coated fiber
4	Ø0.9 mm slim	3.0 (Ø) x 65 (L)	Ø0.9 mm loose-tube
5	Ø0.9 mm semi-ruggedized	5.0 (Ø) x 80 (L)	Ø0.9 mm loose-tube
6	Ø3.0 mm fully-ruggedized	80 (L) x 10 (W) x 8 (H)	Ø3.0 mm fan-out sleeving

Order code

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

Sample: AFF-C130A1B10 (C Band, 20 dB attenuation, regular housing, 1x1, A grade, SMF-28 fiber, 1 m pigtail, no connectors).

Order code				①	②	③	④	⑤	⑥	⑦	⑧	⑨		
A	F	F	-				0		B					
①	Passband			C band			L band		C+L band		S band			
	Code			C			L		1		S			
②	Attenuation (dB)⁵			20	17	15	13	10	7	5.2	4	3	2	1
	Code			1	2	3	5	A	C	E	H	K	P	R
③	Housing			Regular		Semi-ruggedized slim		Semi-ruggedized		Fully ruggedized				
	Code			3		4		5		6				
④	Port configuration			1x1										
	Code			0										
⑤	Grade			Grade A					Grade B					
	Code			A					B					
⑦	Fiber type			Corning SMF-28										
	Code			1										
⑧	Pigtail length²			0.5 m					1 m					
	Code			0					1					
⑨	Connector^{3,4}			None	FC/PC	FC/APC	SC/APC	FC/UPC	SC/UPC	LC ¹				
	Code			0	1	3	5	9	A	B				

1 Not available for housing option 6.

2 Minimum pigtail length. Further pigtail lengths available on request. Where connectorized, pigtail length is to connector end face.

3 Attenuation in specification table does not include connector losses.

4 Connectors are fitted as standard to housing codes 4, 5 and 6 only. To request connectors fitted to housing code 3, please contact the sales office.

5 Any attenuation available – contact G&H for specification and ordering codes of attenuators not listed.

For further information

E: torquaysales@goochandhousego.com

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