



flawless fusion with infinite possibilities

SIFAM
FIBRE OPTICS

Fused Pump Signal WDM 980nm



The SIFAM Fused Pump Signal WDM, 980nm multiplexes signal and pump power in 980, 960 or 1060nm-pumped erbium doped fibre amplifiers. SIFAM proprietary manufacturing technology provides uniquely low excess loss and wavelength dependence, along with low polarisation and temperature dependence for all ports. The ultra-low loss of these components promotes high efficiency of use of pump power and low noise figure.

These high performance parts are available in many wavelength configurations, housing, fibre and connector options and can therefore be readily specified in a wide variety of applications, enabling rapid design cycles and new project builds. Wavelength configurations allow for 960, 980 or 1060nm pumping and C, L or C+L signal bands.

Reliability is assured through qualification to Telcordia GR-1221, with a field proven FIT rate of < 1.

For the subminiature version of this product please refer to the datasheet 'Subminiature Pump Signal WDMs'.

Key Features:

- Promotes low amplifier noise figure
- Promotes low pump power wastage
- Ultra-low typical <0.05dB excess loss
- Wide range of regular parts available
- High power handling
- < 1 FITs

Applications:

- C, L or C+L band EDFA
- 960, 980 or 1060nm pump rejection
- Fibre lasers

Compliance:

- Telcordia GR-1221

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Certificate No. 0962231

As part of our policy of continuous product improvement we reserve the right to change specifications at any time
PEC0102 Rev 2

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Optical Specifications

Wavelength		Grade	Available Housing Option ₅	Available Fibre Type ₅	Insertion Loss ₁ (dB)	WDL ₂ (dB)	PDL ₃ (dB)	TDL ₄ (dB)	Isolation (dB)
Pump	Signal				Max	Max	Max	Max	Min
980nm	C band	P	3,4,5,6	2	0.08	0.04	0.02	0.02	20
960nm	C band	A	2,3,4,5,6	2	0.10	0.07	0.02	0.02	20
	L band								
980nm	C band	M	2,3,4,5,6	2	0.10	0.07	0.02	0.02	18
960nm	L band								
1060nm ₆	C band	N	2,3,4,5,6	2	0.15	0.10	0.02	0.02	18
	L band								
	C band	B	2,3,4,5,6	2,5	0.20	0.10	0.02	0.02	16
	L band								
980nm	C+L band	P	3,4,5,6	2	0.25	0.20	0.02	0.02	16
980nm	C+L band	A	2,3,4,5,6	2,5	0.40	0.30	0.02	0.02	14
980nm	C+L band	B	2,3,4,5,6	2,5	0.50	0.40	0.05	0.05	10

1. Insertion loss over operating wavelength range (not including PDL , TDL or connector losses)
2. Change in insertion loss over the operating wavelength range
3. Change in insertion loss over all input polarisation states in signal wavelength range
4. Change in insertion loss from -5 to 75°C
5. Cross reference to Ordering Information Table for available options
6. 1060nm components not available in housing option 2 (miniature)

Parameter	Specification	Unit
Operating Wavelength Range	C band	1528-1563
	C + L band	1528-1605
	L band	1570-1605
	960nm	955-970
	980nm	970-990
	1060nm	1050-1070
Return Loss/Directivity ₁	55	dB
Pigtail Tensile Load	5	N
Optical power handling	4	W
Operating Temperature Range ₂	-40 to +75	C
Storage Temperature Range	-40 to +85	C
Environmental Qualification	Telcordia GR 1221	

1. Measured reference port P3 input for signal wavelength, P2 input for pump wavelength and P1 input for signal and pump wavelengths.
2. For connectorised component, operating temperature range is -5 to +75°C.

Housing Option

Housing Code	Description	Dimensions (mm)	Pigtail
2	Miniature	3.0 (Ø) x 45 (L)	Primary-coated fibre
3	Regular	3.0 (Ø) x 55 (L)	Primary-coated fibre
4	Ø 0.9 mm slim	3.0 (Ø) x 65 (L)	Ø 0.9 mm loose-tube
5	Ø 0.9 mm semi-ruggedised	5.0 (Ø) x 80 (L)	Ø 0.9 mm loose-tube
6	Ø 3.0 mm fully-ruggedised	80 (L) x 10 (W) x 8 (H)	Ø 3.0 mm fan-out sleeving

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Configuration



Ordering Code Information

Sample: FFW-5C31A2110 (Fused Fibre WDM, 980nm pump, C band signal, regular housing, 1x2, A grade, Lucent BFO5635-02 fibre, 1m pigtail, no connector).

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Code	Pump Wavelength
5	980nm
8	1060nm
F	960nm

Code	Signal Wavelength
1	C+L band
C	C band
L	L band

Code	Housing ₄
2	Miniature
3	Regular
4	φ0.9mm slim
5	φ0.9mm semi-ruggedised
6	φ3.0mm fully ruggedised

Code	Port Configuration
1	1x2
2	2x2

Code	Grade
P	Grade P
A	Grade A
M	Grade M
N	Grade N
B	Grade B

Code	Fibre Type
2	Lucent BFO5635-02
5	Corning HI 1060 Flex

Code	Pigtail Length ₂
0	0.5m
1	1m

Code	Connector _{3,4}
0	None
1	FC/PC
3	FC/APC
5	SC/APC
9	FC/UPC
A	SC/UPC
B	LC ₁

1. Not available for housing option 6.
2. Minimum pigtail length. Further pigtail lengths available on request. Where connectorised, pigtail length is to connector end face.
3. Insertion loss in specification table does not include connector losses.
4. Connectors may be fitted to housing types 4, 5 and 6. For connectorisation of housing types 2 and 3 please contact the sales office.

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