

Fused Coupler, 980 nm



Key Features

- Ultra low pump loss
- Minimum wastage of pump power
- High EDFA output power
- Wide range of regular parts available
- Proven reliability

Applications

- EDFA pump redundancy and sharing
- EDFA pump monitoring
- Fiber lasers

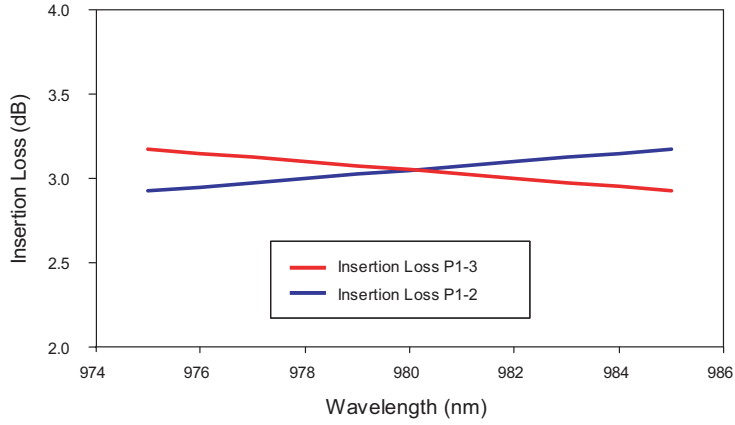
The JDSU fused coupler, 980 nm, enables the accurate splitting and monitoring of pump power in erbium doped fiber amplifiers. JDSU proprietary manufacturing technology provides uniquely low excess loss, along with low polarization and temperature dependence for all ports.

These high performance regular parts are available in a wide variety of tap ratios, housing and connector options and can therefore be readily specified in a wide variety of applications, enabling rapid design cycles and new project builds. Standard variants for 960 nm and 1060 nm may also be selected.

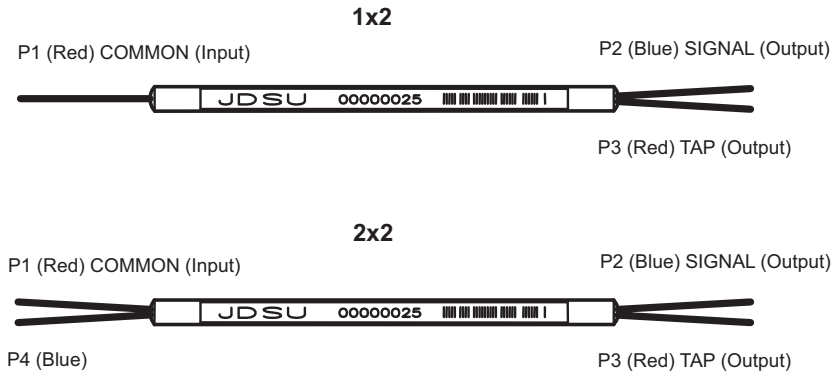
Reliability is assured through qualification to Telcordia GR-1221, with a field proven FIT rate of <1.

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Fused Coupler, 980 nm, 50/50 Insertion Loss



Configuration



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Insertion Loss

Coupling Ratio	Grade	Signal Path		Tap Path	
		Insertion Loss ^{1,2} (Min./Max.)	TDL ³ Max.	Insertion Loss ^{1,2} (Min./Max.)	TDL ³ Max.
1%	P	NA/0.15 dB	0.02 dB	18.4/21.5 dB	0.20 dB
1%	A	NA/0.20 dB	0.02 dB	15.0/22.0 dB	0.20 dB
5%	P	NA/0.40 dB	0.08 dB	11.3/14.8 dB	0.15 dB
5%	A	NA/0.50 dB	0.08 dB	11.0/15.2 dB	0.15 dB
10%	P	NA/0.65 dB	0.08 dB	9.00/11.5 dB	0.13 dB
10%	A	NA/0.75 dB	0.08 dB	8.50/11.8 dB	0.13 dB
20%	P	NA/1.40 dB	0.10 dB	5.60/8.40 dB	0.10 dB
20%	A	NA/1.50 dB	0.10 dB	5.40/8.60 dB	0.10 dB
30%	P	NA/2.00 dB	0.10 dB	4.10/6.40 dB	0.10 dB
30%	A	NA/2.20 dB	0.10 dB	4.00/6.50 dB	0.10 dB
40%	P	NA/2.60 dB	0.10 dB	3.20/4.70 dB	0.10 dB
40%	A	NA/2.80 dB	0.10 dB	3.10/4.80 dB	0.10 dB
50%	P	2.60/3.40 dB	0.10 dB	2.60/3.40 dB	0.10 dB
50%	A	2.50/3.60 dB	0.10 dB	2.50/3.60 dB	0.10 dB

1. Insertion loss over operating wavelength range (not including TDL or connector losses).
2. In 2x2 couplers with a coupling ratio of 20% or lower, insertion loss is not specified for launch through second input port (P4).
3. Change in insertion loss from -5 to 75 °C.

Housing Option

Housing Code	Description	1x2, 2x2 Dimensions (mm)	Pigtail
2	Miniature	3.0 (Ø) x 45 (L)	Primary-coated fiber
3	Regular	3.0 (Ø) x 50 (L)	Primary-coated fiber
4	Ø 0.9 mm slim	3.0 (Ø) x 60 (L)	Ø 0.9 mm loose-tube
5	Ø 0.9 mm semi-ruggedized	5.0 (Ø) x 75 (L)	Ø 0.9 mm loose-tube
6	Ø 3.0 mm fully ruggedized	80 (L) x 10 (W) x 8 (H)	Ø 3.0 mm fan-out sleeving

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Specifications

Parameter		960 nm	980 nm	1060 nm
Operating wavelength range ¹		955 to 965 nm	975 to 985 nm	1055 to 1065 nm
Return loss/Directivity	Minimum	55 dB	55 dB	55 dB
Pigtail tensile load	Maximum	5 N	5 N	5 N
Optical power handling	Maximum	4 W	4 W	4 W
Operating temperature range ²		-40 to 75 °C	-40 to 75 °C	-40 to 75 °C
Storage temperature range		-40 to 85 °C	-40 to 85 °C	-40 to 85 °C

- For wavelengths within ± 5 nm to the operating wavelength range, the worst-case changes in insertion loss and WDL are shown as follows:
 - tap ratio=1%, maximum insertion loss and WDL increase=0.65 dB
 - tap ratio=5%, maximum insertion loss and WDL increase=0.50 dB
 - tap ratio=10%, maximum insertion loss and WDL increase=0.40 dB
 - tap ratio=50%, maximum insertion loss and WDL increase=0.20 dB.
- For connectorised components operating range is -5 to 75 °C. TDL is specified from -5 to 75 °C.

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

Sample: FFC-5K31PN210

FFC-						N			
Code	Passband Wavelength	Code	Housing	Code	Grade	Code	Fiber Type	Code	Connectors
5	980 nm	2	Miniature	A	Grade A	2	Lucent BFO5635-02	0	NONE
8	1060 nm	3	Regular	P	Premium	5	Corning Hi 1060 Flex	1	FC/PC
F	960 nm	4	Ø 0.9 mm slim					3	FC/APC
		5	Ø 0.9 mm semi-ruggedized	Code	Bandwidth			5	SC/APC
		6	Ø 3.0 mm fully ruggedized	N	Narrowband			9	FC/UPC
Code	Coupling Ratio	Code	Configuration			Code	Pigtail Length¹ (Minimum)	A	SC/UPC
1	1%	1	1x2			0	0.5 meter	B	LC ²
5	5%	2	2x2			1	1 meter		
A	10%								
C	20%								
E	30%								
H	40%								
K	50%								

1. Other pigtail lengths are available on request.
2. Not available for housing option 6.

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