FIBER VARIABLE SPLITTERS

Features
- Low loss
- Broad bandwidth
- Good uniformity
- Small package
- High directivity

Applications
- Optical amplifiers
- Fiber lasers
- Power monitoring
- Fiber gyroscopes
- Coherent communications

Product Description
Fiber variable ratio couplers provide coupling ratios tunable from 0% to 100% with negligible optical loss. The device consists of two side-polished fibers mated to induce evanescent field coupling. The coupling ratio is controlled by adjusting the distance between the cores of the two side-polished fibers. PM fiber models with customer specified birefringence axis alignment are available.

Figure 1: Reference Dimensional Drawing
Ordering Information For Custom Parts

Part Number: VBS-22-W-a/b-F-XY-JD-L

W = Wavelength: 1310, 1550 nm
a/b = Fiber core and cladding: 9/125 for single mode 7/125 or 8/125 for PM
F = Fiber type: S = Single Mode P = Polarization Maintaining

L = Length, in meters (1 m standard)
JD = Jacket diameter 1 = 0.9 mm (standard)
XY = Connector code:
3S = Super NTT-FC/PC SCA = Angled SC
3U = Ultra NTT-FC/PC LC = LC
3A = Angled NTT-FC/PC LCA = Angled LC
8 = AT&T-ST MU = MU
SC = SC X = No Connector

See table 6 of the OZ Standard Tables data sheet for other connectors.
https://www.ozoptics.com/ALLNEW_PDF/DTS0079.pdf

Specifications

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<td>Operation Wavelength (nm)</td>
<td>1260–1650</td>
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<td>Tuning Range of Coupling Ratio (%)</td>
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<td>Insertion Loss (dB)</td>
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<td>&lt;0.5</td>
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<td>&gt;20</td>
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Questionnaire For Custom Parts
1. What is your center wavelength and operating bandwidth?
2. What type of fiber are you using: single mode, polarization maintaining?
3. What, if any, connectors are required for each port?
4. What fiber length is required?

Figure 2: Coupling Ratio Variation

Without connectors
With connectors

- Operation Wavelength (nm): 1260–1650
- Tuning Range of Coupling Ratio (%): 0–100
- Insertion Loss (dB): <0.1, <0.5
- Polarization Extinction Ratio (dB, PMF only): >20, >18

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