EVANESCENCE BASED VARIABLE SPLIT RATIO FIBER SPLITTER/COUPLER

Features

- Variable splitting ratio
- Low insertion loss
- Broad bandwidth
- Good uniformity
- Small package
- High directivity
- Selectable wavelength: 400 to 2000 nm

Applications

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

Product Description

Variable split ratio fiber splitters provide splitting 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 Standard Parts

**Standard Parts**

<table>
<thead>
<tr>
<th>Bar Code</th>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>67232</td>
<td>VBS-22-1300/1550-9/125-S-3A3A3A3A-1-1</td>
<td>Evanscence based variable ratio fiber 2x2 splitter for 1260-1650nm with 1 meter long, 0.9 mm OD jacketed, 9/125 um single mode fiber leads, terminated with FC/APC connectors on all ports</td>
</tr>
<tr>
<td>67226</td>
<td>VBS-22-1550-8/125-P-3A3A3A3A-1-1</td>
<td>Evanscence based variable ratio fiber 2x2 splitter for 1450-1650nm with 1 meter long, 0.9 mm OD jacketed, 8/125 um polarization maintaining fiber leads, terminated with FC/APC connectors, slow axis locked to the key on all ports.</td>
</tr>
<tr>
<td>67225</td>
<td>VBS-22-1310-7/125-P-3A3A3A3A-1-1</td>
<td>Evanscence based variable ratio fiber 2x2 splitter for 1290-1550nm with 1 meter long, 0.9 mm OD jacketed, 7/125 um polarization maintaining fiber leads, terminated with FC/APC connectors, slow axis locked to the key on all ports.</td>
</tr>
</tbody>
</table>
Specifications*

<table>
<thead>
<tr>
<th></th>
<th>Without connectors</th>
<th>With connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation Wavelength (nm)</td>
<td>1260–1650</td>
<td></td>
</tr>
<tr>
<td>Tuning Range of Coupling Ratio (%)</td>
<td>0–100</td>
<td></td>
</tr>
<tr>
<td>Insertion Loss (dB)</td>
<td>&lt;0.1</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>Polarization Extinction Ratio (dB, PMF only)</td>
<td>&gt;20</td>
<td>&gt;18</td>
</tr>
</tbody>
</table>

(*) For 1260–1650 nm. Other wavelength bands available upon request.

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?

Ordering Information For Custom Parts

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

- **W** = Wavelength: in nanometers
  - Example 1300/1550 for 1260–1650 nm SM
  - 1300/1550 for 1260–1650 nm SM
  - 1550 for 1450–1650 nm PM
  - 1310 for 1290–1550 nm PM
  - 1060 for 980–1300 nm
  - 830 for 760–980 nm
  - 633 for 620–760 nm
  - 488 for 480–630 nm
  - 2000 for 1800–2100 nm

- **a/b** = Fiber core and cladding:
  - 9/125 for 1260–1650 nm SM
  - 8/125 for 1450–1650 nm PM
  - 7/125 for 1290–1550 nm PM

- **F** = Fiber type:
  - S = Single Mode
  - P = Polarization Maintaining

- **XY** = Connector code:
  - 3S = Super NTT-FC/PC
  - 3U = Ultra NTT-FC/PC
  - 3A = Angled NTT-FC/PC
  - 8 = AT&T-ST
  - SC = SC
  - SCA = Angled SC
  - LCA = Angled LC

- **JD** = Jacket diameter
  - 1 = 0.9 mm (standard)

See tables 1 and 2 of the OZ Standard Tables datasheet for other standard fiber sizes.
https://www.ozoptics.com/ALLNEW_PDF/DTS0079.pdf

- **L** = Length, in meters (1 m standard)

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