



## 100GHz WDM Filter Components for OADM

Bookham narrowband filters leverage the proprietary Advanced Energetic Deposition (AED) process to produce the industry's best banded filter solution. The AED process features state-of-the-art layer thickness control to produce thin-film interference filters that are unparalleled for optical add/drop multiplexing (OADM) WDM applications. A range of 100GHz single channel filters are available.

### 100 Standard

This product is intended for construction of multiplexer and demultiplexer systems. It provides high performance and lowest cost.

### 100 OADM

This product features improved performance for reflection isolation, transmission isolation and chromatic dispersion. This part is designed for more demanding applications such as channel by channel optical add/drop multiplexing or lower chromatic dispersion mux/demux designs.

### 100 Wide-Top

This product features the widest available clear channel width. Wider clear channel provides for less rounding of the channel passband after the cascading of filters. The wider clear channel also allows for the wider spectral width of high-chirp lasers or 40Gb/s modulation rates.

Standard 5.5mm diameter packaging is available with the boot/length specification needed to meet your application. The optional compact packaging has diameter of only 3.2mm. All Bookham filter components are Telcordia GR-1221 qualified and 5/6 RoHS compliant.



### Features

- 27.5GHz and 50GHz clear channel passbands
- ITU and custom wavelengths
- Deep reflection isolation for OADM
- Accurate wavelength centering
- High adjacent channel transmission isolation
- Low express channel loss
- Flat transmission passband for cascading
- Excellent temperature stability

### Options

- Custom wavelength
- L-Band available
- Low chromatic dispersion version
- Compact packaging: 3.2mm diameter
- Rugged packaging

### Applications

- Add/drop multiplexing
- Metro and long-haul WDM

### Compliance

- GR-1221 qualified
- RoHS compliant (5/6)

## 100GHz Filters

Typical design specifications (valid over operating temperature)

| Transmitted Channels                         | Standard         | OADM | Wide-Top | unit  |
|--|------------------|------|----------|-------|
| Clear Channel Passband                       | 27.5             | 27.5 | 50       | GHz   |
| Insertion Loss <sup>a</sup>                  | 1.0              | 1.0  | 1.0      | dB    |
| Insertion Loss Variation                     | 0.3              | 0.3  | 0.5      | dB    |
| Adjacent Band Isolation                      | 25               | 30   | 25       | dB    |
| Polarization Dependent Loss                  | 0.15             | 0.1  | 0.2      | dB    |
| Return Loss                                  | 45               | 45   | 45       | dB    |
| Chromatic Dispersion <sup>b</sup>            | ±35              | ±19  | ±60      | ps/nm |
| Directivity                                  | 45               | 45   | 45       | dB    |
| Reflected Channel                            |                  |      |          |       |
| Insertion Loss <sup>a</sup>                  | 0.4              | 0.4  | 0.4      | dB    |
| Insertion Loss Variation                     | 0.1              | 0.1  | 0.1      | dB    |
| Polarization Dependent Loss                  | 0.15             | 0.1  | 0.2      | dB    |
| Reflection Isolation <sup>b</sup>            | 12               | 16   | 11       | dB    |
| Chromatic Dispersion <sup>b</sup>            | ±30              | ±16  | ±30      | ps/nm |
| Component Parameters                         |                  |      |          |       |
| Operating Temperature                        | -5 to 70         |      |          | °C    |
| Storage Temperature                          | -40 to 85        |      |          | °C    |
| Dimensions <sup>c</sup> (standard packaging) | 5.5 (Ø) x 51 (L) |      |          | mm    |

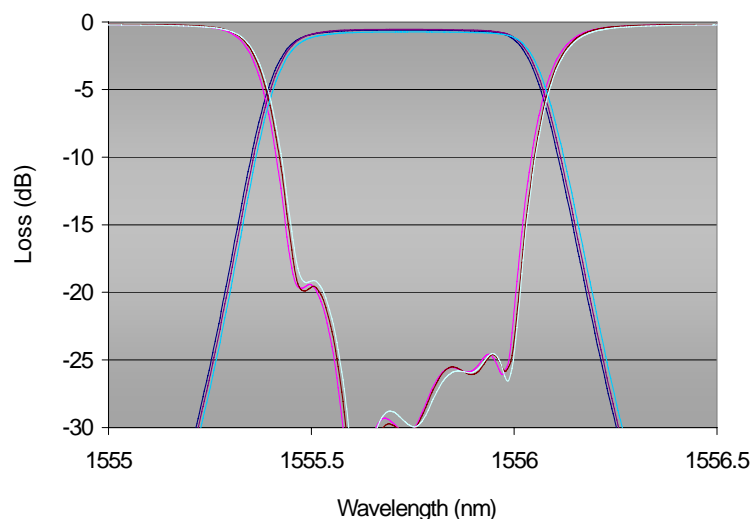
<sup>a</sup> Loss includes connector pair.

<sup>b</sup> At edge of clear channel passband.

<sup>c</sup> Nominal overall length. Standard package length without boots nominally 35mm.

## Example Performance

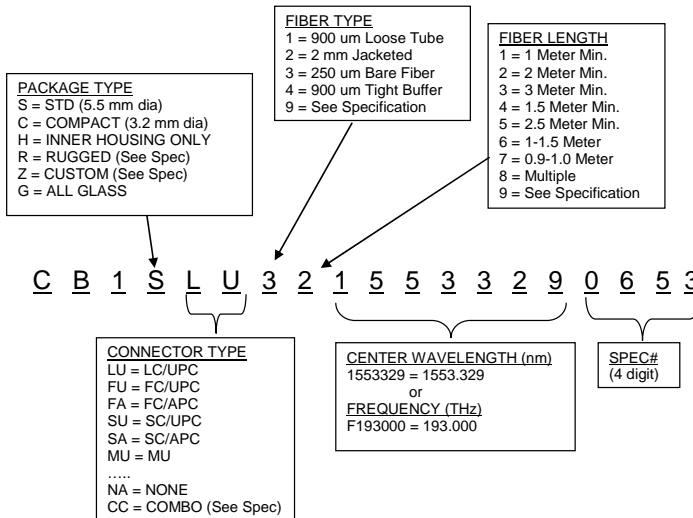
100GHz OADM filter performance at -5C, 25C, and 70C





## Ordering Information

100GHz Filter numbering convention



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