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[a]	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[b]	±35	±19	±60	ps/nm
Directivity	45	45	45	dB
Reflected Channel				
Insertion Loss[a]	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[b]	12	16	11	dB
Chromatic Dispersion[b]	±30	±16	±30	ps/nm
Component Parameters				
Operating Temperature	-5 to 70			°C
Storage Temperature	-40 to 85			°C
Dimensions[c] (standard packaging)	5.5 (Ø) x 51 (L)			mm

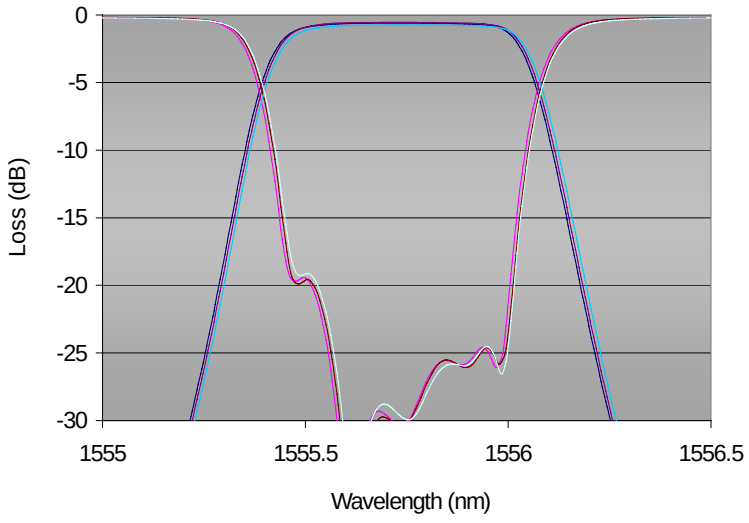
[a] *Loss includes connector pair.*

[b] *At edge of clear channel passband.*

[c] *Nominal overall length. Standard package length without boots nominally 35mm.*

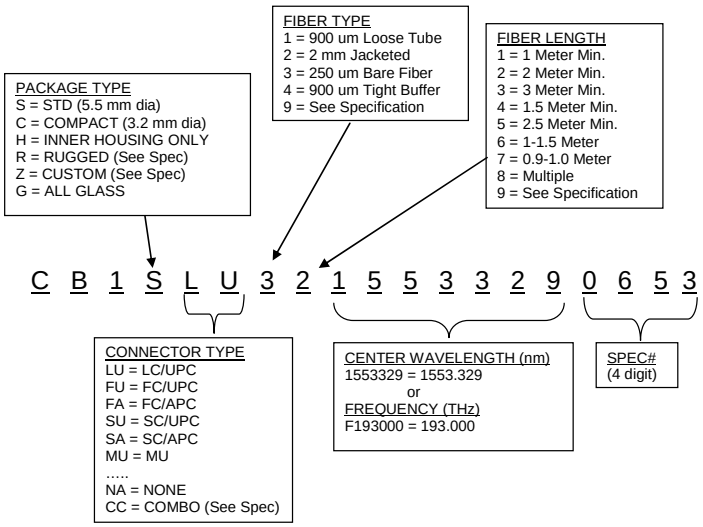
Example Performance

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



Ordering Information

100GHz Filter numbering convention



North America

Bookham Worldwide Headquarters

2584 Junction Ave.
San Jose
CA 95134
USA

- **Tel: +1 408 919 1500**
- **Fax: +1 408 919 6083**

Europe

Paignton Office

Brixham Road
Paignton
Devon
TQ4 7BE
United Kingdom

- **Tel: +44 (0) 1803 66 2000**
- **Fax: +44 (0) 1803 66 2801**

Asia

Shenzhen Office

2 Phoenix Road
Futian Free Trade Zone
Shenzhen 518038
China

- **Tel: +86 755 33305888**
- **Fax: +86 755 33305805**
  +86 755 33305807

sales@bookham.com

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