


# Banded Skip Filters for 100GHz Add/Drop Multiplexing

Bookham banded skip filters leverage the proprietary Advanced Energetic Deposition (AED) process to produce the industry's best skip 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.

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 RoHS compliant.

Skip filters allow for practical ROADMs deployments by splitting off a small band of wavelengths (4, 8, or 10) that can be reconfigured, without losing adjacent channels, for a more cost effective add/drop solution and a "pay as you grow" network architecture. Bookham's OADM 100GHz TFF products can be used for a fixed OADM portion of the network. Bookham offers custom skip designs for channel plans not covered in the ordering information table.

### Features:

- 10ch, 8ch, 4ch and 2ch skip-zero filters available
- Wide range of band plans available including skip-1 and skip-2 designs.
- Deep reflection isolation for minimized coherent crosstalk
- Low express channel loss
- Flat transmission passband for cascading
- Fewer skipped channels
- 27.5GHz clear channel allocation
- Excellent temperature stability
- GR-1221 qualified
- RoHS compliant 

### Options:

- Custom skip designs available
- Compact packaging: 3.2mm diameter
- Rugged packaging
- Other channel plans available

### Applications:

- Add/drop multiplexing
- Metro and long-haul WDM
- Banded Mux/Demux



## Band Filters for 100GHz

Typical design specifications (valid over operating temperature)

Transmitted Channel	Standard 2s0	Standard 4s0	Standard 4s1	Standard 8s0	Standard 10s0	Unit		
	Spec #0490	Spec #0491	Spec #0492	Spec #0508	Spec #0493			
Clear Channel Passband	127.5	327.5	327.50	727.50	927.50	Min	GHz	
Isolation Bandwidth	272.5	472.5	672.50	872.50	1072.50	Max	GHz	
Insertion Loss <sup>[1][2]</sup>	0.8	0.9	0.9	0.9	0.8	Max	dB	
IL Variation <sup>[1]</sup>	0.3	0.3	0.4	0.4	0.4	Max	dB	
Adjacent Channel Isolation <sup>[1]</sup>	25	25	25	15	15.5	Min	dB	
Return Loss <sup>[2]</sup>	45	45	45	45	45	Min	dB	
Directivity <sup>[2]</sup>	45	45	45	45	45	Min	dB	
PDL <sup>[2]</sup>	0.2	0.2	0.2	0.2	0.2	Max	dB	
<b>Reflected Channel</b>								
Insertion Loss <sup>[1][2]</sup>	0.4	0.4	0.4	0.45	0.45	Max	dB	
Isolation <sup>[1]</sup>	14	12	13	12	12.5	Min	dB	
PDL <sup>[2]</sup>	0.2	0.2	0.2	0.2	0.2	Max	dB	
<b>Component Parameters</b>								
Operating Temperature	-5 to 70						°C	
Storage Temperature	-40 to 85						°C	
Dimensions <sup>[3]</sup> (Standard Package)	5.5 (Ø) x 51 (L)						mm	

**Notes:**

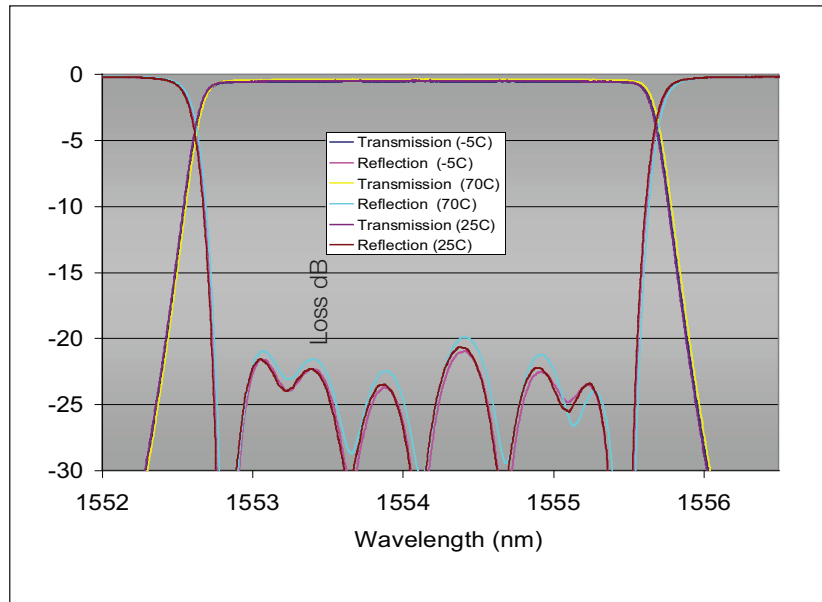
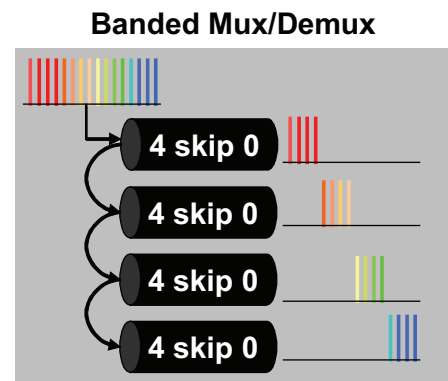
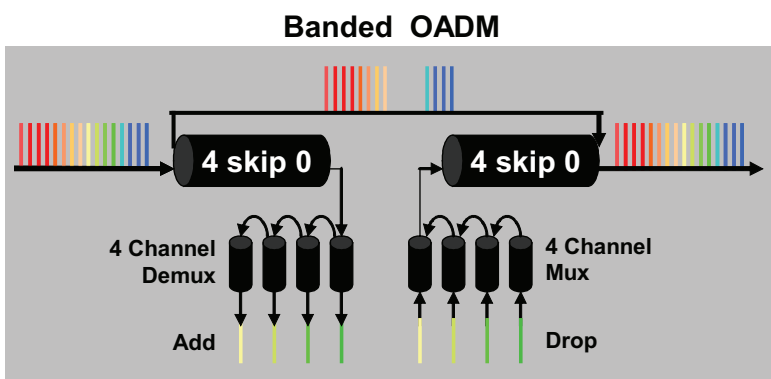
[1] Loss values do not include connectors

[2] Measured over operating temperature and ASOP

[3] Nominal Overall Length. Standard Package without boots nominally 35mm.

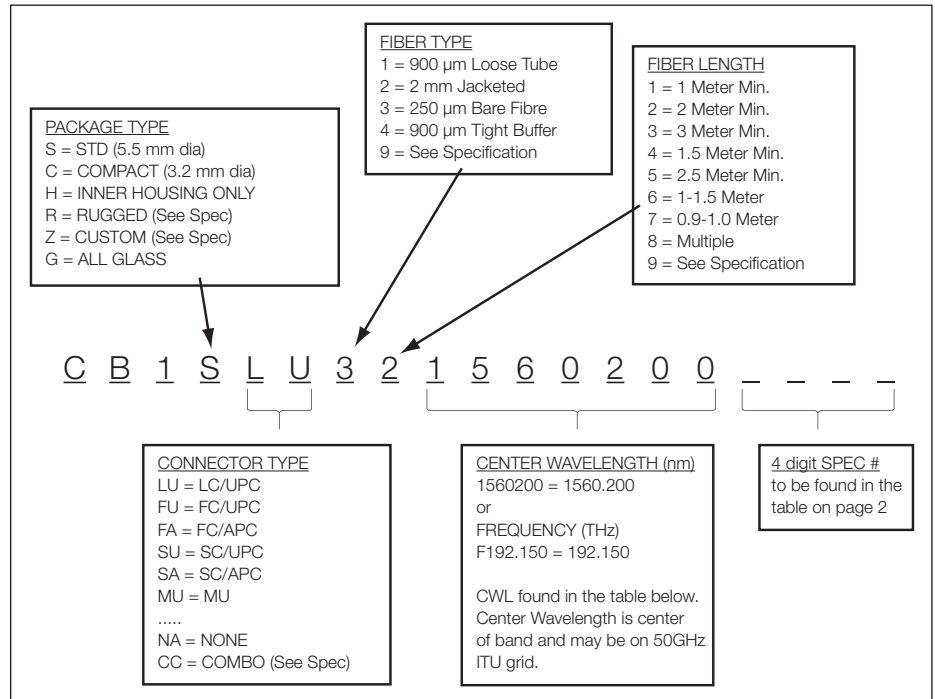
### Example Applications and Performance

Banded 4-skip-0 applications and 4-skip-0 performance at -5C, 25C, and 70C



## Ordering Information

### Band filter numbering convention



Channel Plans:	CWL (nm)	CWL (THz)	Banded (Skipped) Channels
2s0	1560.200	192.150	Ch's 20, 21
	1558.578	192.350	Ch's 22, 23
	1556.959	192.550	Ch's 24, 25
	1555.343	192.750	Ch's 26, 27
	1553.731	192.950	Ch's 28, 29
	1552.122	193.150	Ch's 30, 31
	1550.517	193.350	Ch's 32, 33
	1548.915	193.550	Ch's 34, 35
	1547.316	193.750	Ch's 36, 37
	1545.720	193.950	Ch's 38, 39
	1544.128	194.150	Ch's 40, 41
	1542.539	194.350	Ch's 42, 43
	1540.953	194.550	Ch's 44, 45
	1539.371	194.750	Ch's 46, 47
	1537.792	194.950	Ch's 48, 49
	1536.216	195.150	Ch's 50, 51

Channel Plans:	CWL (nm)	CWL (THz)	Banded (Skipped) Channels
4s0	1565.900	191.450	Ch's 13, 14, 15, 16
	1562.640	191.850	Ch's 17, 18, 19, 20
	1559.390	192.250	Ch's 21, 22, 23, 24
	1556.150	192.650	Ch's 25, 26, 27, 28
	1552.930	193.050	Ch's 29, 30, 31, 32
	1549.720	193.450	Ch's 33, 34, 35, 36
	1546.520	193.850	Ch's 37, 38, 39, 40
	1543.330	194.250	Ch's 41, 42, 43, 44
	1540.160	194.650	Ch's 45, 46, 47, 48
	1537.000	195.050	Ch's 49, 50, 51, 52
	1533.860	195.450	Ch's 53, 54, 55, 56
	1530.720	195.850	Ch's 57, 58, 59, 60
4s1	1567.540	191.250	Ch's 11, 12, 13, 14
	1563.450	191.750	Ch's 16, 17, 18, 19
	1559.390	192.250	Ch's 21, 22, 23, 24
	1555.340	192.750	Ch's 26, 27, 28, 29
	1551.320	193.250	Ch's 31, 32, 33, 34
	1547.320	193.750	Ch's 36, 37, 38, 39
	1543.330	194.250	Ch's 41, 42, 43, 44
	1539.370	194.750	Ch's 46, 47, 48, 49
	1535.430	195.250	Ch's 51, 52, 53, 54
	1531.510	195.750	Ch's 56, 57, 58, 59
8s0	1558.578	192.35	Ch's 20, 21, 22, 23, 24, 25, 25, 27
	1552.122	193.15	Ch's 28, 29, 30, 31, 32, 33, 34, 35
	1545.720	193.95	Ch's 36, 37, 38, 39, 40, 41, 42, 43
	1539.371	194.75	Ch's 44, 45, 46, 47, 48, 49, 50, 51
	1533.073	195.55	Ch's 52, 53, 54, 55, 56, 57, 58, 59
10s0	1557.768	192.45	Ch's 20, 21, 22, 23, 24, 25, 25, 27, 28, 29
	1549.715	193.45	Ch's 30, 31, 32, 33, 34, 35, 36, 37, 38, 39
	1541.746	194.45	Ch's 40, 41, 42, 43, 44, 45, 46, 47, 48, 49
	1533.858	195.45	Ch's 50, 51, 52, 53, 54, 55, 56, 57, 58, 59

## RoHS Compliance

Bookham is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products. RoHS compliance parts are available to order, please refer to the ordering information section for further details.

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