

# 10 Channel Mux/Demux with low-loss express; 100GHz Channels


Bookham offers a high performance 10 channel multiplexer or demultiplexer solution for 100 GHz channels. This product uses Bookham proprietary Advanced Energetic Disposition (AED) thin film deposition technology for superior performance.

The Bookham 10 channel solutions offer an ideal combination of fully passive operation, low loss, compact size, wide channel pass bands and an upgrade path to 40 channels. Insertion loss of <4.0dB is achieved in the uniform loss version of the product. Matched mux-demux pairs are offered with typical back-to-back insertion loss of 5dB. Ribbon connector options are available for easy interconnection to the rest of the system. Thin film technology provides a flat-topped pass band design that allows for less stringent control of the laser wavelength over the system lifetime.

These flexible upgrade modules use the Bookham 10-skip-0 banded upgrade port. The 10-skip-0 filter passes ten 100GHz spaced channels to the ITU channel filters. The same filter reflects all remaining channels onto the express port with very low loss. Modules can be cascaded to form 20, 30, or 40 channel filter solutions. The 10 skip 0 banded port also allows optical add drop multiplexing (OADM) functionality for this module.



### Features:

- Passive operation
- Flexible upgrade path to 40 channels
- Flat pass band design
- Low loss express using 10-skip-0 filter
- 27.5 GHz clear pass band
- Low loss (<4.0dB)
- High adjacent channel isolation
- -5 to 70°C operating temperature
- Compact Size (120x80x14mm)
- Telecordia GR-1221 qualified
- RoHS compliant 

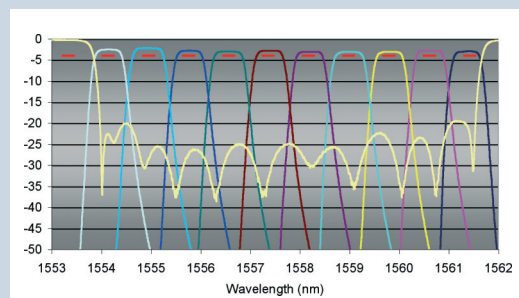
### Options:

- Ribbon connectors
- Uniform loss or matched mux/demux loss
- Optical monitor ports
- OADM function
- Without 10-skip-0 filter
- Rack mount or LGX enclosure

### Applications:

- Metro and long-haul mux/demux
- OADM nodes
- Subsystem building block

### Example Performance:



## 10 Channel Mux/Demux; 100GHz Channels

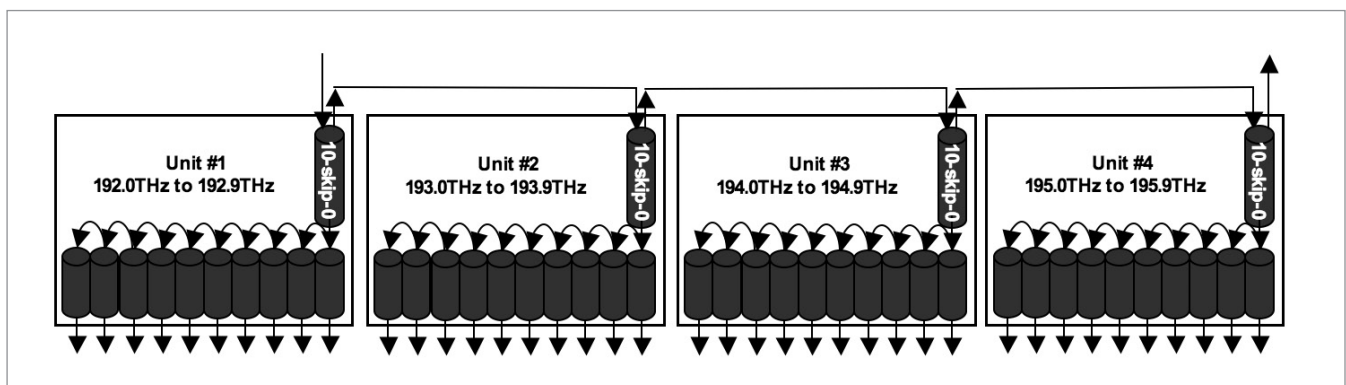
Specifications (valid over operating temperature)

Parameter	Region	Measure from => to	Specification	Unit
Channel Number			10	
Channel Spacing			100	GHz
Band Plan Option	20		192.0 to 192.9	THz
	30		193.0 to 193.9	
	40		194.0 to 194.9	
	50		195.0 to 195.9	
Passband Region			ITU ± 13.75	GHz
Insertion Loss <sup>[1]</sup>	Passband	Common => Ports 1-10	4.0	Max   dB
	Passbands	Common => Express	0.9	Max   dB
IL Variation	Passband	Common => Ports 1-10	0.5	Max   dB
Channel to Channel Variation	Passbands	Common => Ports 1-10	1.0	Max   dB
Isolation	Adj Ch	Common => Ports 1-10	25	Min   dB
	Non-Adj Ch	Common => Ports 1-10	40	Min   dB
	Add/Drop	Common => Express	13	Min   dB
Return Loss			45	Min   dB
Polarization Dependant Loss			0.25	Max   dB
Polarization Mode Dispersion			0.15	Max   dB
Power Handling			300	Min   mW
Operating Temperature			-5 to 70	°C
Storage Temperature			-40 to 85	°C
Fiber Length			1.0 ± 0.1	m
Dimensions			120x80x14	mm
Fiber Type			900µm tight buffer	
Connector Type			options available	

[1] Losses include connectors.

### Typical Application

Cascade of four 10 channel modules for 40 channel coverage.  
 Modules can be added in any order of cascade



## 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.

### Ordering Information:

10ch Mux/Demux part numbers: M\_1C10\_\_290

M=Mux Channel  
D=Demux Plan

<i>Band (THz)</i>	<i>Channel Plan</i>
192.0 to 192.9	20
193.0 to 193.9	30
194.0 to 194.9	40
195.0 to 195.9	50

Part numbers may change depending on optional configurations chosen including connectors, packaging, pigtails, tap ports and final optical function.

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