

## 4 Band (10-skip-0) Optical Add/Drop Multiplexer for 40 Channel systems


Bookham offers a high performance banded optical add/drop multiplexer (OADM) for 40 channel systems enabling 100GHz channel add/drop functionality with four 10-skip-0 bands. These band filters use Bookham proprietary Advanced Energetic Deposition (AED) thin film technology for superior performance.

With band demux and mux ports connected, this 4 band module provides low and constant loss across each band. Channel add/drop function can be added at any time by substituting the appropriate jumper with 10 channel mux and demux modules.

The Bookham 4 band solutions offers the superior combination of fully passive operation, low loss, compact size, and wide pass bands. Bookham's thin film technology provides a flat-topped pass band design that allows for less stringent control of the laser wavelength over the system lifetime.

Available in rack-mount, LGX, and stand-alone module packaging, the 4 band OADM solution allows the flexibility to add individual channel demux/mux modules as needed while keeping the loss for other bands constant.

### Features:

- Passive operation
- 10-skip-0 100GHz band structure (based on 27.5GHz wide channels)
- Flexible upgrade path to 40 channel add/drop function using 10ch mux-demux modules
- Low express loss (< 3.1 dB)
- Flat pass band design
- High adjacent channel isolation
- -5 to 70°C operating temperature
- Compact Size (single LGX)
- Telcordia GR-1221 Qualified
- RoHS compliant 

### Options:

- Rack mount packaging (1-RU shelf unit )
- Stand-alone packaging (120x80x8mm)
- Optical monitor ports

### Applications:

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



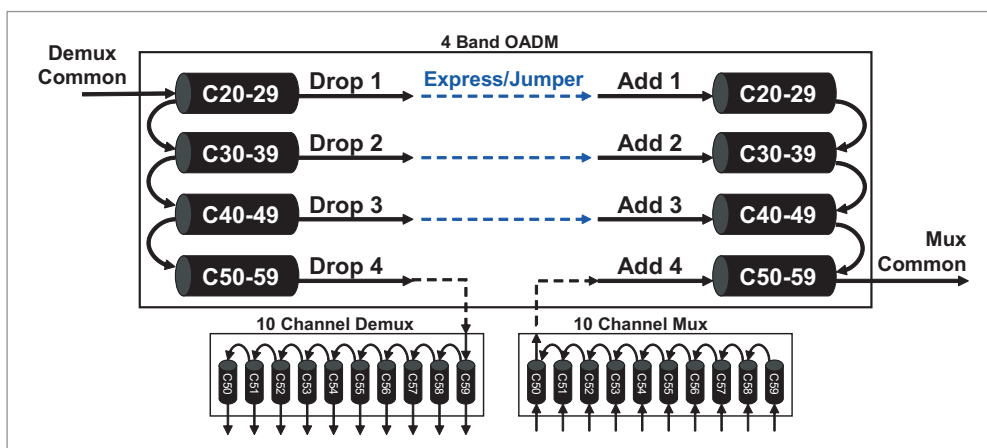
| Parameter                                   | Region   | Measure from => to   | Specification                        | Unit |    |
|---|----------|----------------------|--------------------------------------|------|----|
| Number of bands                             |          |                      | 4                                    |      |    |
| Band Spacing                                |          |                      | 1000                                 | GHz  |    |
| Center Frequencies (fc)                     |          |                      | 192.45<br>193.45<br>194.45<br>195.45 | THz  |    |
| Passband                                    |          |                      | $fc \pm 463.75$                      | GHz  |    |
| Adjacent Band Region                        |          |                      | $> fc \pm 536.25$                    | GHz  |    |
| Insertion Loss <sup>[1], [2]</sup>          | Passband | Common <=> A/D 1-4   | 2.3                                  | Max  | dB |
|   |          | Demux Com => Mux Com | 3.1                                  |      |    |
| Insertion Loss Variation <sup>[2]</sup>     | Passband | Common <=> A/D 1-4   | 0.5                                  | Max  | dB |
|   |          | Demux Com => Mux Com | 0.9                                  |      |    |
| Channel to Channel Variation <sup>[2]</sup> |          |                      | 1.0                                  | Max  | dB |
| Isolation                                   | Adj Ch   | Common <=> A/D 1-4   | 15                                   | Min  | dB |
| Return Loss                                 |          | All Ports            | 45                                   | Min  | dB |
| Directivity                                 |          | Add 1-4 to Add 1-4   | 55                                   | Min  | dB |
| Power Handling Capability                   |          |                      | 500                                  | Min  | mW |
| Operating Temperature                       |          |                      | -5 to 70                             | °C   |    |
| Storage Temperature                         |          |                      | -40 to 85                            | °C   |    |
| Dimensions                                  |          |                      | LGX-single                           |      |    |
| Fiber Type                                  |          |                      | SMF-28e                              |      |    |
| Connector Type                              |          |                      | LC/UPC                               |      |    |

<sup>[1]</sup> Losses include connectors.

<sup>[2]</sup> Measurements from Demux Common to Mux common are made by connecting the Drop ports to the Add ports.

## Functional Diagram

Example of 4 band OADM application at 10 channel add/drop node in 40 channel system



## 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:

4 Band OADM part number:  
**MXWL 0401 0315**

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

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