

Isomet Interleaver

Isomet has extensive experience working with a wide variety of birefringent materials, and we have developed a new low-cost 100-GHz (one 100 GHz channel stream in, two 200 GHz channel streams out) interleaver based on this technology. The current third-generation device maintains the excellent performance of our prior device (second-generation Isomet Demultiplexer) but with reduced cost and complexity. We are in the process of looking for a partner to assist us with both Telcordia testing and marketing of our interleaver. The features of our latest design are:

- Passive temperature compensation
- Low cost: pricing in quantities of 100 and 1000 is \$1,600 and \$900 each, respectively
- Simplicity: the current design achieves high performance and low loss with a minimum number of birefringent crystals. The mechanical design is simplified through the use of TeO₂ polarization rotators.
- Two patents have been filed to protect the design.

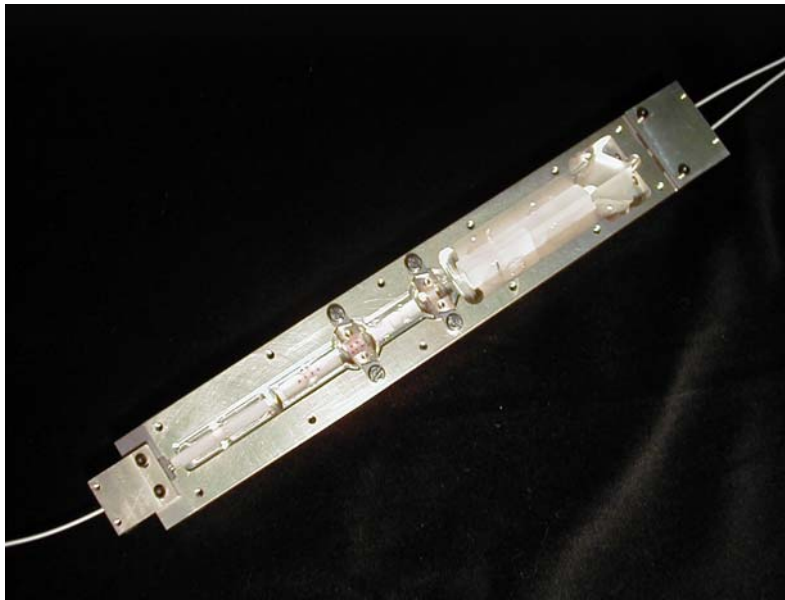
Specifications for the 100 GHz interleaver are shown below:

Wavelength range	C or L band
Center wavelength	100 GHz ITU grid
Center wavelength accuracy	±0.005 nm
Channel spacing	200 GHz (1.6 nm)
Channel passband (-0.5 dB bandwidth)	0.55 nm min
Insertion loss	0.5 dB max
Uniformity	0.5 dB max
Ripple	0.1 dB max
Adjacent ch. isolation	25 dB min
Non-adjacent ch. isolation	40 dB min
Return loss	50 dB min
PDL	0.05 dB max
PMD	TBD
Thermal wavelength drift	0.0005 nm/°C max
Temperature control	Passive
Operating temperature	0 to 70°C
Storage temperature	-40 to 85°C
Fiber type	900 μm buffered fiber
Package dimension	150(l) x 25(w) x 15(h) mm ³

We have the manufacturing capability (crystal growth, fabrication, dicing, anti-reflection coating, optical testing) required to produce interleavers in high volume. As an example of our ability to manufacture birefringent crystals in high volume,

we have supplied >1200 polished, anti-reflection wafers (typically 0.1% per surface at 1550 nm) per month to outside customers.

For further information and data on our thermal-compensation technology and the operating principle behind our interleavers, please request the second-generation Isomet Demultiplexer white paper from our sales department (sales@isomet.com).



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