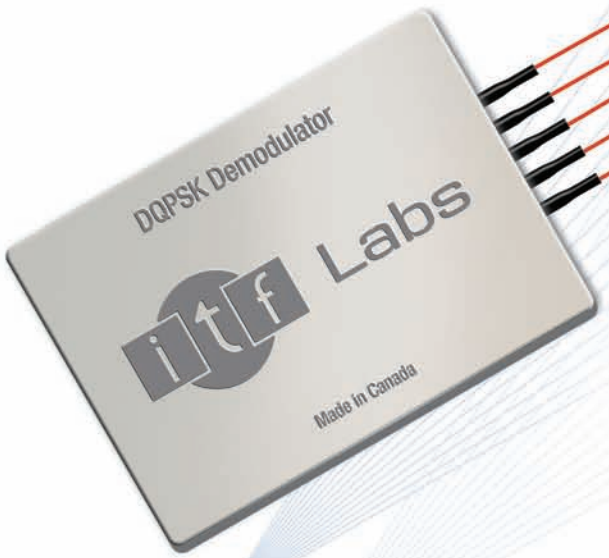
itf Labs

PHASE DEMODULATOR

DQPSK Demodulator

ITF Labs' DQPSK Demodulator is comprised of two packaged and qualified All-Fiber delay line interferometers, constructed from two continuous lengths of Corning SMF28 fiber fused to form wavelength-insensitive 3dB couplers. This results in unparalleled insertion loss, fringe contrast, port imbalance and polarization-dependency performance. Phase tuning is achieved using heaters directly deposited on the optical fiber of each interferometer, providing minimal power consumption and fast rise times.

This device is offered in a compact, stable and reliable package. Internally the DPSK has successfully completed qualification testing to Telcordia's GR-1221-CORE central office requirement and is also fully compliant with RoHS requirements. Field data indicates a reliability rate of less than 350 FIT at a 60% confidence level. Free from resonance below 2 kHz, the device can operate in the presence of ambient vibration. Connectorization is available as an option, with matched pigtail length down to 0.5ps accuracy.



For more information on this or other products and their availability, please contact our customer service at **514.748.4848** (Int'l) / **1.888.922.1044** (Canada & USA only) or via e-mail at info@itflabs.com

KEY FEATURES

- **10, 20, 30, 40 GHz and Custom Rates**
- **Near Zero PDL and PMD**
- **Tunable**
- **Work in C & L Bands**
- **Very Low PDF**
- **Low Excess Loss & High Isolation**

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SPECIFICATIONS

PARAMETERS (1)	STANDARD CONFIGURATIONS			
Free Spectral Range	10 GHz	20 GHz	30 GHz	40 GHz
Isolation	25 dB			
PDF (2)	0.22 GHz	0.45 GHz	0.50 GHz	0.55 GHz
Operating Wavelength	1530 - 1610 nm			
Peak Insertion Loss (3)	3.6 dB			
Differential Delay between Pigtails (4)	0.5 ps			
Heater Resistance	375 Ω			
Tuning Rise Time (5)	100 - 300 ms			
Tuning Fall Time (5)	100 - 320 ms			
Operating Case Temperature	0 - 65° C			
Reliability (6)	< 350 FIT			

(1) All specs are worst case over band and ports.
(2) Δf between polarization eigenstates – more details available upon request.
(3) Includes wideband 3dB splitter to each delay line.
(4) Delay difference between ports 1 & 2, 3 & 4.
(5) τ such that $\Delta \varphi \alpha 1\text{-}e^{-t/\tau}$.
(6) Random fit rate on DPSK. Qualified Telcordia's GR-1221-CORE central office (except for the 2.5 GHz unit).

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ORDERING INFORMATION

ITF Labs can also develop custom multimode power combiners to meet a wide range of technical requirements.

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