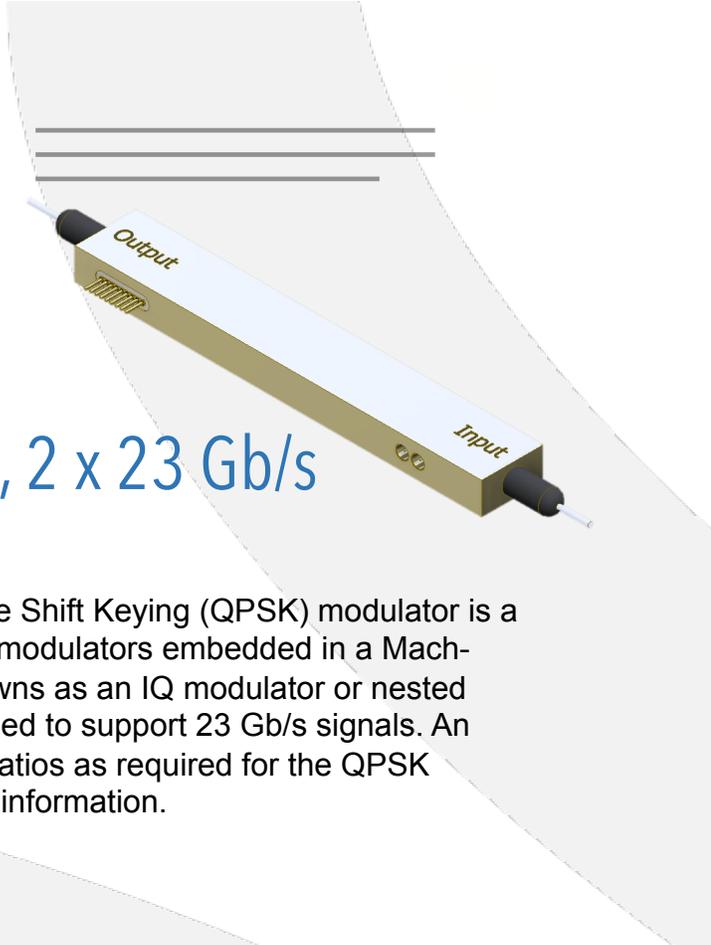


QPSK-OM-23



DEVICE

QPSK Optical Modulator, 2 x 23 Gb/s

OVERVIEW

The Optilab QPSK-OM-23 Quadrature Phase Shift Keying (QPSK) modulator is a dual parallel structure of two Mach-Zehnder modulators embedded in a Mach-Zehnder super-structure. It is also often known as an IQ modulator or nested modulator. Each internal modulator is designed to support 23 Gb/s signals. An integrated polarizer enables high extinction ratios as required for the QPSK modulation format. Contact Optilab for more information.

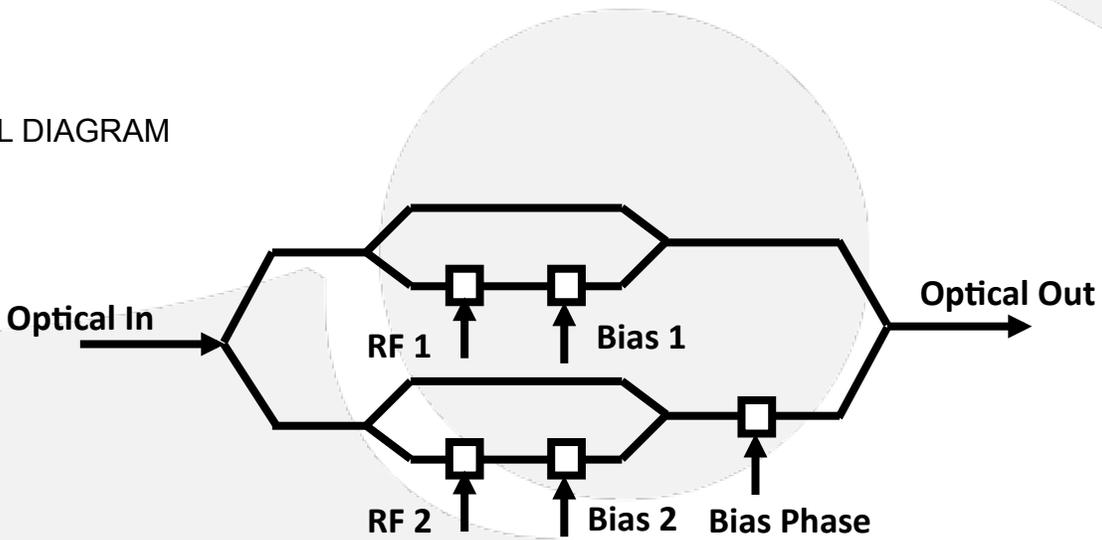
FEATURES

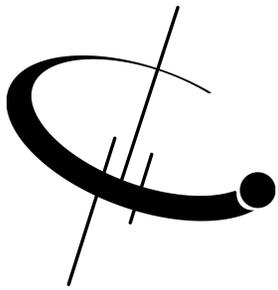
- 23 GHz Functional Bandwidth
- 40 Gb/s Data Rate
- Dual MZI parallel with two RF input
- Extinction Ratio > 25 dB

USE IN

- QPSK / DQPSK Transmission
- SSB Suppressed Carrier Mod.
- QAM / OFDM
- Free Space Communication
- Research and Development
- Coherent Transmission / Sensing

FUNCTIONAL DIAGRAM





QPSK-OM-23

SPECIFICATIONS

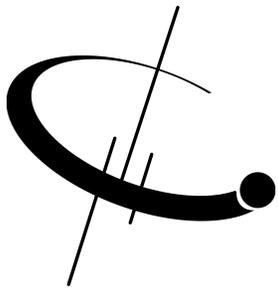
GENERAL

Input Optical Power	40 mW max.
Operating Wavelength	1525 to 1610 nm
Insertion Loss	≤ 7.5 dB
Extinction Ratio	≥ 25 dB
Optical Return Loss	≤ -45 dB
S21 Bandwidth	≥ 20 GHz
S11 Return Loss (RF Port)	≤ -10 dB @ 20 GHz
V_{π} @ 20 Gb/s	≤ 3.5 V
RF Input Power	22 dBm max.
V_{π} (Bias Port)	≤ 4.0 V @ 1 kHz
Impedance (Bias Port)	> 1 M Ω
PD Responsivity	0.01 ~ 0.4 A/W

MECHANICAL

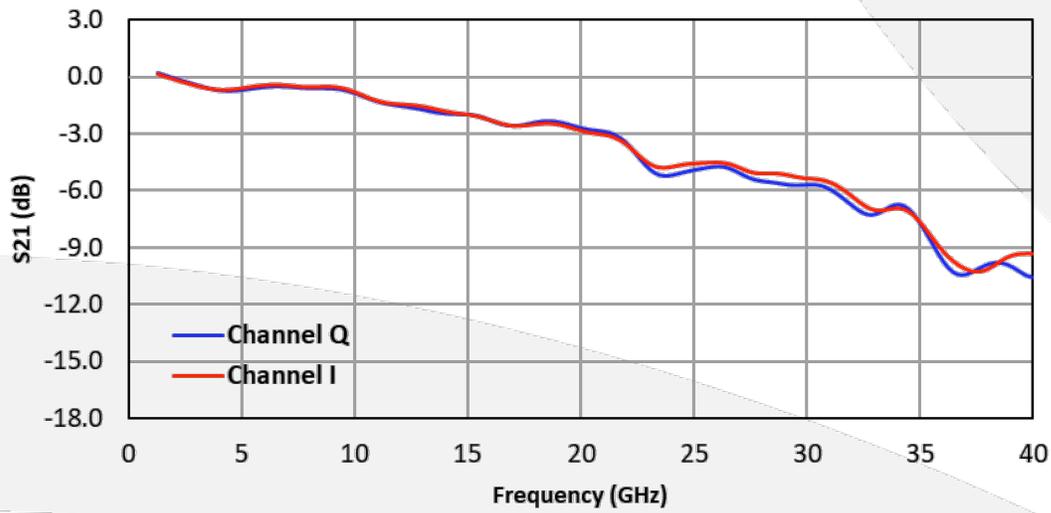
Operating Temperature (standard)	-10 °C to +70 °C
Storage Temperature	-30 °C to +80 °C
Operating Humidity	0% to 90% Relative Humidity
Input/Output Fiber Type	PANDA, PM 1550, 400 μ m coating
Input/Output Connector	PM FC/APC
RF Port connectors	GPPO Connector
Cabling	900 μ m loose tube
Dimensions	90mm x 7mm x 13.5 mm



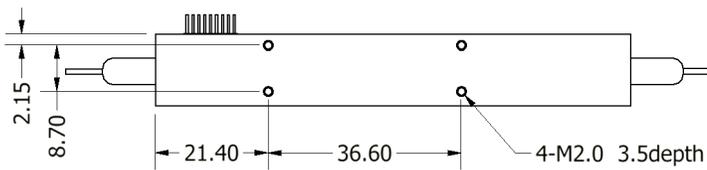
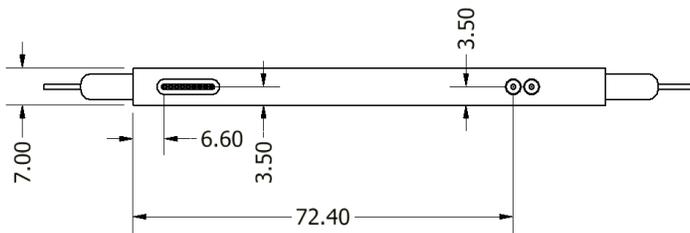
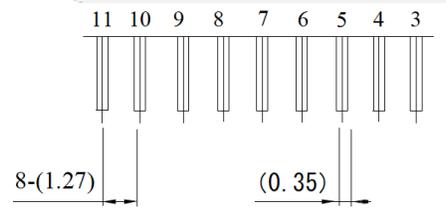
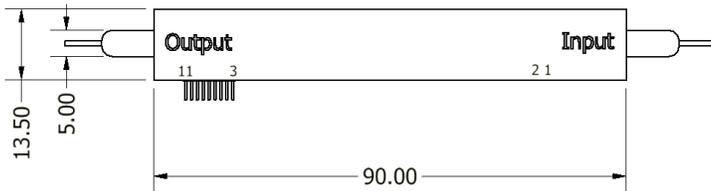


QPSK-OM-23

TYPICAL S21 CHARACTERISTICS



MECHANICAL DRAWING



Pin #	Description	Pin #	Description
1	RF1, GPPO	7	BIAS, PHASE +
2	RF2, GPPO	8	BIAS, PHASE -
3	Bias, MZI 2	9	GND
4	NC	10	PD CATHODE
5	BIAS, MZI 1	11	PD ANODE
6	NC		

