

0802 Electro-Optic Bias-Free Modulator

IM-BF1001



Compact Bias-Free, Single Polarization Intensity Modulator, 3 GHz Bandwidth

The 3 GHz bias-free intensity modulator is housed in a compact package. The bias point of the Mach Zehnder Interferometer (MZI) is set to operate at the half-intensity point (quadrature). Due to this unique design, a complicated bias control circuit is not required. The modulator provides superior signal quality over a wide range of wavelength in the C and L-bands. This modulator can be used to modulate unpolarized light source such as: tunable lasers and ASE sources. These devices have a bandwidth of >3 GHz that can be used for both analog modulation, optical pulse generation, and digital data modulation. This device is built with proton exchange waveguide, so it contains a built in polarizer.

FEATURES

- Bias-free Operation for Fast Transmitter Development and Manufacturing
- Built-in 20 dB Variable Optical Attenuator
- Single Package for Less Splicing, Lower Overall Insertion Loss and More Usable Board Space
- 1535 nm to 1565 nm Operation, L-band Versions Available
- Low Drive Voltage, Compatible with Commercial Drivers
- Low Chirp for max. Transmission Distance (1000 km min.)
- Voltage-controlled Lithium Niobate Attenuator Provides Proven High Reliability

USE IN

- Medium and Long-haul DWDM Transmission Requiring Dynamic Optical Power Leveling
- Transmitters with Limited Component Space

Order notes to our customers: The default parameters are as follows. For special needs, please contact sales.
1) Connector FC/APC, 900 um, 1 m by default for all devices except for high power devices.
2) Slow axis working, fast axis blocked, connector key is aligned to slow axis by default for PM devices.

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Waveguide Process	Proton Exchange (PE) + Titanium Indiffused (TI)	
Integrated Photodiode	No	
Operating Wavelength Range	1530 nm to 1610 nm	
Insertion Loss	4 dB typ.; 6.5 dB max.	
On/Off Extinction Ratio	27 dB typ.	
Optical Return Loss	45 dB min.	
Drive Voltage V _{pi}	3.2 V typ.	
Electro-optic-bandwidth (-3 dB)	3.0 GHz typ.	
RF Return Loss	RF Port	10 dB min. from 0.03 GHz to 3 GHz
RF Input Power	24 dBm	
RF Impedance	50 Ohm	
Drive Voltage V _{pi}	Bias Port	NA, Bias Free
Input Impedance		NA
Input Fiber	PANDA-900 micron Loose Tube	
Output Fiber	SMF-28-900 micron Loose Tube	
Input Connector	FC/UPC (PM)	
Output Connector	FC/UPC	
RF Connector	Pins (3)	
Bias Connector	NA	
Dimension	42x10x5.5 mm	
Operating Temperature Range	0°C to +70°C	
Storage Temperature Range	-40°C to +80°C	

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