versawave
A DIVISION OF OPTELIAN

50 Gb/s 3.3V Amplitude Modulator

Electro-Optic Mode Converter

The Versawave 50 Gb/s Amplitude Modulator represents a revolutionary method for modulating CW laser light into data-carrying optical pulse trains. By employing proprietary GaAs technology, the Versawave modulator establishes new benchmarks for low drive voltage, ultra-wide bandwidth, and chirp-free operation within a small footprint.

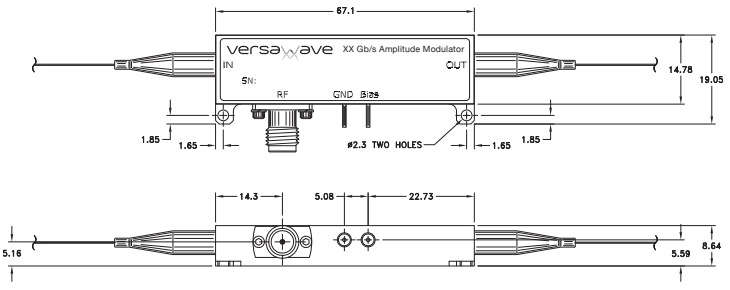
Applications

- Analog and digital
- SONET OC-768 and SDH STM-256 transmissions
- 50 Gb/s transponders
- High-speed Internet routers
- DWDM, high-speed Ethernet and TDM
- High-speed test equipment

Features

- High modulation bandwidth
- Low drive voltage
- Chirp <0.1
- High extinction ratio
- Small footprint
- Optional PIN diode for optical power monitoring and bias control
- Covers C and L Band
- GaAs technology

The innovative and IP protected design of Versawave's modulator exploits the unique material properties of GaAs to provide chirp free modulation. By using a unique polarization mode converter approach, Versawave eliminates many of the intrinsic limitations of designs based on Mach-Zehnder and other electro-absorption architectures. In addition, the Versawave Amplitude Modulator is able to deliver best-in-class performance over the entire Telcordia GR-468 environmental range without the need of a thermo-electric cooler (TEC).



All above dimensions are in mm.

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Specifications

Optical	MIN	Typical	MAX
S21 Electro-Optic Bandwidth	-	50 GHz	-
DC Extinction Ratio	20 dB	-	-
Chirp Parameter	-0.1	-	+0.1
Wavelength Range	1530 nm	-	1610 nm
Optical Return Loss	30 dB	-	-
Insertion Loss (no connectorization)	-	4.0 dB	-

Electrical	MIN	Typical	MAX
PRBS Drive Voltage	-	3.3 V	-
Return Loss (40 MHz - 40 GHz)	-	10 dB	-
Impedance	-	50 Ω	
Bias Voltage (required to operate at quadrature)	-12 V	-	+12 V

Environmental	MIN	MAX
Operating Temperature	0ºC (32ºF)	70ºC (158ºF)
Storage Temperature	-40ºC (-40ºF)	85ºC (185ºF)
ROHS	6/6 Compliant	

Connectors and Fiber Options	
Input Fiber Type	PMF
Output Fiber Type	SMF-28 or PMF
RF Connection	1.85 mm
Bias Connection	Pins
Input / Output Connector	FC/APC or FC/UPC
Input / Output Fiber Length	1 m

Package

Epoxy sealed, hermetic package available upon request. Low outgassing assembly available upon request.

Ordering Information

AB C D E
AM -53 - X - X - X

C Input Optical Connector	FC/APC = A	FC/UPC = U
D Output Optical Connector	FC/APC = A	FC/UPC = U
E Output Fiber	SMF-28 = S	PMF = P

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