

# 40 Gb/s 3.3V Amplitude Modulator

## Electro-Optic Mode Converter

The Versawave 40 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.



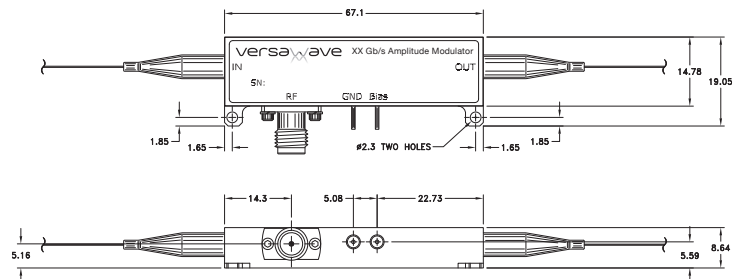
### Applications

- Analog and digital
- SONET OC-768 and SDH STM-256 transmissions
- 40 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.

# 40 Gb/s 3.3V Amplitude Modulator

## Specifications

Optical	MIN	Typical	MAX
S21 Electro-Optic Bandwidth	-	40 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 $\Omega$	-
Bias Voltage (required to operate at quadrature)	-12 V	-	+12 V

Environmental	MIN	MAX
Operating Temperature	0°C (32°F)	70°C (158°F)
Storage Temperature	-40°C (-40°F)	85°C (185°F)
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	-43	-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

NOTES: No license is granted by implication or otherwise under any patent right or any other proprietary right of Versawave Technologies Inc. The information contained in this document, including specifications, is subject to change at any time without notice and without liability.

### OTTAWA

1 Brewer Hunt Way  
Ottawa, Ontario K2K 2B5  
T: +1 613 287 2000  
sales@versawave.com

**versawave**  
A DIVISION OF OPTELIAN

versawave.com