

# PowerLog™ AM-1

## Dual Output Analog Modulator

### Features:

- Ti-Diffused Waveguides
- 1550 nm Window
- Traveling Wave Electrode Design
- Separate Bias Electrode
- Dual Output Port, 180° Phase Difference
- Enables Low CSO on Both Outputs
- Low Drive Voltage
- Low Insertion Loss
- High Efficiency Phase Modulator Electrode

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### Applications:

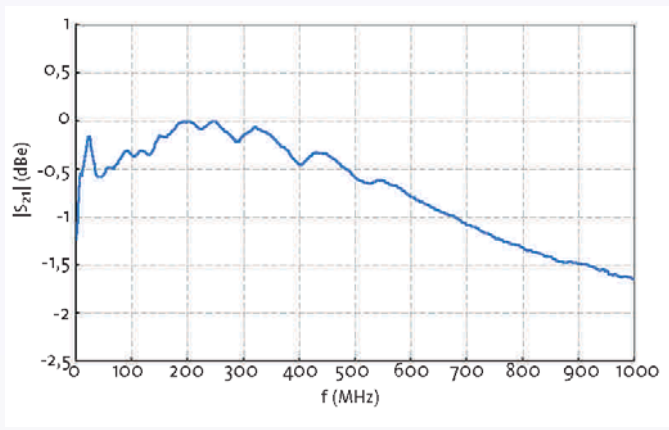
- External Intensity Modulation in Analog Transmission Systems for Cable TV



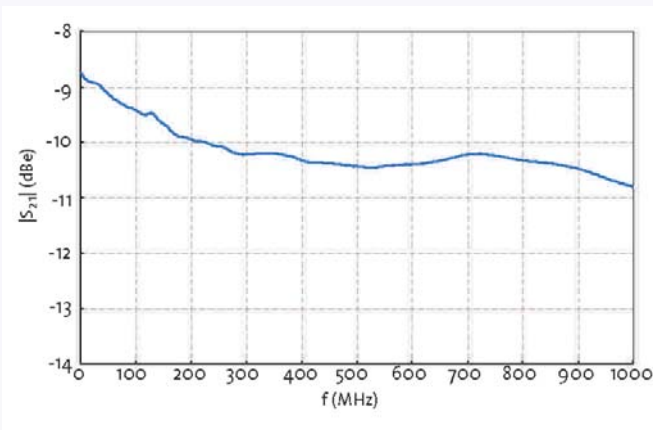
The Oclaro analog modulator is based on a Mach-Zehnder waveguide interferometer and is manufactured using the Titanium indiffusion in x-cut, y-propagating Lithium Niobate substrates. The modulator can be actively controlled by electronics to provide high levels of CSO and CTB suppression, as needed for CATV application.

### Performance Characteristics

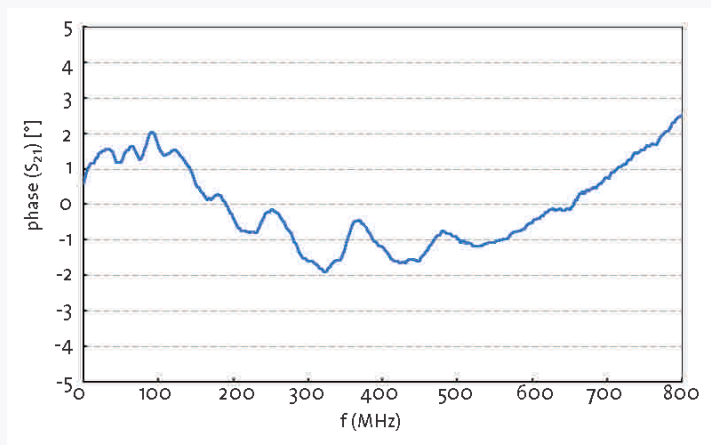
**Electro Optical Response**



**Electrical Return Loss**



**RF Phase Distortion**



### Absolute Maximum Ratings

Parameters	Conditions	Min	Max	Unit
Maximum RF Input Power			25	dBm
Maximum Phase Input Power			35	dBm
Maximum Optical Input Power	CW		100	mW
Maximum Operating Temperature Variation Rate			1	°C/min
Storage Temperature Range		-20	+85	°C
Operating Temperature Range		0	+70	°C

## Specifications

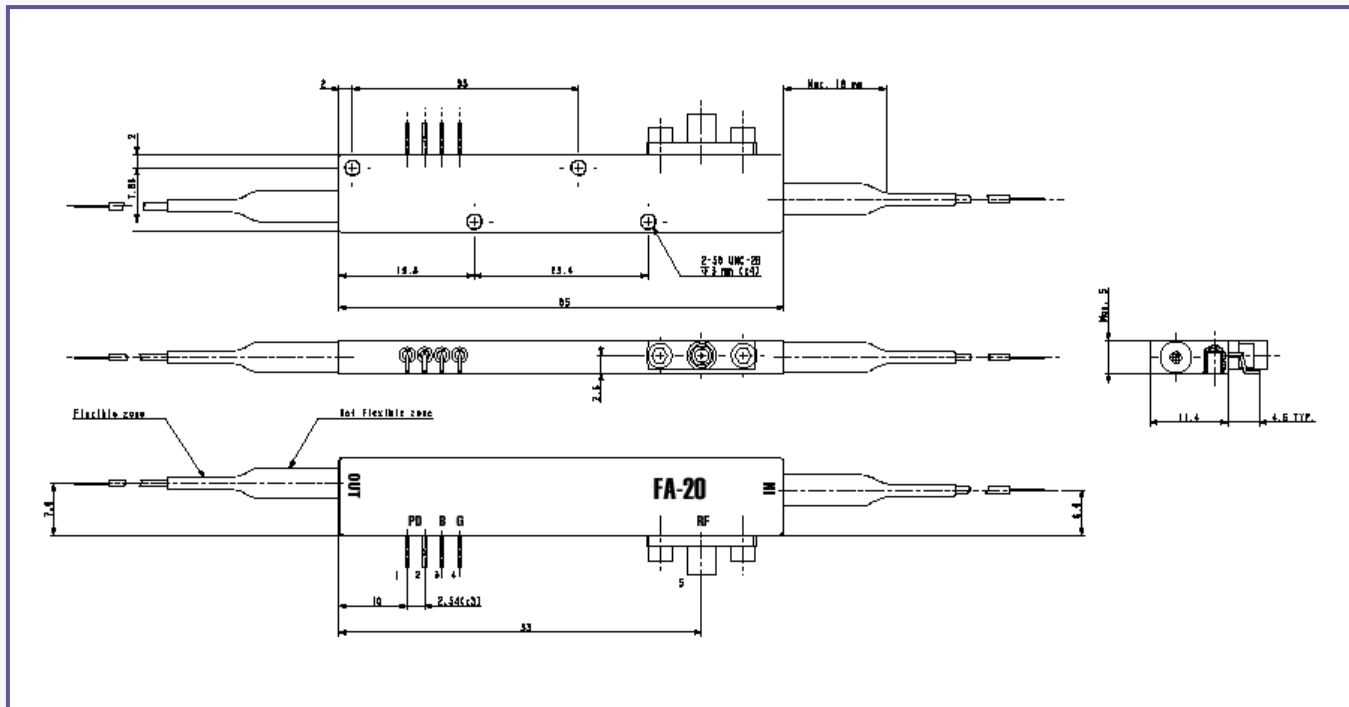
Parameters		Units
<b>Optical</b>		
Operating Wavelength Range	1540 – 1560	nm
Insertion Loss	$\leq 5$	dB
Insertion Loss Imbalance	$\leq 0.5$	dB
Extinction Ratio	$\geq 20$	dB
Optical Return Loss (without connectors)	$\geq 55$	dB
<b>Electrical</b>		
E/O Bandwidth Roll-Off (from 50 MHz to 200 MHz)	$\leq 0.8$	dB
E/O Bandwidth Roll-Off (from 200 MHz - 1 GHz)	$\leq 2$	dB
RF Power	$\geq 12.7$	dBm
Bias $V_{\square}$ Voltage (@ 1 kHz)	8.5	V
Phase $V_{\square}$ Voltage (@ 1 kHz)	$\leq 6.0$	V
Return Loss (Electrical)	-10	dB
RF Connector Impedance	25	$\Omega$
Bias Connector Impedance	$\geq 1000$	$\Omega$
Phase Connector Impedance	50	$\Omega$
Modulated Phase Difference Between Outputs	$\pm 0.5$	deg

## Pin-Out and Fiber Specifications

RF Connector	SMA
Bias Connector	SMA
Phase Connector	SMA
Input Fiber	Corning/Fujikura SM15P UV/UV400 (Panda fiber)
Output Fibers	Corning SMF-28™ <sup>1</sup>

Note 1. Other output fibers available on request.

### Package Footprint



Dimensions are in mm.

### Pin Out

Pin #		Description
1	PD	Photodiode Cathode
2	PD	Photodiode Anode
3	B	Bias
4	G	Ground
5	RF	RF Input (GPO Male)

## Ordering Information

Part Number
AM01-0-01S-PS-yyzz-00

yy, zz	Input and Output Connectors	NC = No Connectors
		FP = FC/SPC Connectors

## Contact Information

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## Important Notice

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