

AM-20 and AM-40

20/40 GHz Intensity Modulators for Analog Applications

Features:

- Titanium In-Diffused Waveguides
- X-cut LiNbO₃
- Low Drive Voltage Compatible with Commercially Available Drivers
- Low Optical Insertion Loss
- Operating up to 60 GHz
- Smooth Frequency Response up to > 60 GHz
- Integrated Photodiode
- Integrated Polarizer

Applications:

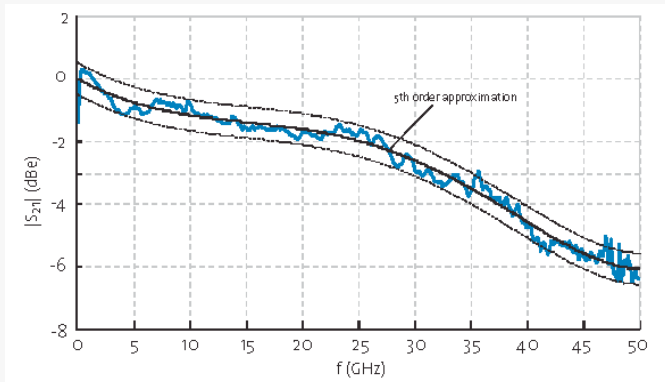
- Antenna Remoting
- High Frequency Fiber Optic Links
- Analog Microwave over Fiber (RoF)
- Delay Lines Telemetry Systems
- Instrumentation (Optical Network Analyzers)



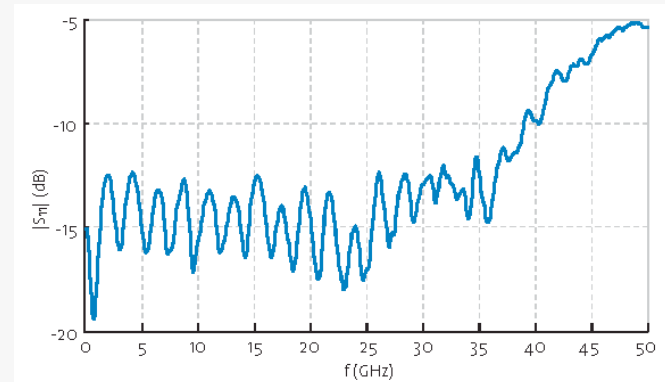
Oclaro broadband analog intensity modulators combine high linearity with low driving voltage and small footprint, covering all the frequency range from 20 to beyond 40 GHz (AM20: 20 – 30 GHz; AM40: > 30 GHz). The increasing demand to shift the transmission frequency in microwave fiber optic links towards higher frequency finds in Oclaro analog modulators the most advanced and suitable answer. The experience and know-how of Oclaro engineers is available to customize our products to the customer's specific requirements.

Performance Characteristics

Electro Optical Response (40 GHz Example)



Electrical Return Loss (40 GHz Example)



Absolute Maximum Ratings

| Parameters | Conditions | Min | Max | Unit |
|--|------------|-----|-----|--------|
| Maximum Input Power (Electrical) | RF Port | | 25 | dBm |
| Maximum Input Power (Optical) | | | 100 | mW |
| Maximum Operating Temperature Variation Rate | CW | | 1 | °C/min |
| Storage Temperature Range | | -40 | +85 | °C |
| Operating Temperature Range | | 0 | +70 | °C |

Specifications

| Parameters | Typical value | Units |
|--|-----------------------|-------|
| Optical | | |
| Operating Wavelength Range | 1525 – 1615 | Nm |
| Insertion Loss | < 4.5 | dB |
| Optical Return Loss (without connectors) | ≥ 45 | dB |
| Extinction Ratio | > 20 | dB |
| Electrical | | |
| S ₂₁ Electro Optic Bandwidth (-3 dBe) | AM20: > 20/ AM40:> 30 | GHz |
| S ₁₁ Electrical Return Loss | < -10 | dB |
| RF V _π Voltage (@ 1 kHz) | 5 | V |
| Bias V _π Voltage (@ 1 kHz) | 5.5 | V |
| Photodiode Responsivity | 10 ⁻³ | mAW |
| Linearity | ± 10% | |

- Where not specified, parameters are measured at 25 °C.

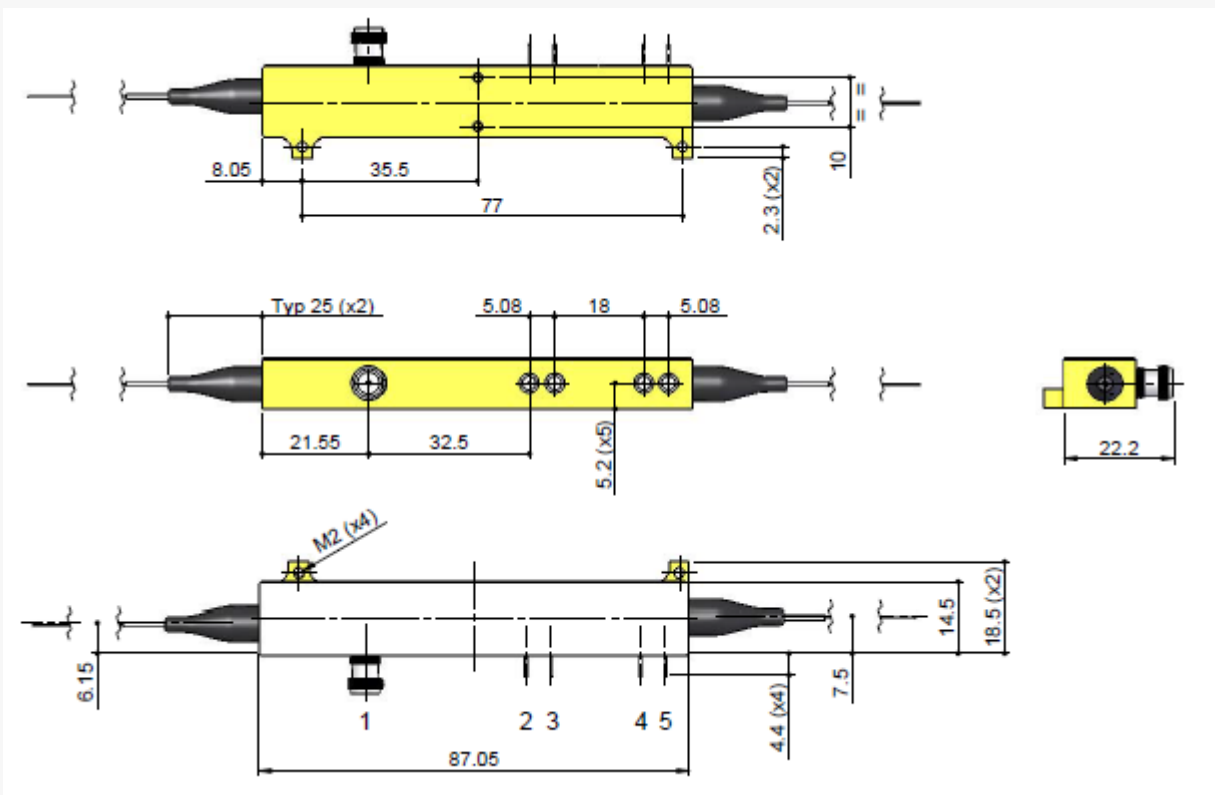
Pin-Out and Fiber Specifications

| | |
|----------------|--|
| RF Connector | V-Connector |
| Bias Connector | LEAD Pins |
| Input Fiber | Corning/Fujikura SM 15 PUV/UV250 (Panda Fiber) |
| Output Fiber | Corning/Fujikura SM 15 PUV/UV250 (Panda Fiber) |

Note 1. V-Connector is a registered trademark of Anritsu Corporation.

Package Footprint

AM20 (AM40 is equivalent)



- Dimensions are in mm
- Detailed drawing on request

| Pin # | Description |
|-------|--------------------|
| A | RF INPUT |
| B | GROUND |
| C | BIAS |
| D | PHOTODIODE CATHODE |
| E | PHOTODIODE ANODE |



Ordering Information

| Product | Part Number |
|---------|-------------|
| AM20 | 79210511-A |
| AM40 | 79210512-A |

Contact Information

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