MT250-Ax-xx – MT250-B100Ax-xx

Product Overview

These free space modulators operate at 250 MHz with a possible RF bandwidth of +/- 50 MHz (on request). They are provided at various wavelength range as from 450 up to 1100 nm. The intended application can be fast intensity modulation, pulse picking as well as frequency shifting, fixed and variable.

FEATURES

- Fast rise time/Access time
- Linear polarization
- High diffraction efficiency

SPECIFICATIONS (T=25°C)

PARAMETER	RATING	UNIT
Material-Acoustic mode-Velocity	TeO2-L - 4200	m/s
Carrier Frequency / Frequency shift	+/-250	MHz
Transmission	≥95, nom 98	%
Input / Output Polarization	Linear/Linear	
Rise/fall time (T_r)	160	ns/mm
Static Extinction Ratio	>33	dB
Input impedance	50	Ω
V.S.W.R.	< 1.2:1	
Connector	SMA female	
Size	47 x 41.6 x 19.3	mm^3
Weight	Nom 50	g
Packaging	IN PRO 002 or IN PRO 003	
Operating Temperature (non condensing)	+10 to +40	°C
Storage Temperature (non condensing)	-40 to +65	°C
RoHS Compliance	Yes	

Versions with 0.5 mm Aperture

	MT250-A0,5-VIS	MT250-A0,5-800	MT250-A0,5-1064
Wavelength	450-700 nm	700-950 nm	980-1100 nm
Tramsmission	>95%	>95%	>95%
Active aperture	0.5x1 mm^2	0.5x1 mm^2	0.5x1 mm^2
Minimum rise time	30 ns (∅ 0.2 mm)	30 ns (∅ 0.2 mm)	30 ns (∅ 0.2 mm)
Separation angle (0-1)	>26.8 mrd	>41.6 mrd	>58.3 mrd
Diffraction efficiency*	>85 %	>85 %	>70 %
Maximum RF power	1.6 W	2.2 W	2.2 W
Maximum Laser power density	1W/mm^2 @ 488 nm 5 W/mm^2 @633nm	10 W/mm^2	10 W/mm^2
On request : Variable frequency	250+/-50 MHz MT250-B100A0.5-VIS *Efficiency typ >65 %	250+/-50 MHz MT250-B100A0.5-800 *Efficiency typ >55 %	200+/-50 MHz MT250-B100A0.5-1064 *Efficiency typ >30 %

**Diffraction efficiency is wavelength and beam diameter dependent*

AA OPTO-ELECTRONIC
18, rue Nicolas Appert
91898 ORSAY FRANCE

Tel: +33 (0)1 76 91 50 12
Fax: +33 (0)1 76 91 50 31
www.aaoptoelectronic.com

MT250-Ax-xx – MT250-B100Ax-xx

Versions with 0.2 mm Aperture

	MT250-A0,2-VIS	MT250-A0,2-800	MT250-A0,2-1064
Wavelength	450-700 nm	700-950 nm	980-1100 nm
Tramsmission	>95%	>95%	>95%
Active aperture	0.2x1 mm²	0.2x1 mm²	0.2x1 mm²
Minimum rise time	8 ns (∅ 0.05 mm)	8 ns (∅ 0.05 mm)	8 ns (∅ 0.05 mm)
Separation angle (0-1)	>26.8 mrd	>41.6 mrd	>58.3 mrd
Diffraction efficiency*	>85 %	>85 %	>75 %
Maximum RF power	1.6 W	2.2 W	2.2 W
Maximum Laser power density	1W/mm² @ 488 nm 5 W/mm² @633nm	10 W/mm²	10 W/mm²
On request : Variable frequency	250+/-50 MHz MT250-B100A0.2-VIS *Efficiency typ >65 %	250+/-50 MHz MT250-B100A0.2-800 *Efficiency typ >60 %	200+/-50 MHz MT250-B100A0.2-1064 *Efficiency typ >50 %

**Diffraction efficiency is wavelength and beam diameter dependent*

Versions with 0.12 mm Aperture

	MT250-A0,12-800	MT250-A0,12-1030.1064
Wavelength	700-950 nm	1030-1064 nm
Tramsmission	>95%	>95%
Active aperture	0.12x1 mm²	0.12x1 mm²
Minimum rise time	6 ns (∅ 0.04 mm)	6 ns (∅ 0.04 mm)
Separation angle (0-1)	>41.6 mrd	>58.3 mrd
Diffraction efficiency*	>85 %	>80%
Maximum RF power	1.8 W	1.8 W
Maximum Laser power density	10 W/mm²	10 W/mm²

**Diffraction efficiency is wavelength and beam diameter dependent*

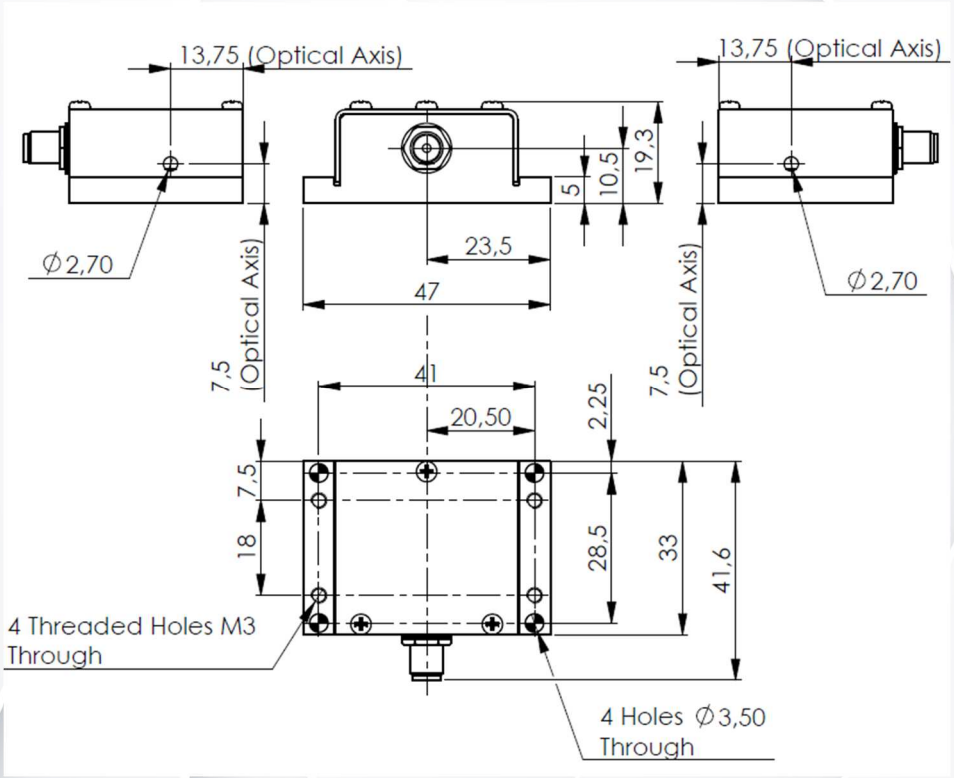
$$T_r = 0.66\frac{\phi}{V} \quad * \quad F_{-3dB} = \frac{0.48}{T_r} \quad * \quad \Delta\theta = \frac{\lambda F}{V} \quad * \quad \frac{P_1}{P_2} = \frac{\lambda_1}{\lambda_2}$$

AA OPTO-ELECTRONIC
18, rue Nicolas Appert
91898 ORSAY FRANCE

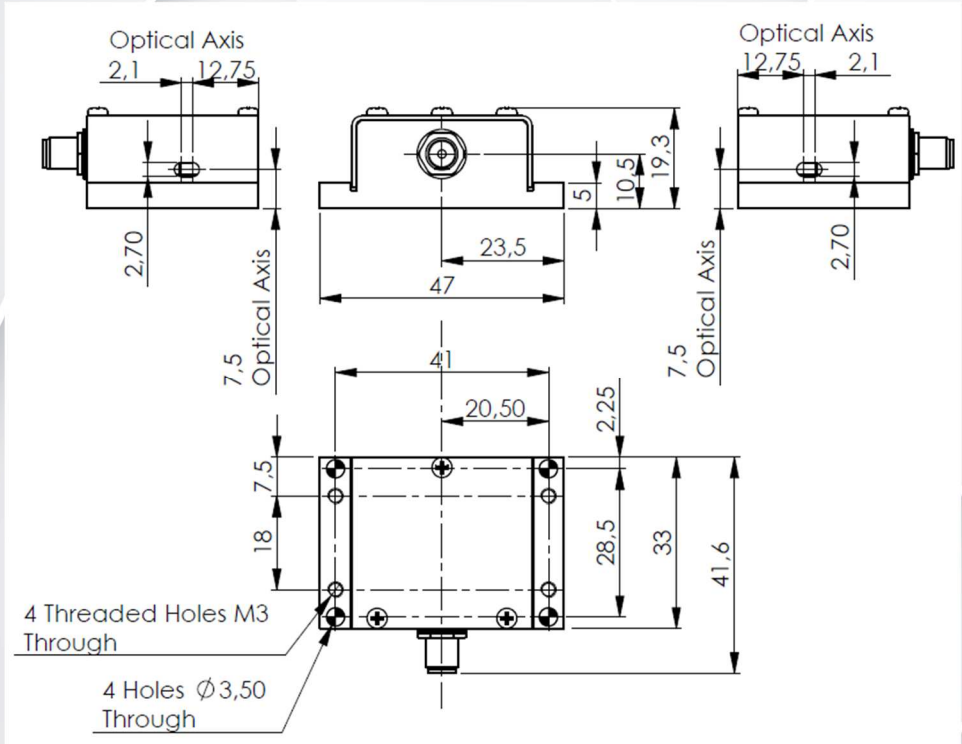
Tel: +33 (0)1 76 91 50 12
Fax: +33 (0)1 76 91 50 31
www.aaoptoelectronic.com

MT250-Ax-xx – MT250-B100Ax-xx

OUTLINE DRAWING IN PRO 002, mm



OUTLINE DRAWING IN PRO 003, mm



AA OPTO-ELECTRONIC
18, rue Nicolas Appert
91898 ORSAY FRANCE

Tel: +33 (0)1 76 91 50 12
Fax: +33 (0)1 76 91 50 31
www.aaoptoelectronic.com