MT110-B50A1.5-IR-Hk

AO MODULATOR/SHIFTER

Product Overview

This modulator has been specially designed for an operation with Ti:Sa laser in the range of 690-1064 nm. In combination with the AA MPDS driver, it offers a constant diffraction efficiency and output angle for the whole wavelength range.

Common application can be Stimulated Emission Depletion (STED) microscopy, multiphoton imaging system and many others.

Features

- Broad wavelength range: 690-1064 nm
- Constant output diffracted angle
- Constant diffraction efficiency

	Units	Min	Nom	Max
Material-Acoustic mode-Velocity			*TeO2 [L] – 4200 m/s*	
Optical Wavelength range (AR coated) (λ)	nm	*690*		*1064*
Carrier Frequency / Frequency shift	MHz		*+/- (85-135)*	
Transmission	%	*95*		
Input / Output Polarization			*Linear / Linear*	
Active Aperture	mm²		*1.5 x 2*	
Beam diameter ($1/e^2$)(ϕ)	mm	*0.8*		*1.2*
Rise/fall time (T_r)	ns	*128*		*192*
Analog Amplitude Modulation Bandwidth (-3dB) (F_{-3dB})	MHz			*7.8*
Separation Angle (0-1)	mrd		*23*	
Static Extinction Ratio	dB	*33*		
* Diffraction Efficiency (η)	%	*80*	*90*	
Optical power density	W/mm²	*10*		
Input impedance	Ω		*50*	
V.S.W.R.			*< 1.2:1*	
RF Power (P)	W			*2.2*
Connector			*SMA female*	
Size	mm³		*60.1 x 28.7 x 26.5*	
Weight	g		*50*	
Packaging			*IN PRO 046*	
Temperature Stabilization			*Passive Heatsink*	
Operating Temperature (non condensing)	℃	*+10*	*+25*	*+40*
Storage Temperature (non condensing)	℃	*-20*		*+50*
RoHS Compliance			*Yes*	

**Diffraction efficiency is beam diameter dependent.*

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

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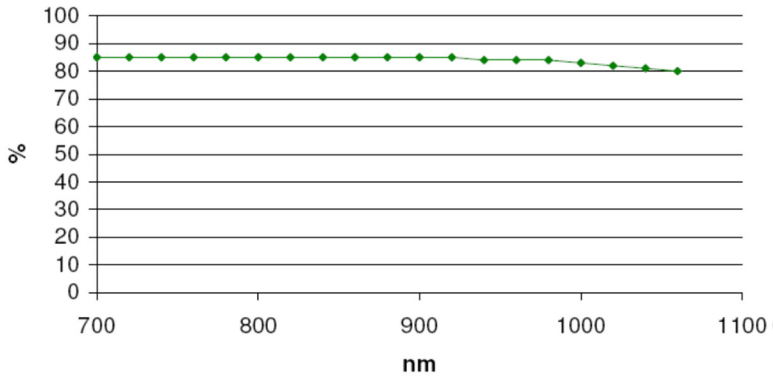
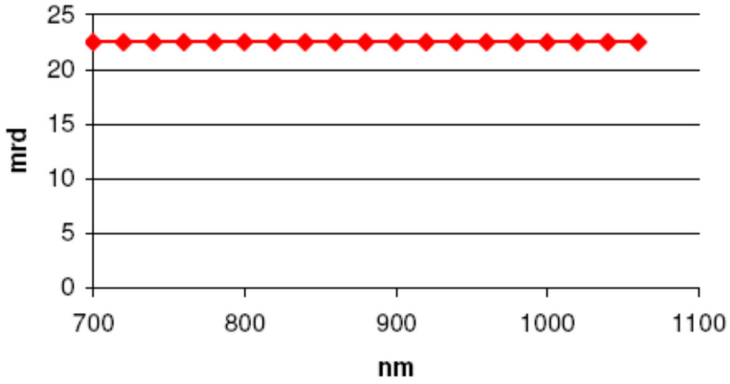
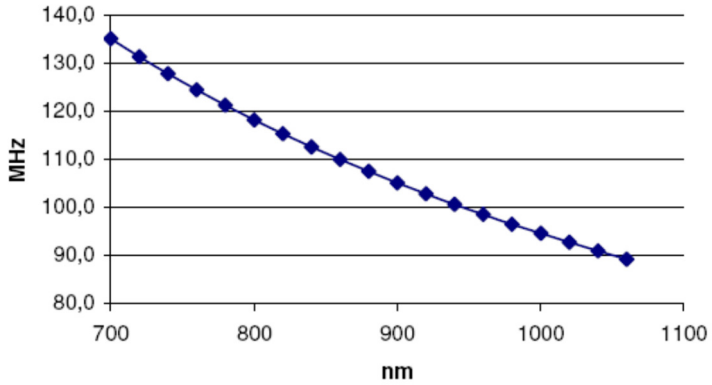
Efficiency versus wavelength without input angle readjustment



Output Angle versus wavelength



Frequency tracking versus wavelength



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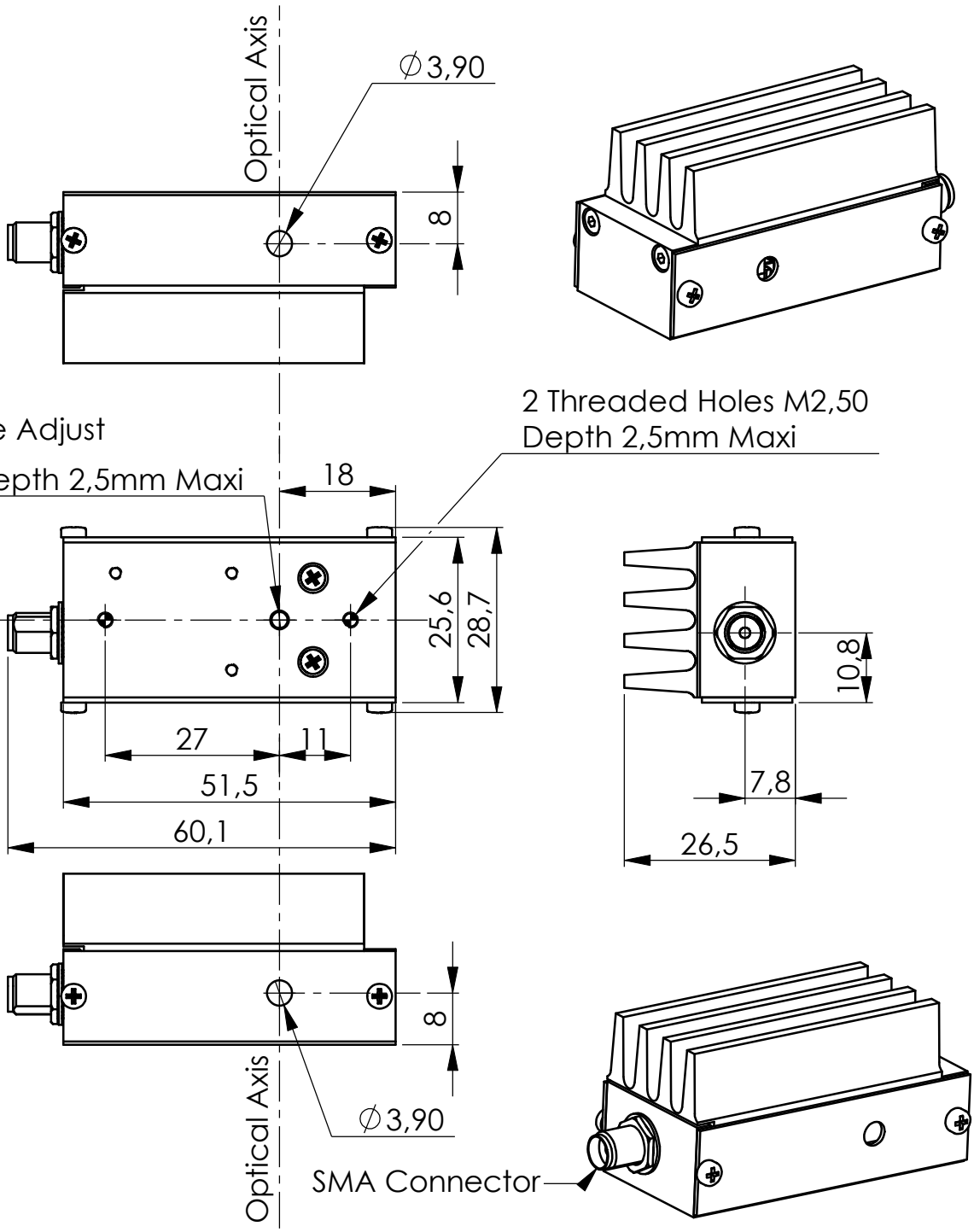

Indice Index	Date	Auteur Author	Modifications
C	10/01/07	E.D	Mise en page
B	20/04/06	A.A	Modification cotes : 6,5 -> 7mm 44,5 -> 45mm
A	11/10/04	O.G	Plan initial / Initial Drawing

Conception Design	E.D	PLAN D'INTERFACE / OUTLINE DRAWING	OPTO-ELECTRONIC
Vérification Checking	L.F		
Tolérance Tolerance	ISO 2768mK	Référence / Reference	A.A. SA OPTO-ELECTRONIQUE DIVISION 18, rue Nicolas Appert F-91898 ORSAY tel : 08 11 09 76 76 fax : 01 76 91 50 31
Echelle Scale	1:1	IN-PRO-046	
Format A4			Folio / Sheet 1/1 — Indice / Index C