

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

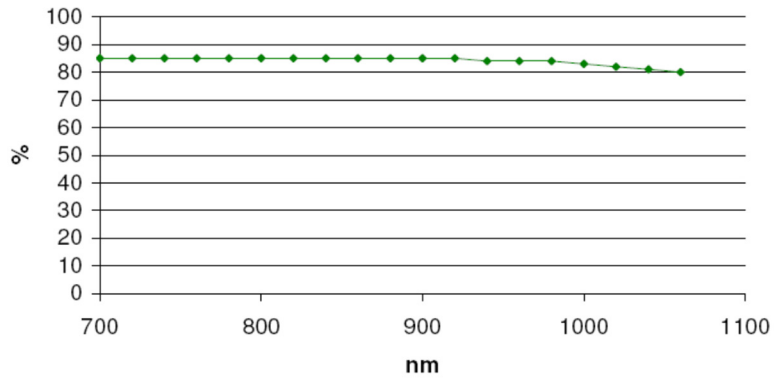
- Broad wavelength range: 690-1064 nm
- Constant output diffracted angle
- Constant diffraction efficiency

	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	mm ²	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/mm ²	10		
Input impedance	Ω		50	
V.S.W.R.			< 1.2:1	
RF Power (P)	W			2.2
Connector		SMA female		
Size	mm ³	60.1 x 28.7 x 26.5		
Weight	g		50	
Packaging		IN PRO 046		
Temperature Stabilization		Passive Heatsink		
Operating Temperature (non condensing)	°C	+10	+25	+40
Storage Temperature (non condensing)	°C	-40		+65
RoHS Compliance		Yes		

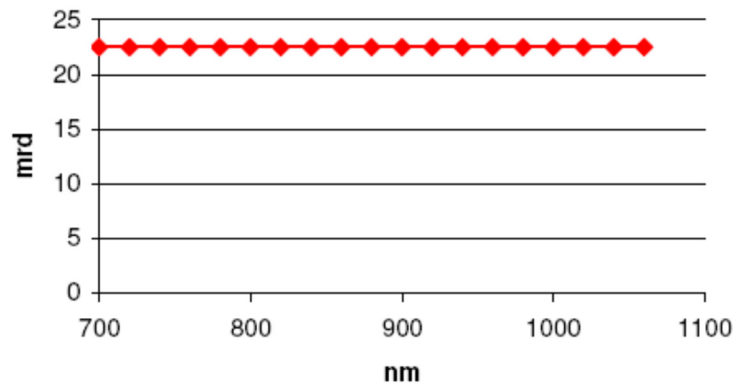
*Diffraction efficiency is beam diameter dependent.

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

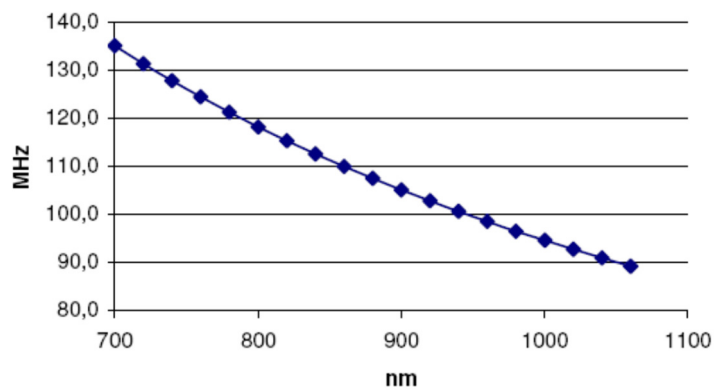
Efficiency versus wavelength without input angle readjustment



Output Angle versus wavelength



Frequency tracking versus wavelength



1

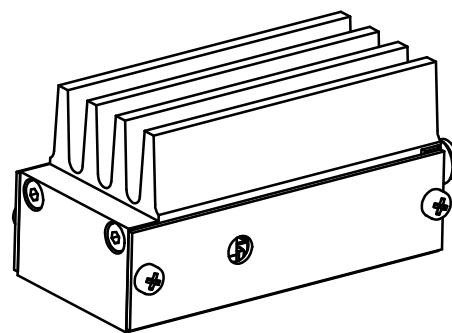
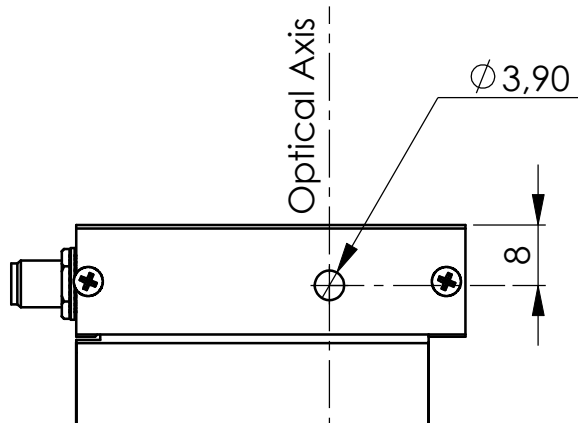
2

3

4

A

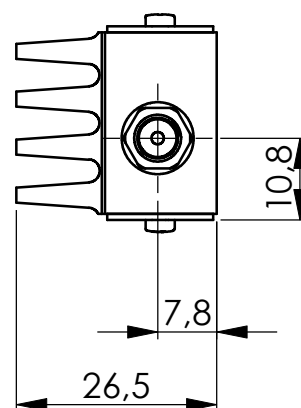
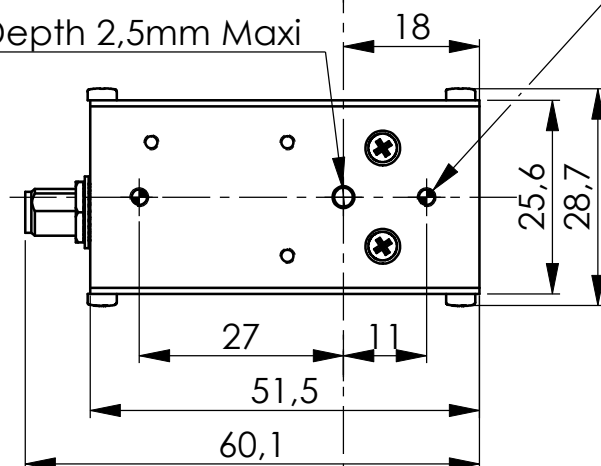
A



B

B

Bragg Angle Adjust

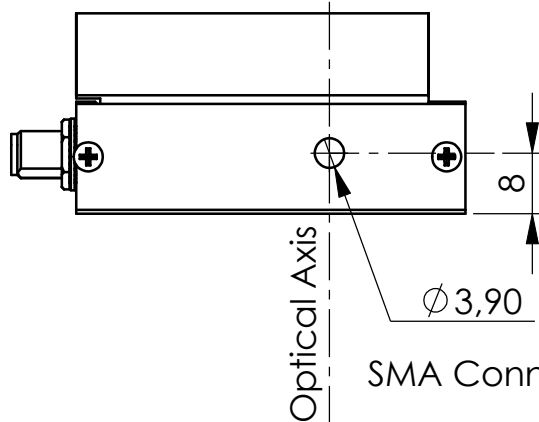
 $\varnothing 2,5^{+0,05}$ Depth 2,5mm Maxi
2 Threaded Holes M2,50
Depth 2,5mm Maxi

C

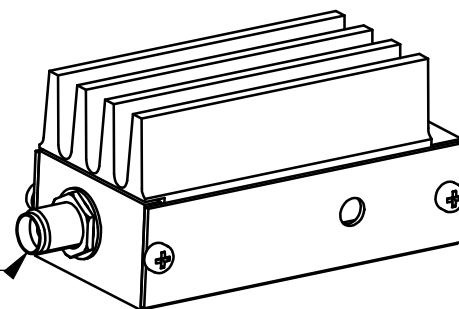
C

D

D




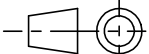
SMA Connector



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

Indice Index	Date	Auteur Author	Modifications
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Conception Design	E.D	PLAN D'INTERFACE / OUTLINE DRAWING Référence / Reference IN-PRO-046	 OPTO-ELECTRONIC 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
Vérification Checking	L.F		
Tolérance Tolerance	ISO 2768mK		
Echelle Scale	1:1		

	Format A4	<small>Ce document est la propriété de A.A.SA. Il est strictement interdit de reproduire ce document ou une partie sans l'autorisation de A.A.SA. This document is the property of A.A.SA. It is strictly prohibited to reproduce this document or a part without the authorization of A.A.SA.</small>	Folio / Sheet 1/1	Indice / Index C
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1

2

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F