

DESCRIPTION

These modulators/shifters have been specially designed for large beam diameters without additional optics. Their high efficiency and low drive power will suit most of the low speed **1064 nm** applications.

FEATURES

- Large active aperture
- Linear polarization
- High diffraction efficiency
- Low RF power

APPLICATIONS

- Amplitude modulation
- Frequency shifter @ 110 MHz +/- 2 MHz



Parameter	Unit	Rating	Conditions
Material-Acoustic mode-Velocity		TeO2 - [S] - 650 m/s	
Optical Wavelength range	nm	1030-1080	AR coated
Optical Transmission	%	> 95 Nom 98	
Input / Output Polarization		Linear / Polarization flip	
Aperture	mm ²	3 x 3	Height x Length
Carrier frequency / Frequency shift	MHz	110	
Separation angle	mrd	130	At 1064 nm
Angular Colinearity		Colinearity Input beam / First order	
Diffraction efficiency	%	> 85 Nom 90	with TEM00 beam, M ² ≤ 1.1
Rise / Fall time	µs	1	1 mm beam diameter
Amplitude modulation bandwidth	kHz	480	-3 dB, 1 mm beam diameter
Static Extinction Ratio		> 2000 : 1	
Maximum optical power density	W / mm ²	> 10	CW
Input impedance	Ω	Nom 50	
V.S.W.R.		Nom < 1.2 : 1	
RF Power / Connector	W	1 / SMA	
Size / Weight	mm ³	(LxIxh) 50.9 x 22.4 x 17.3 / 50 g	IN PRO 005
Operating Temperature	°C	+10 to +40	Non condensing

Options / On request			
APERTURE	WAVELENGTH	RF CONNECTOR	HOUSING

HOW TO DETERMINE THE REFERENCE OF YOUR MODEL:

MATERIAL

- **T** TeO2
- **Q** Fused Silica
- **CQ** Quartz

CARRIER FREQUENCY

- **110** 110 MHz

MTS80-A3-1064Ac

WAVELENGTH RANGE

- **1064** 1030 to 1080 nm

APERTURE

- **3** 3 x 3 mm²

Rise Time (T_r) is beam diameter (Φ) sensitive:

$$T_r = 0.66 \frac{\Phi}{V}$$

Amplitude modulation bandwidth (F_{-3dB}) is rise time (T_r) sensitive:

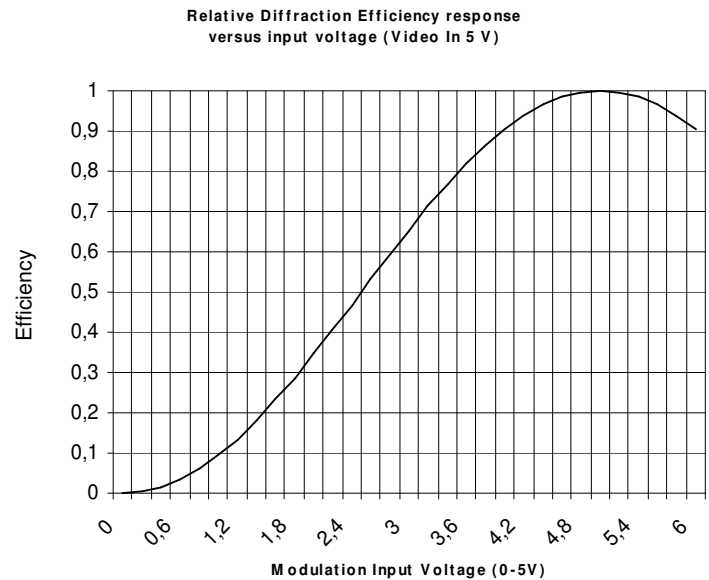
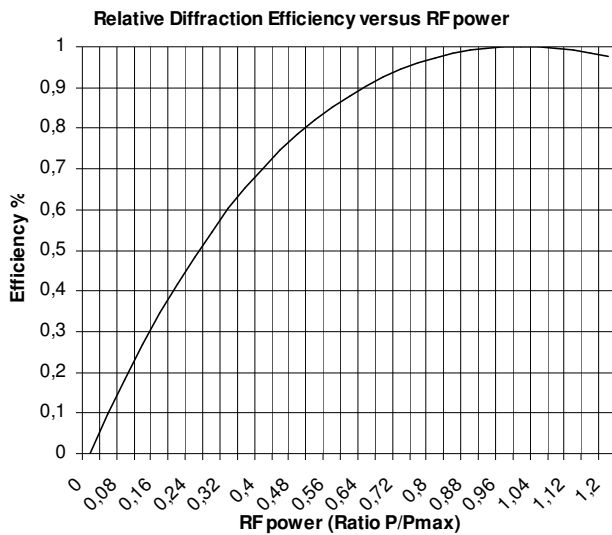
$$F_{-3dB} = \frac{0.48}{T_r}$$

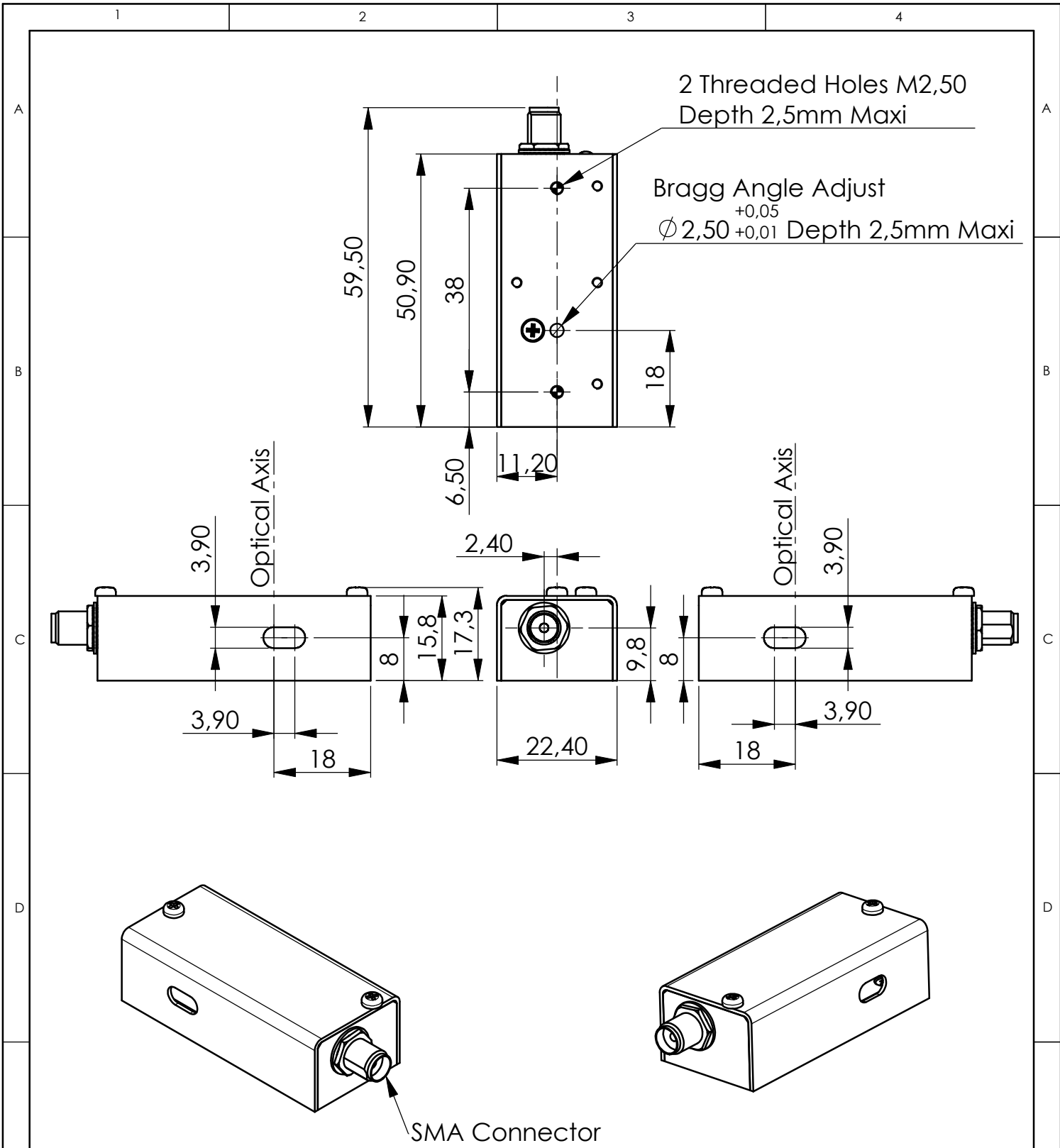
Separation angle ($\Delta\theta$) is wavelength (λ) sensitive:

$$\Delta\theta = \frac{\lambda F}{V}$$

RF power (P) is wavelength (λ) sensitive:

$$\frac{P_1}{P_2} = \frac{\lambda_1^2}{\lambda_2^2}$$





B	18/12/06	E.D	Reprise mise en plan
A	15/10/03	F.C	Plan initial / Initial Drawing
Index	Date	Auteur Author	Modifications
Conception Design	E.D	PLAN D'INTERFACE / OUTLINE DRAWING	
Vérification Checking	L.F		
Tolérance Tolerance	ISO 2768mK	Référence / Reference IN-PRO-005	
Echelle Scale	1:1	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	
Format	A4		
		1/1	B

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.