

MQ80-A0.3-L1030.1064-Z20 / MQ80-A0.7-L1030.1064

AO MODULATOR/SHIFTER/PULSE PICKER

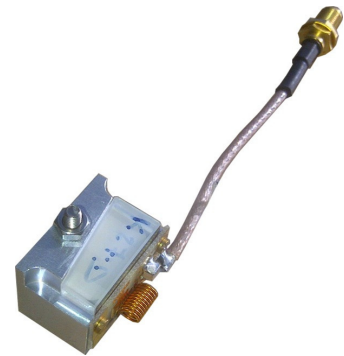


Product Overview

These modulators have been specially designed for applications for which TeO₂ cannot be used. Made of fused silica, they have a very high laser damage threshold. With a low duty cycle, they will be suitable for fast pulse picking applications.

Features

- High laser power.
- Linear polarization.
- High diffraction efficiency with low duty cycle.



Access to your operating manual

TECHNICAL DATA SHEET 2014

Technical Specifications

Parameter	MQ80-A0.3-L1030.1064-Z40	MQ80-A0.7-L1030.1064-Z20
Material-Acoustic mode-Velocity	Fused silica - [L] - 5960 m/s	
Optical Wavelength range	1030 to 1064 nm, AR coated	
Optical Transmission	> 99%	
Input / Output Polarization	Linear perpendicular to baseplate	
Active Aperture	0.3 x 0.3 mm ²	0.7 x 0.7 mm ²
Carrier Frequency / Frequency shift	+/- 80 MHz	
Separation Angle (0-1)	13.8 mrd @ 1030 nm	
Static Extinction Ratio	> 30 dB	
Rise / Fall time	110 ns / mm	
Diffraction Efficiency (TEM ₀₀ , Duty cycle < 10%)	>80 % with beam dia ≥ 0.2 mm >75% with beam dia =0.15 mm	>85% with beam dia ≥ 0.4 mm >80% with beam dia = 0.3 mm
Analog Amplitude modulation bandwidth (-3 dB)	Max 40 MHz	Max 14 MHz
Max optical power density	> 100 W/mm ²	
Input impedance	Nom 50 Ω	
V.S.W.R.	Nom < 1.2/1	
RF Power / Connector	Max 15 Watts / SMA (Duty cycle < 10%)	
Size / Weight	(Lxhx) 23.5 x 15 x 9 mm ³ / 50 g	IN PRO 083
Optical length	20 mm	
Operating Temperature	+10 to +40 Non condensing	
Storage Temperature	-40 to +50 Non condensing	

Options / On request

Housing

IN PRO 185

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:

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

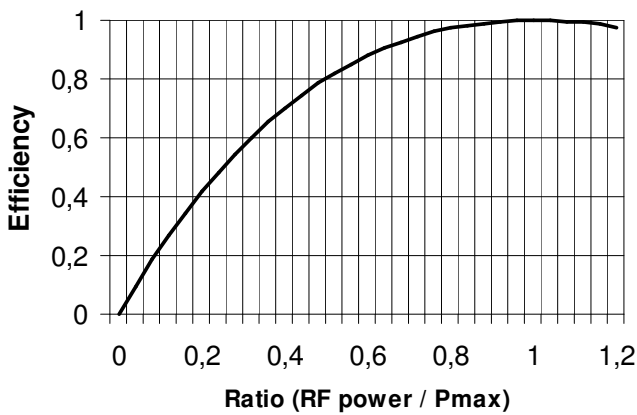
Separation angle ($\Delta\theta$) is wavelength (λ) sensitive:

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

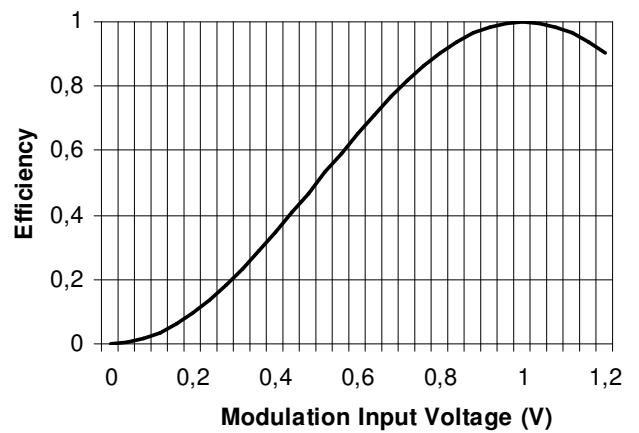
RF power (P) is wavelength (λ) sensitive:

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

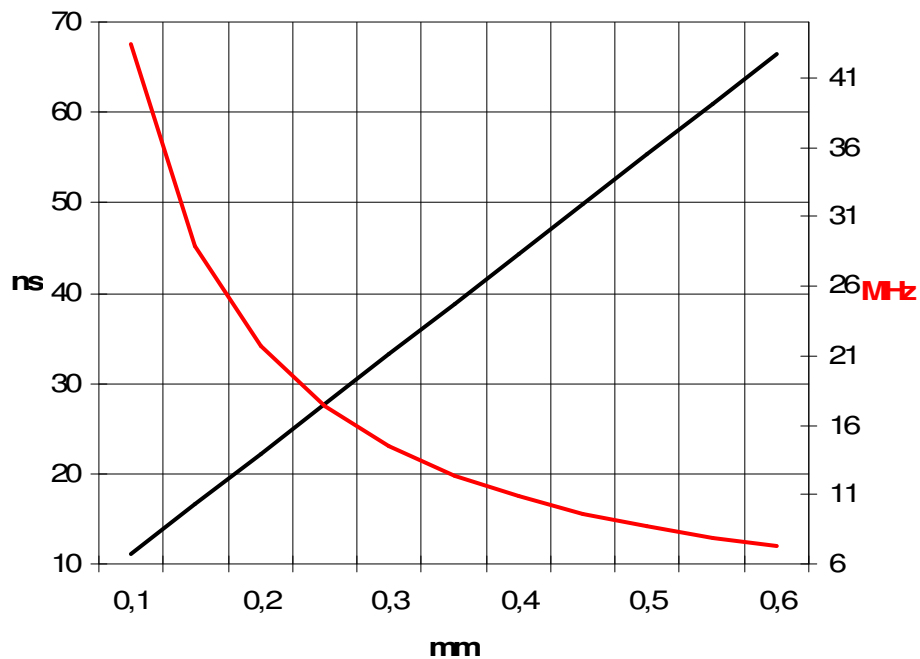
Relative Efficiency versus RF power



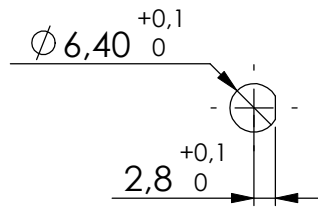
AO relative Efficiency vs driver MOD IN



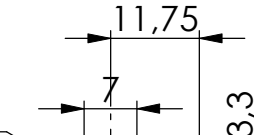
Rise Time (black) / Analog Modulation BW (-3dB) vs Beam diameter



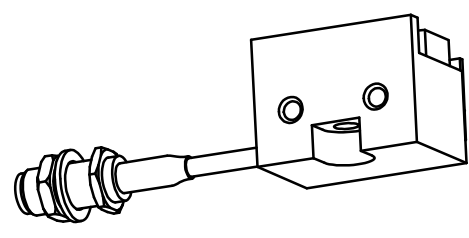
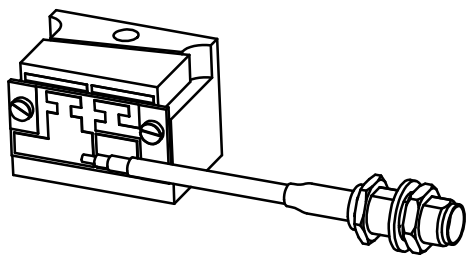
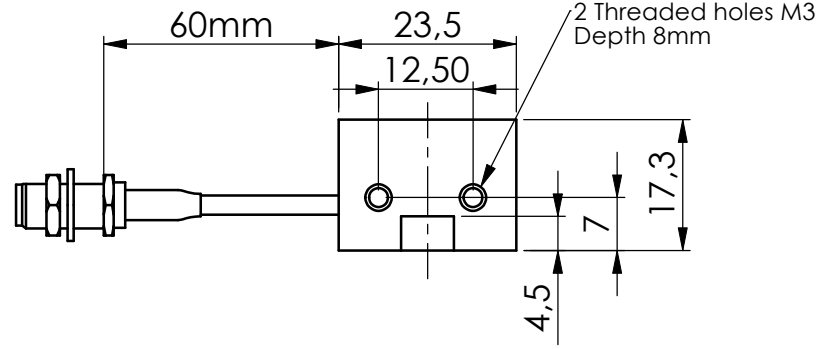
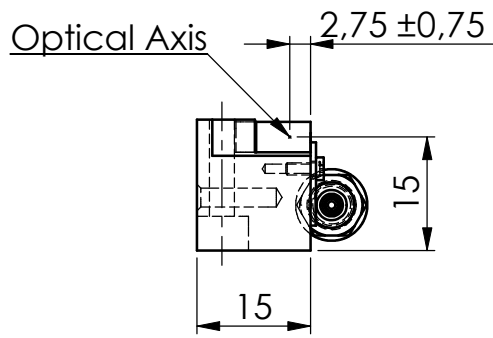
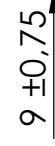
RF Input
SMA Bulkhead Jack
Rear mount
Flexible Cable
Thickness panel 3,2 max


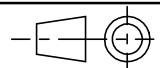


Hole $\phi 3,3$ Through



Optical Axis



C	02/06/08	D.D	Add of 2 holes M3 / Ajout de 2 trous M3
B	14/04/08	E.D	Add of counterbore / Ajout d'un lamage
A	16/04/07	E.D	Plan initial / Initial Drawing
Index	Date	Auteur Author	Modifications
Conception Design	E.D	PLAN D'INTERFACE / OUTLINE DRAWING Référence / Reference IN-PRO-083	
Vérification Checking	L.F		
Tolérance Tolerance	ISO 2768mK		
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	
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