

## AA.MTS.130

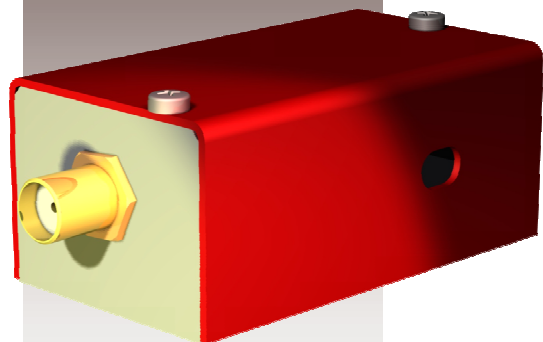
AO modulator / shifter 405 nm

### Features and Description

- Large aperture • Linear Polar • High efficiency

These modulators have been specially designed for large beam diameters without additioning optics. Their high efficiency and low drive power will suit most of the low speed applications. Suitable for 405 nm applications.

They can also be used as fixed frequency shifters around 130 MHz, as well as variable frequency shifters with a frequency range up to +/- 2 MHz.



### Spécifications

|                                                                   |                                                   |
|-------------------------------------------------------------------|---------------------------------------------------|
| Material-Acoustic mode                                            | TeO2 [S]                                          |
| Acoustic Velocity                                                 | Nom V=650 m/s                                     |
| Optical Wavelength range                                          | 400-442 nm                                        |
| Transmission                                                      | > 90 % (nom 95 %)                                 |
| Optical Input / Output polarizations                              | Linear // / Linear ⊥ (1 <sup>st</sup> order)      |
| Aperture                                                          | 3 x 3 mm <sup>2</sup>                             |
| Carrier frequency / Frequency shift                               | In 120-140 MHz                                    |
| Separation angle                                                  | Nom 4.2 degrees @405 nm                           |
| Diffraction efficiency<br>(with TEM00 beam, M <sup>2</sup> ≤ 1.1) | Nom 90 %                                          |
| Rise time                                                         | 1 μs /mm                                          |
| Amplitude modulation bandwidth                                    | > 960 KHz (-3 dB, @500μm)                         |
| Static extinction ratio                                           | > 2000/1                                          |
| Max optical power density                                         | 0.5 W / mm <sup>2</sup>                           |
| Input impedance                                                   | Nom 50 Ω                                          |
| V.S.W.R.                                                          | Nom < 2/1                                         |
| RF Power                                                          | ≤ 0.5 Watt                                        |
| Connector                                                         | SMA                                               |
| Size / Weight                                                     | (Lxlxh) 50.9 x 22.4 x 15.8 mm <sup>3</sup> / 50 g |
| Operating Temperature                                             | 10 to 40 °C                                       |

→ Associated RF driver: AA.MOD.1C

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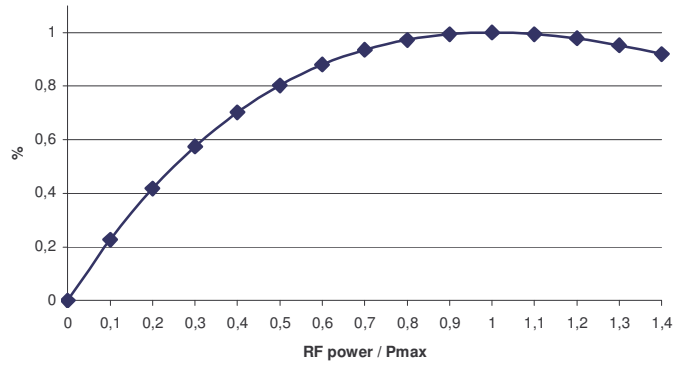
→ Separation angle ( $\Delta\theta$ ) is wavelength ( $\lambda$ ) sensitive:

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

→ RF power (P) is wavelength ( $\lambda$ ) sensitive:

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

Relative Diffraction Efficiency vs RF Power



## AA.MTS.130/Ax/By-zz

X (aperture, mm) = 3

Y = frequency range (MHz) if any

ZZ = LVIS (400-442 nm)

### Outline Drawing (sizes in mm)

