

MT350

Fast AO Modulator/Shifter

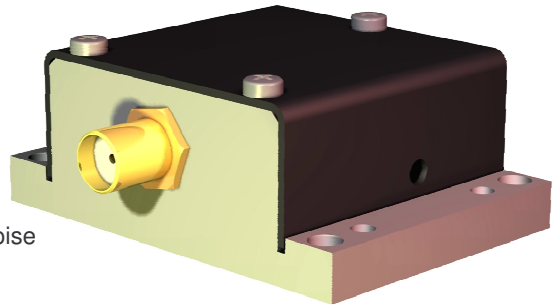
TeO2 modulator for 700-800 nm lasers

- High speed
- Linear or random Polar
- Printing

These modulators have been specially designed for high speed printing and facsimile applications, for which high accuracy, stability, repeatability, high extinction ratio and low noise are the key factors.

They can also be used as fixed frequency shifters @350 MHz, as well as variable frequency shifters with a frequency range up to 350 +/- 50 MHz.

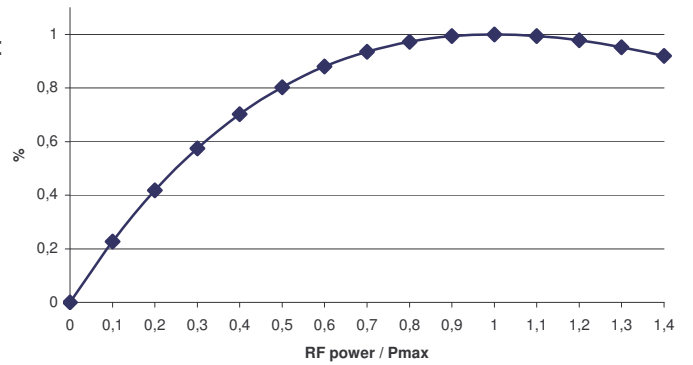
With an adapted frequency range, user will be able to operate this device as a high speed low resolution deflector.



Specifications

Material-Acoustic mode	TeO2 [L]
Acoustic Velocity	V=4200 m/s
Optical Wavelength range	N/R: 700-800 nm
Transmission	> 95 %
Optical Input / Output polarizations	Linear
Aperture	0.12 x 2 mm ²
Carrier frequency / Frequency shift	350 MHz
Separation angle	66.6 mrd @ 800 nm
Diffraction efficiency (with TEM00 beam, M² ≤ 1.1)	80 % @70 μm, 70 % @30 μm (Ellipticity nom 80% @30μm)
Rise time	160 ns/mm (min 5 ns)
Amplitude modulation bandwidth	> 96 MHz (-3 dB, @30μm)
Static extinction ratio	> 2000/1
Max optical power density	VIS : 5 W / mm ²
Input impedance	Nom 50 Ω
V.S.W.R.	Nom < 1.5/1
RF Power	≤ 2 Watts
Connector	SMA
Size / Weight	(Lxhx) 47x 33 x 17.8 mm ³ / 50 g
Operating Temperature	10 to 40 °C

Relative Diffraction Efficiency vs RF Power



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

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

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

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

OPTION

Frequency range 350+/-50MHz
 Nominal efficiency over 350+/-50MHz > 50% (VIS, @800nm)

MT350-Ax-zz

X = 0.12 (aperture, mm)
Y = frequency range (MHz) if any
ZZ = 800 (700-800 nm)

Outline Drawing

sizes in mm

