

MTS40

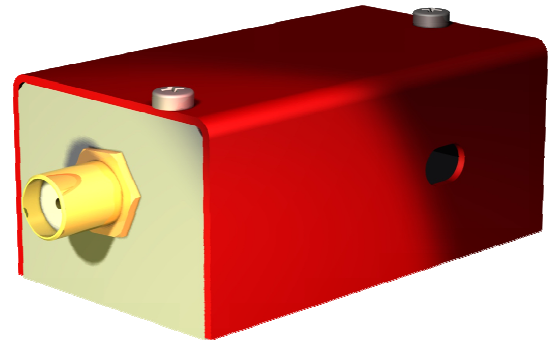
AO Modulator/Shifter

TeO₂-S modulator for 532-700 nm

- Large aperture
- Linear Polar
- High efficiency

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 applications.

They can also be used as fixed frequency shifters @ 40 MHz, as well as variable frequency shifters with a frequency range up to 40 +/- 2 MHz.



Specifications

Material-Acoustic mode	TeO ₂ [S]
Acoustic Velocity	Nom V=650 m/s
Optical Wavelength range	532-700 nm
Transmission	> 95 %, nom 98 %
Optical Input / Output polarizations	Linear / Not specified
Aperture	2 x 2 mm ²
Carrier frequency / Frequency shift	40 MHz
Separation angle	39 mrd @ 633 nm
Diffraction efficiency (with TEM₀₀ beam, M² ≤ 1.1)	> 85 %, nom 90 %
Rise time	1 μs /mm (min 0.3 μs)
Amplitude modulation bandwidth	> 400 KHz (-3 dB, @ 1 mm)
Static extinction ratio	> 2000/1
Max optical power density	5 W / mm ²
Input impedance	Nom 50 Ω
V.S.W.R.	Nom < 1.5/1
RF Power	< 1 Watt, nom 100 mW
Connector	SMA
Size / Weight	(Lxhxh) 50.9 x 22.4 x 15.8 mm ³ / 50 g
Operating Temperature	10 to 40 °C

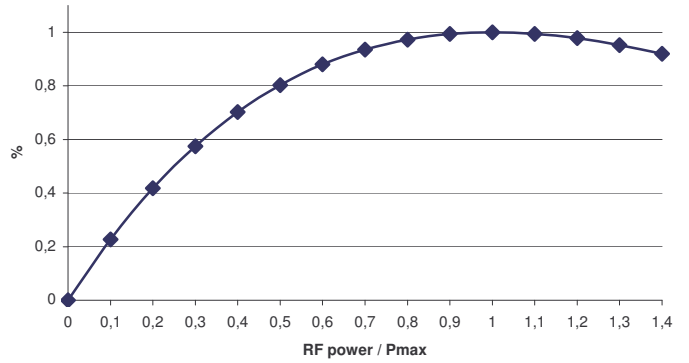
Relative Diffraction Efficiency vs RF Power

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

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

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

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



MTS40-A2-VIS

Outline Drawing

sizes in mm

