

MTS110

AO Modulator/Shifter

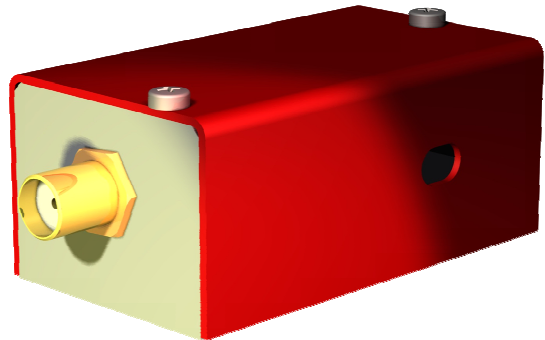
TeO₂-S modulator for 1064 nm lasers

- 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.

Suitable for high power DPSS laser 1064 nm...

They can also be used as fixed frequency shifters @110 MHz, as well as variable frequency shifters with a frequency range up to 110 +/- 2 MHz.



Specifications

Material-Acoustic mode	TeO ₂ [S]
Acoustic Velocity	Nom V=650 m/s
Optical Wavelength range	488-635 nm
Transmission	> 95 %, nom 98 %
Optical Input / Output polarizations	Linear / Not specified
Aperture	3 x 3 mm ²
Carrier frequency / Frequency shift	110 MHz
Separation angle	90 mrd @532 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	(LxH) 50.9 x 22.4 x 15.8 mm ³ / 50 g
Operating Temperature	10 to 40 °C

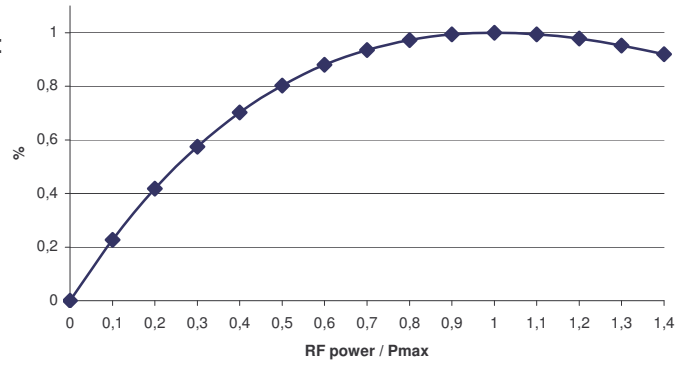
Relative Diffraction Efficiency vs RF Power

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

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

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

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



MTS110-A3-VIS

Outline Drawing

sizes in mm

