

AOTFnC-IR

AO Tunable Filter

AOTFnC-A2.5-700.1100

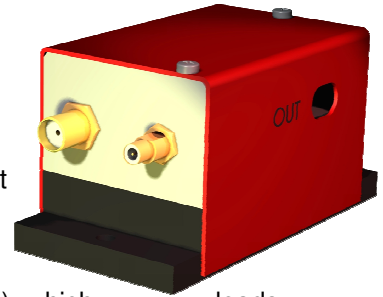
Polychromatic Modulator

• 700 nm • Linear Polarization • Multiline/Laser

This solid-state AOTF is an electronically tunable bandpass filter for IR range. It uses the acousto-optic interaction inside an anisotropic medium (TeO₂-S). It allows (to select and transmit) the selection and transmission of several wavelengths from an incoming laser source.

The main advantage of this technique is the total absence of any moving part(s), which leads to a reliable, stable and fast technique for wavelength tuning. The RF frequency applied (on) to the AOTF transducer controls the transmitted (filtered in 1st order) wavelength. A complete spectrum analysis can be done by varying the frequency corresponding to the wavelength range. The RF amplitude level applied on (to) the transducer allows the user to adjust the transmitted (filtered) light intensity level. This is a unique feature that can provide the AOTF.

It is fast (several μ s), accurate and (procures) provides a high extinction ratio.



Specifications

Material	TeO ₂ [S]
Acoustic velocity	Nom 650 m/s
Optical Wavelength	700-1100 nm
Number of laser lines	Up to 4
AO interaction type	Birefringent
Selected order	+1
Input Light polarization	Linear // baseplate
Output Light polarization (reference : base plate)	« + 1 » order vertical
Drive frequency range (F)	70 – 42 MHz (+/- 3)
Active aperture	Ø 2.5 mm
Light beam size	≤ 2 mm
Spectral Resolution (FWHM) (typical)	3.5 – 9 nm
AO Light Frequency shift	« +1 » order : + F
Separation "0"-"/+1" angle	> 4.0 degrees
Chromatic Collinearity	< 0.1 mrd
Optical transmission	> 95 %
Temperature Stabilization	TN
AO efficiency in "1" order	≥ 85% @ PRF < 1Watt all lines (nom 23 dBm/line)
Access time / Response time	1.5 μ s / 1 mm
Max accepted RF Power	1 W
Electrical impedance	50 Ohms
VSWR	≤ 2/1 (Full bandwidth)
Size	70 x 36.6 x 35.8 mm ³
Operating Temperature	10 to 40 °C

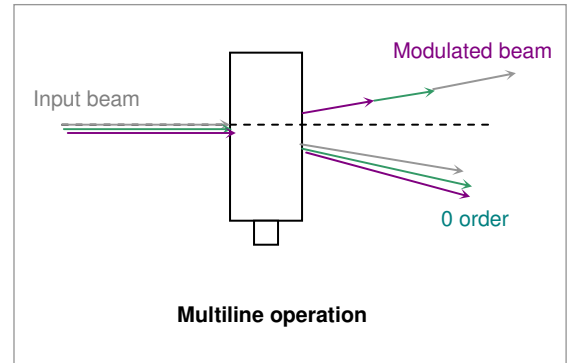
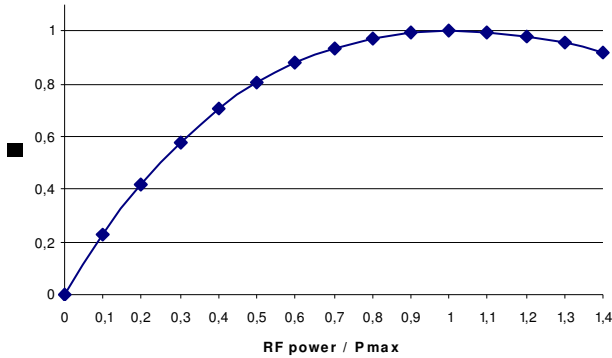


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→ Associated RF driver MDSnC

Relative Diffraction Efficiency vs RF Power



Outline Drawing

sizes in mm

