

## AOTFnC-xx-TN

### Product Overview

This solid-state AOTF is an electronically tunable bandpass filter for VIS range (400-650 or 450-700 nm). It uses the acousto-optic interaction inside an anisotropic medium (TeO<sub>2</sub>-S) and allows 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 which leads to a reliable, stable and fast technique for wavelength tuning. The RF frequency applied on the AOTF transducer controls the amplitude of transmitted (filtered in 1st order) wavelength. A complete spectrum analysis can be done by varying the frequency corresponding to the wavelength range. The Main applications are Confocal microscopy, life science imaging and many others.

### FEATURES

- Low RF power.
- High diffraction efficiency
- Multiline operation.
- High colinearity in 1st order.
- Large separation angle between diffracted and undiffracted orders.
- High power stability / Pointing stability, Temperature stabilized.



### SPECIFICATIONS (T=25°C)

PARAMETER	RATING	UNIT
Material-Acoustic mode-Velocity	TeO <sub>2</sub> [S] - 650	m/s
Number of Channels	Up to 8 (independently or simultaneously)	
Input / Output Polarization	Linear perpendicular/Linear parallel	
Rise/fall time (T <sub>r</sub> )	1	µs/mm
Diffraction Efficiency	>90	%
Optical power density	0.1@ 405nm 1@488 nm 2.5 @ 532 nm 5 @ 633 nm	W/mm <sup>2</sup>
Input impedance	50	Ω
V.S.W.R.	< 1.2:1	
Connectors	SMA female – RF, SMC – TN	
Temperature Stabilization	Type TN	
Size	70 x 36.6 x 35.8	mm <sup>3</sup>
Weight	Nom 75	g
Packaging	IN PRO 151	
Operating Temperature (non condensing)	+10 to +40	°C
Storage Temperature (non condensing)	-40 to +65	°C
RoHS Compliance	Yes	

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## Versions

	AOTFnC-VIS-TN	AOTFnC-400.650-TN	AOTFnC-400.650-CPCh-TN
Optical wavelength range(nm)	450-700	400-650	400-650
Optical Transmission(%)	>95	>90	>90
Active Aperture(mm <sup>2</sup> )	3x3	3x3	2.5x2.5
Drive frequency(MHz)	80-153	74-158	52-111
Static Extinction Ratio(dB)	>50	>50	>40
Seperation Angle(°)	>4.6	>4	>3
Chromatic Colinearity(mrad)	<0.2	<0.3	<0.3
Spectral Resolution(nm)	<1.5	1@400 nm 2.5@550 nm 4@650 nm	1.6@400 nm 4.4 @532 nm 7.6@640 nm
RF power per channel(W)	<0.1	<0.15	<0.15

## OUTLINE DRAWING, mm

