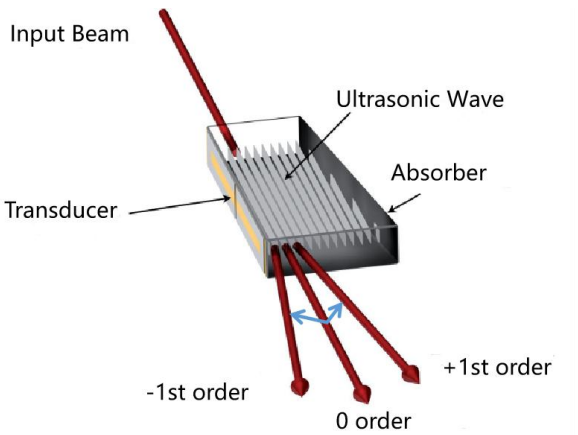
Acousto-optic deflectors (AODF) can provide precise spatial control of an optical beam by frequency tuning of RF driver.The response time within a hundred nanoseconds. It is designed based on the deflection of light when it travels through an diffraction grating created by acoustic wave optical propagating within the medium.

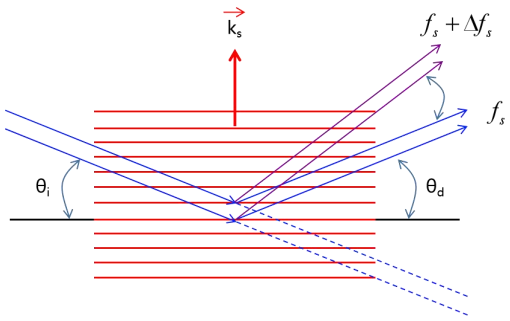
CASTECH's AODF adopts TeO_2 crystal as the acousto-optic medium. Benefited from our well known expertise in crystal growing and process technology. CASTECH promise the high performance of deflectors characterized with low insertion loss, high laser damage threshold, high consistency of power and diffraction efficiency across the full scan angle.

Applications

● Laser display ● Micromachining ● Heterodyne interferometer ● Laser tweezers ● Optical inspection



Scanning Angle: $\Delta\alpha_s = \frac{\lambda_0}{\lambda_s}\Delta f_s$



Schematic diagram of deflector

1D-Deflectors Model Number：CADF-f-r-a-mt-w-c-h

Center Frequency (f)	RF Range (r)	Aperture (a)	Material (m)	Mode (t)	Wavelength (w)	RF Connector (c)	Housing (h)
80 MHz 100 MHz 120 MHz 200 MHz ...	10 (±10 MHz) 15 (±15 MHz) 20 (±20 MHz) ...	005 (0.5 mm) 010 (1 mm) 020 (2 mm) 030 (3 mm)	TE (TeO_2)	C (Compressional) S (Shear)	1030~1064 nm 1066~1100 nm	AF (SMA-F) ...	A33 B18

Typical Specifications

Operating Frequency	Active Aperture	Wavelength	Frequency Shift Bandwidth	Scanning Angle	Diffraction Efficiency	VSWR
80 MHz	0.5~2 mm	1064 nm	34 MHz	59.0 mrad	≥ 80%	< 3.5:1
90 MHz	0.5~3 mm	532 nm	10 MHz	8.7 mrad	≥ 80%	< 3.5:1
120 MHz	0.5~2 mm	1030 nm	30 MHz	50.4 mrad	≥ 80%	< 3.5:1
200 MHz	0.5~2 mm	1064 nm	30 MHz	52.1 mrad	≥ 70%	< 3.5:1

Housing dimensions(mm):

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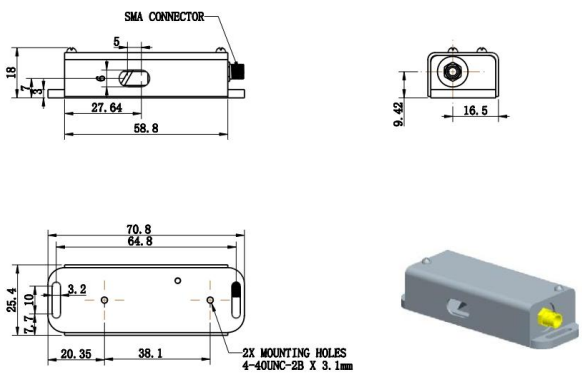

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