

1250C-848

Acousto-Optic Modulator



1106

APPLICATION

- Wideband Modulator
- Frequency Shifter

FEATURES

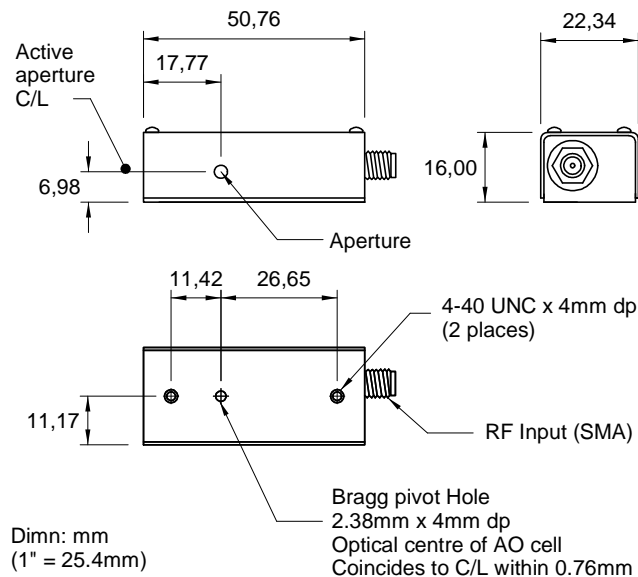
- Very High Video Bandwidth
- Low Drive Power
- Improved Dynamic Contrast Ratio
- Good Temperature Stability

DRIVERS

525C-L (DIGITAL MODULATION)
535C-L (ANALOG MODULATION)

620C-200 (VARIABLE FREQUENCY & DIGITAL MOD'N)
630C-200 (VARIABLE FREQUENCY & ANALOG MOD'N)

OUTLINE DRAWING



[*Please refer to 1205/06/50C-NIR Data sheet addendum for performance at wavelengths > 800nm]

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

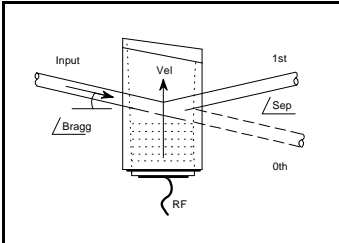
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Quality Assured.

In-house: Crystal Growth,
Optical Polishing,
A/R coating, Vacuum Bonding



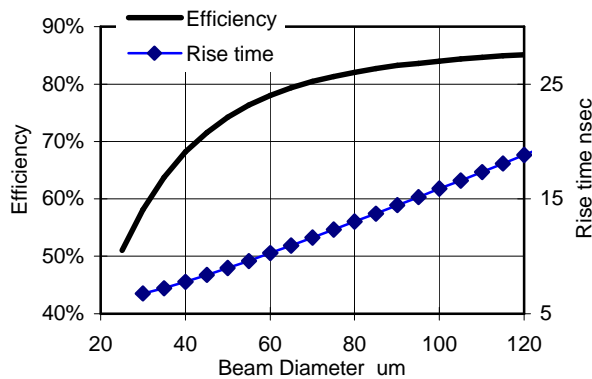
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Acousto-Optic Modulator

SPECIFICATIONS

Spectral Range:	.442-> 1.5µm*
Standard A/R Wavelengths:	442-488nm, 532nm (Options to 1.5um available)
Interaction Medium:	Tellurium Dioxide (TeO ₂)
Acoustic Velocity:	4.2mm/µs
Active Aperture:	0.5mm
Centre Frequency:	200MHz
RF Bandwidth:	100MHz
RF Input Impedance:	50Ω Nominal
DC Contrast Ratio:	>1000:1 min (2000:1 typical)

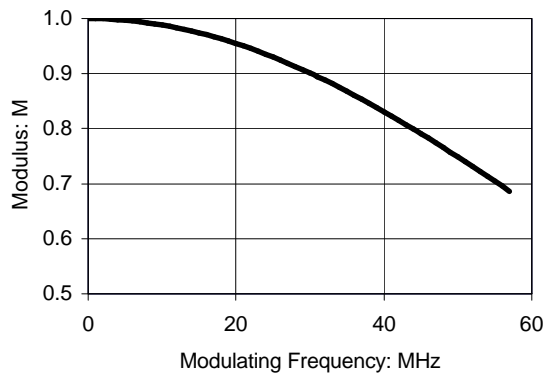
PERFORMANCE vs. BEAM DIA. at 532nm



PERFORMANCE vs. WAVELENGTH

Operating Wavelength (nm)	442	488	532
RF Drive Power (W):	<0.6	<0.7	<0.9
Input Bragg Angle (mrad):	10.5	11.6	12.7
0 th -1 st Order Beam Separation (mrad):	21.1	23.2	25.3
Static Insertion Loss (%):	<5	<3	<3

MTF (31µm)



DYNAMIC CONTRAST RATIO

Maximum modulation bandwidth (50MHz) dynamic contrast ratio (CR) is obtained with a focussed beam diameter of 31µm. The typical MTF (depth of modulation) curve for the 1250C is shown at left. For larger beam diameters, the abscissa scales linearly. The value of M from the curve may be used to determine the sine wave contrast ratio at a particular modulating frequency according to the relation:

$$CR = 1+M/1-M$$

For digital, on-off modulation, the CR will be greater than the value calculated from the above equation.

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