

1250C-829A

Acousto-Optic Modulator



1106

APPLICATION

- Wideband Modulator
- Frequency Shifter
- Low Resolution Deflector

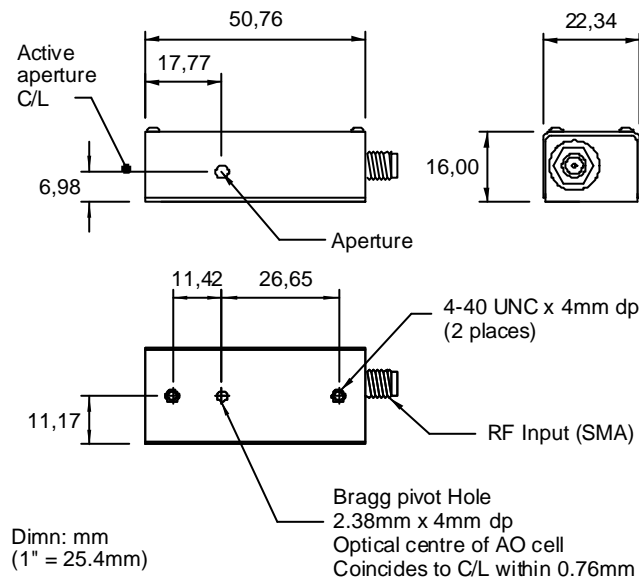
FEATURES

- Very High Video Bandwidth
- Low Drive Power
- Improved Beam Separation
- Good Temperature Stability

MODULATOR DRIVERS

526C (DIGITAL MODULATION)
536C (ANALOG MODULATION)

OUTLINE DRAWING



ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

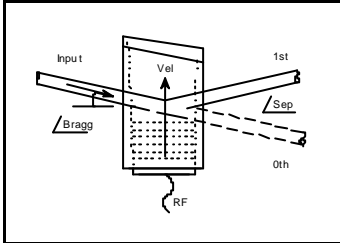
ISOMET CORP, 5263 Port Royal Rd, Springfield, VA 22151, USA.

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Quality Assured.

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



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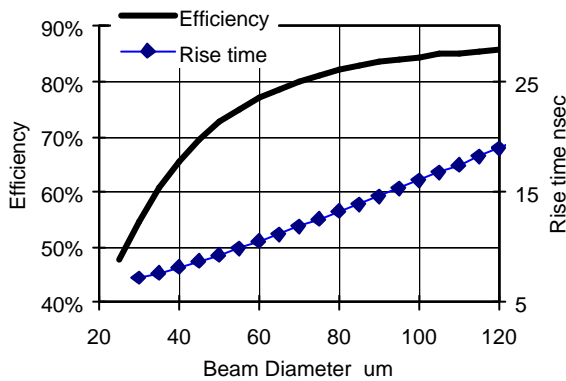


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SPECIFICATIONS

Spectral Range:	.442-> 1.5 μ m*
Standard A/R Wavelengths:	360-420nm, 442-488nm
Interaction Medium:	Tellurium Dioxide (TeO ₂)
Acoustic Velocity:	4.2mm/ μ s
Active Aperture:	0.45mm
Centre Frequency:	260MHz (250MHz)
RF Bandwidth:	100MHz
RF Input Impedance:	50 Ω Nominal
DC Contrast Ratio:	>1000:1 min (2000:1 typical)

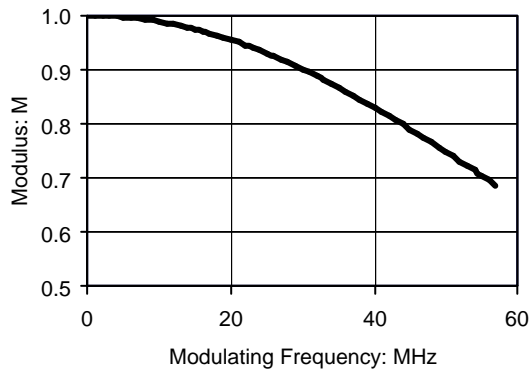
PERFORMANCE vs. BEAM DIA. at 488nm



PERFORMANCE vs. WAVELENGTH

Wavelength (nm)	375	405	442	488
RF Drive Power (W):	<0.45	<0.5	<0.55	<0.7
Diffraction efficiency (Beam dia > 120 μ m)	>85%	>85%	>85%	>85%
Input Bragg Angle (mrad):	11.6	12.5	13.7	15.1
0 th -1 st Order Beam Separation (mrad):	23.2	25.1	27.4	30.2
Static Insertion Loss (%):	<7	<5	<5	<3

MTF (31 μ m)



DYNAMIC CONTRAST RATIO

Maximum modulation bandwidth (50MHz) dynamic contrast ratio (CR) is obtained with a focussed beam diameter of 31 μ m. 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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