

# 1250C

## Acousto-Optic Modulator



1106

### APPLICATION

- Wideband Modulator
- Frequency Shifter

### FEATURES

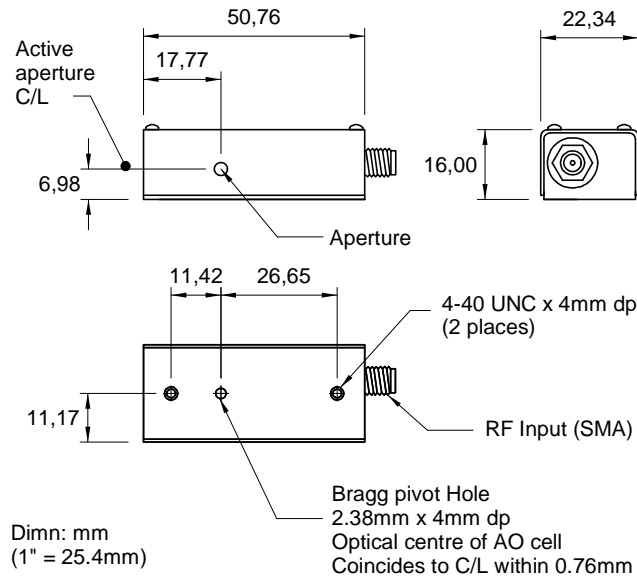
- Very High Video Bandwidth
- Low Drive Power
- Compact
- Good Temperature Stability

### 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**

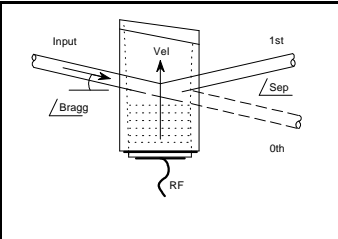
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**Quality Assured.**

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



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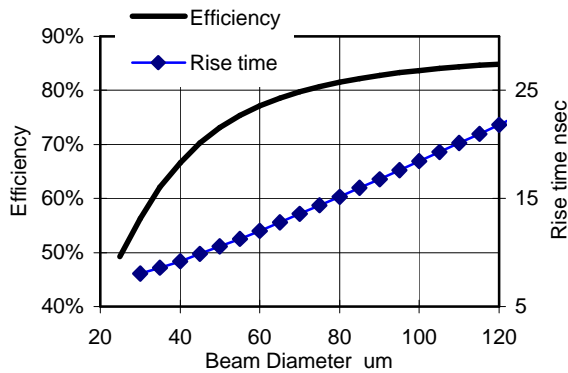


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### SPECIFICATIONS

Spectral Range:	.442-> 1.5 $\mu$ m*
Standard A/R Wavelengths:	442-488nm, 488-633nm (Options to 1.5um available)
Interaction Medium:	Lead Molybdate (PbMoO <sub>4</sub> )
Acoustic Velocity:	3.63mm/ $\mu$ s
Active Aperture:	0.75mm
Centre Frequency:	200MHz
RF Bandwidth:	100MHz
RF Input Impedance:	50 $\Omega$ Nominal
DC Contrast Ratio:	>1000:1 min (2000:1 typical)

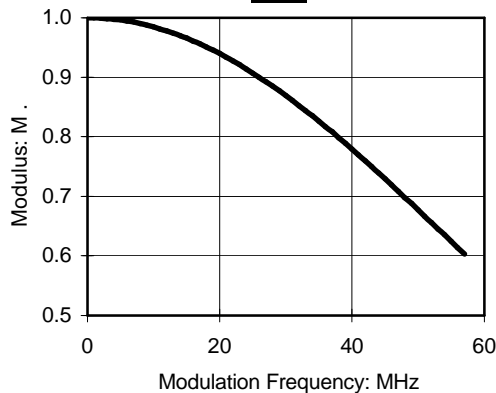
### PERFORMANCE vs. BEAM DIA. at 515nm



### PERFORMANCE vs. WAVELENGTH

Operating Wavelength (nm)	442	488	515	633
RF Drive Power (W):	<0.7	<0.8	<0.9	<1.3
Input Bragg Angle (mrad):	12.1	13.4	14.2	17.4
0 <sup>th</sup> -1 <sup>st</sup> Order Beam Separation (mrad):	24.3	26.9	28.4	34.9
Static Insertion Loss (%):	<10	<5	<3	<3

### MTF



### DYNAMIC CONTRAST RATIO

Maximum modulation bandwidth (50MHz) dynamic contrast ratio (CR) is obtained with a focussed beam diameter of 31 $\mu$ 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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