

1205/06/50C-NIR

AO Modulators at NIR (Addendum)



1106

Near-IR Performance

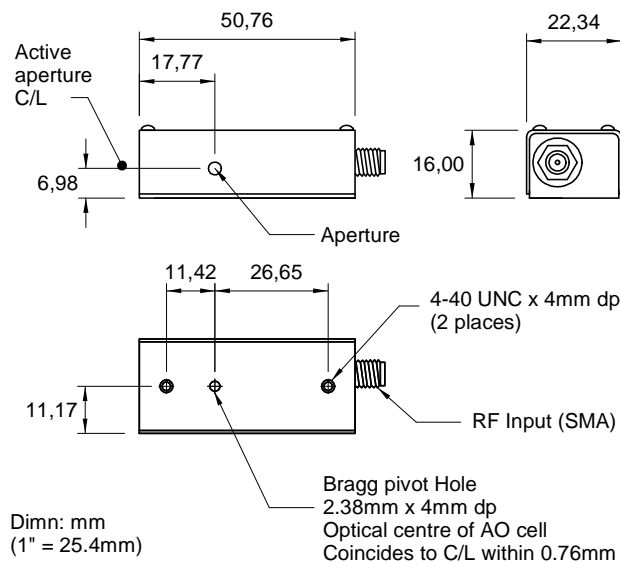
With optional anti-reflection coatings Isomet Models 1205/1206C/1250C may be operated at Near-IR wavelengths for frequency-shifting, modulation and scanning applications. The units are supplied with the A/R coating centered at a specific operating wavelength. Static insertion loss at specified wavelength +/- 0.1um is <3%, and at wavelength +/- 0.2um is <5%.

The RF drive power required to achieve maximum diffraction efficiency (P_{sat}) is wavelength related, and increases as λ^2 . At Near-IR wavelengths the P_{sat} values tend to be high and applying RF power at these levels would, in most cases, result in undesirable thermal effects. The summary listing that follows shows the maximum recommended RF drive power and corresponding diffraction efficiency for each AOM type at typical Near-IR wavelengths.

Recommended Drivers

1205C-1, -2	522C-2 (Digital Modulation)	620C-80 (Variable Frequency + Digital Mod'n)
	532C-2 (Analog Modulation)	630C-80 (Variable Frequency + Analog Mod'n)
1206C	523C-2 (Digital Modulation)	620C-100 (Variable Frequency + Digital Mod'n)
	533C-2 (Analog Modulation)	630C-100 (Variable Frequency + Analog Mod'n)
1250C	525C-2 (Digital Modulation)	620C-200 (Variable Frequency + Digital Mod'n)
	535C-2 (Analog Modulation)	630C-200 (Variable Frequency + Analog Mod'n)

OUTLINE DRAWING



ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

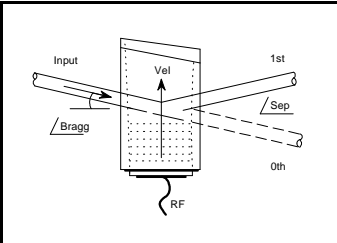
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Quality Assured.

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



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1205C-1 Center Frequency (fc) 80MHz

Tuned RF Bandwidth (MHz):	30				
Input Impedance:	50 Ohms (Nominal)				
Input Beam Diameter (mm):	≥ 0.5				
Wavelength (μm):	0.83	1.064	1.15	1.30	1.55
Recommended Drive Power (W):	1.00	1.20	1.20	1.20	1.20
% Diffraction Efficiency:	>80	>50	>50	>45	>40
Bragg Angle @ fc (mrad):	9.1	11.7	12.7	14.3	17.1
Beam Separation @ fc (mrad):	18.3	23.5	25.3	28.6	34.2

1205C-2 Center Frequency (fc) 80MHz

Tuned RF Bandwidth (MHz):	30				
Input Impedance:	50 Ohms (Nominal)				
Input Beam Diameter (mm):	≥ 1.0				
Wavelength (μm):	0.83	1.064	1.15	1.30	1.55
Recommended Drive Power (W):	1.60	1.60	1.60	1.60	1.60
% Diffraction Efficiency:	>75	>45	>40	>30	>20
Bragg Angle @ fc (mrad):	9.1	11.7	12.7	14.3	17.1
Beam Separation @ fc (mrad):	18.3	23.5	25.3	28.6	34.2

1206 Center Frequency (fc) 110MHz

Tuned RF Bandwidth (MHz):	50				
Input Impedance:	50 Ohms (Nominal)				
Input Beam Diameter (mm):	≥ 0.5				
Wavelength (μm):	0.83	1.064	1.15	1.30	1.55
Recommended Drive Power (W):	1.20	1.20	1.20	1.20	1.20
% Diffraction Efficiency:	>75	>50	>45	>35	>25
Bragg Angle @ fc (mrad):	12.6	16.1	17.4	19.7	23.5
Beam Separation @ fc (mrad):	25.2	32.2	34.8	39.4	47.0

1250C Center Frequency (fc) 200MHz

Tuned RF Bandwidth (MHz):	100				
Input Impedance:	50 Ohms (Nominal)				
Input Beam Diameter (mm):	≥ 0.5				
Wavelength (μm):	0.83	1.064	1.15	1.30	1.55
Recommended Drive Power (W):	1.20	1.20	1.20	1.20	1.20
% Diffraction Efficiency:	>40	>30	>25	>20	>10
Bragg Angle @ fc (mrad):	22.9	29.3	31.7	35.8	42.7
Beam Separation @ fc (mrad):	45.7	58.6	63.3	71.6	85.4

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