

# 1210-G( $f_c$ )-H (MIR)

## Acousto-Optic Modulator, 2.05 - 4.0 $\mu\text{m}$



1014

### APPLICATIONS

- **Modulator**
- **Frequency Shifter**

The 1210 series are conduction cooled Germanium AO modulators/frequency shifters designed for operation in the 2.05 - 4 $\mu\text{m}$  range. Input light must be linearly polarized, parallel to the mounting base.

### SPECIFICATIONS

Operating Wavelength:	A/R 2.05 $\mu\text{m}$ , or 2.5 - 5 $\mu\text{m}$
Interaction Material:	Single Crystal Germanium
Acoustic Velocity:	5.5mm/us
Input Impedance:	50 Ohms (nominal)
Center Frequency options ( $f_c$ ):	
1210- G60 -H	60MHz
1210- G80 -H	80MHz
1210- G105-H	105MHz

RF Bandwidth:	> $f_c$ +/- 5MHz
Insertion Loss:	< 5%
A/R reflectivity:	< 1% per surface

Active Aperture options (H):

1210-G( $f_c$ ) -2	2mm
1210-G( $f_c$ ) -3	3mm
1210-G( $f_c$ ) -4	4mm

Laser Polarization: Linear/Parallel to base (essential)

$\lambda$	Fc	Bragg Angle	Separation Angle
<u><math>\mu\text{m}</math></u>	<u>MHz</u>	<u>mrad</u>	<u>mrad</u>
2.05	80	14.9	29.8
	105	19.6	39.1
3.39	60	18.5	37.0
	80	24.6	49.3

$\lambda$	Active Aperture	RF power for max' efficiency	Typical Diffraction Efficiency
<u><math>\mu\text{m}</math></u>	<u>mm</u>	<u>W</u>	<u>%</u>
2.05	2	1.6	87
	4	3.2	87
3.39	2	4	85
	3	6.5 *	75 *

\* Maximum recommended CW (or average) RF power = 4W

**ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE**

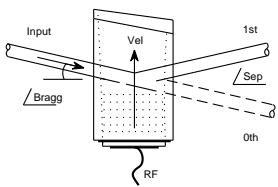
ISOMET CORP, 5263 Port Royal Rd, Springfield, VA 22151, USA.

Tel: (703) 321 8301 Fax: (703) 321 8546

E-mail: [ISOMET@ISOMET.COM](mailto:ISOMET@ISOMET.COM) Web Page: [WWW.ISOMET.COM](http://WWW.ISOMET.COM)

**Quality Assured.**

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



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### Suggested RF Drivers

#### Fixed frequency (digital / analog modulation):

60MHz: 521C-4-60 / 531C-4-60

80MHz: 522C-4 / 532C-4

105MHz: 523C-4-105 / 533C-4-105

#### Tunable frequency (digital / analog modulation):

620C/630C-80

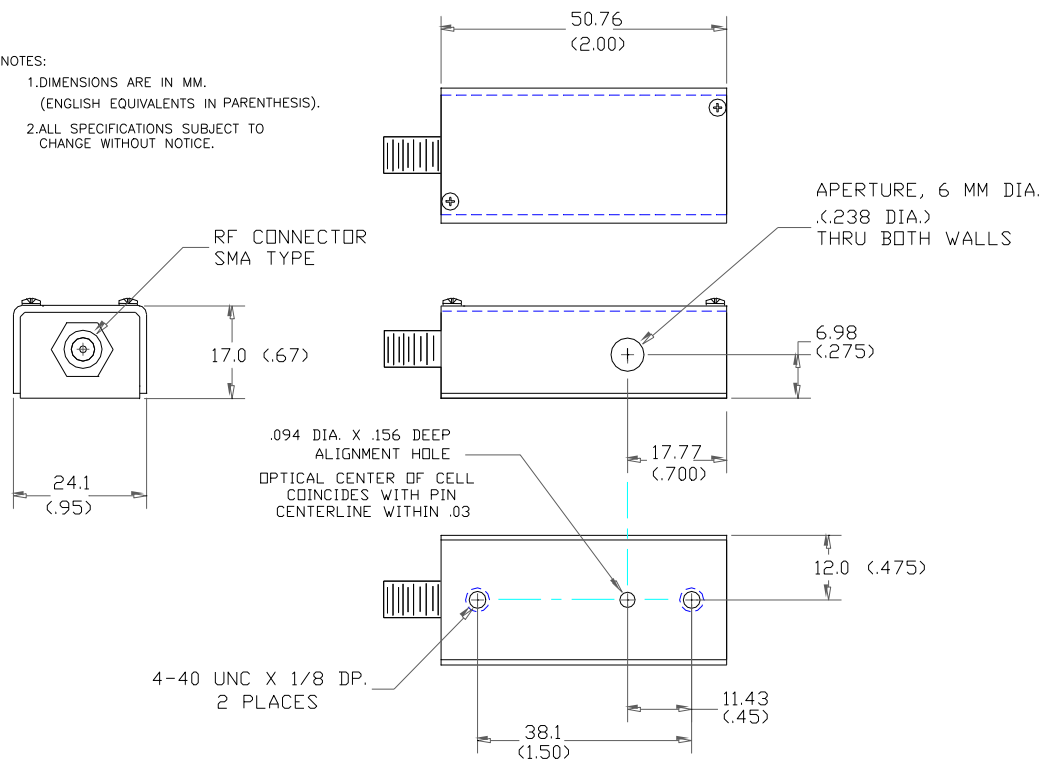
620C/630C-100

iSPA-SF1-b/c Synthesizer-amplifier

### OUTLINE DRAWING

NOTES:

1. DIMENSIONS ARE IN MM.  
(ENGLISH EQUIVALENTS IN PARENTHESIS).
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Ensure adequate heatsink path through mounting surface, especially at higher RF powers.

**Case must not exceed 35degC**

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