

1207B-6

100W IR Acousto-Optic Modulator



1106

APPLICATION

The Model 1207B-6 is a high Q device that can be operated at any Bragg adjusted frequency in the 30MHz to 50MHz range.

The >75% diffraction efficiency at the RF band edges (>80% at centre frequency) also makes cascading of two or more units for various frequency upshift/downshift combinations practical. For example, two 1207B-6's used in this manner will allow frequency shifting at any Bragg adjusted frequency within the 0-20MHz, 30-50MHz, 60-100MHz ranges. The RF absorber has been designed to minimize acoustic reflections back into the optical path.

With appropriate RF drive electronics the 1207B-6 can be used to either intensity (analog) or digitally (on-off) modulate a 100W CW (6mm beam diameter) CO₂ laser at a DC-500KHz rate. Alternative models such as the 1208-6, 1209-7 and AOM600-1108 may offer superior modulation performance, depending on the application.

SPECIFICATIONS

Spectral Range:	2.5µm - 11µm
Operating Wavelength:	10.6µm (others on request)
Interaction Medium:	Single Crystal Germanium
Acoustic Velocity:	5.5mm/µs
Centre Frequency:	40MHz
RF Bandwidth:	20MHz
Input Impedance:	50Ω Nominal
Input VSWR:	<1.5:1 @ 40 MHz
Optical Insertion Loss:	< 14%
Reflectivity:	<.5% /Surface
Laser Polarization:	Parallel to Base
Active Aperture:	6mm
Water Cooling (minimum):	250ml/minute at 25°C

PERFORMANCE WITH 6mm DIAMETER INPUT BEAM

Diffraction Efficiency:	>80% @ 35W (Nominal Drive Power)
Video Risetime:	700ns
Video Bandwidth:	500KHz
Optical Power (Maximum):	100W CW
Bragg Angle:	38.5mrad
Beam Separation:	77.1mrad

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

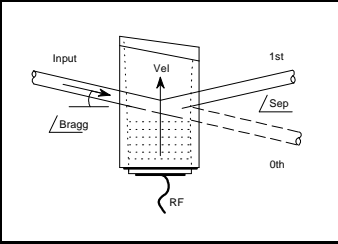
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Quality Assured.

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



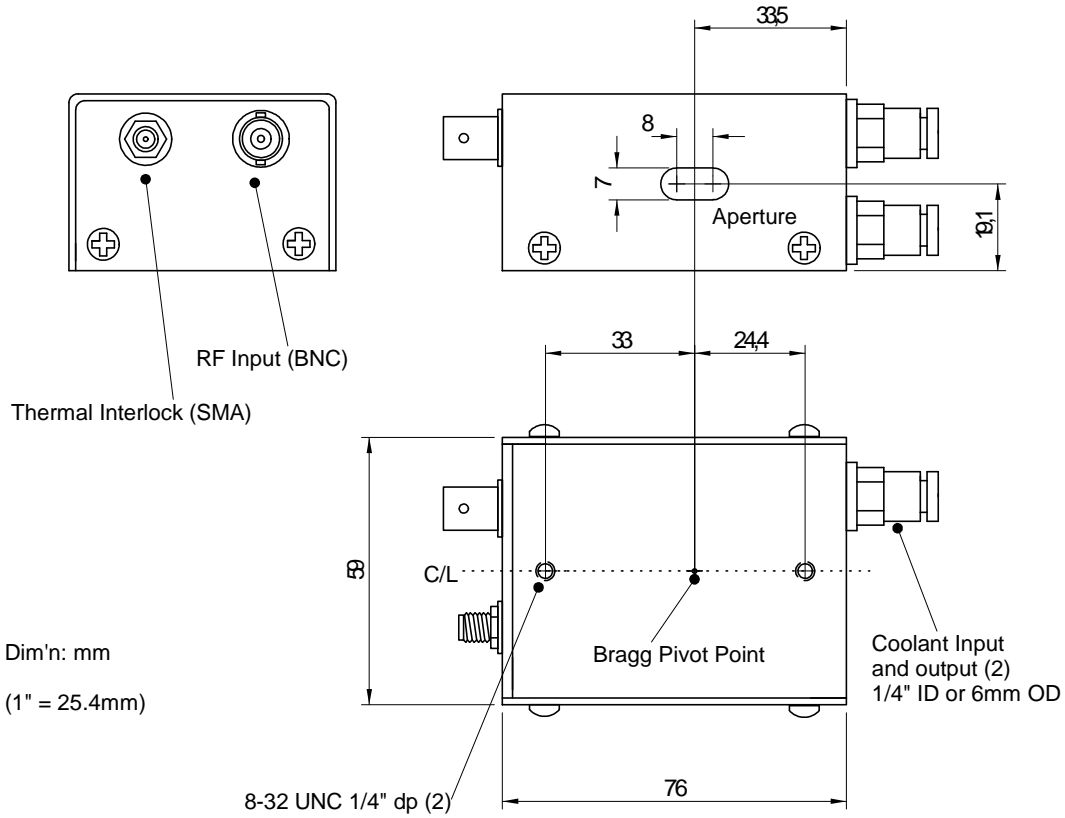
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OUTLINE DRAWING



DRIVERS

Modulator Driver/Amplifier
Deflector Driver/Amplifier

RFA241
RFA321

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