

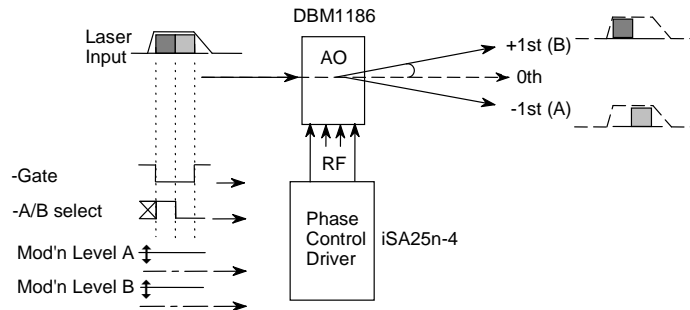
# DBM1310-G54(51)-9



## Dual Beam IR Acousto-Optic Modulator (Preliminary)

0113

The Dual Beam Modulator incorporates a novel acoustic beam steering technique to allow the user to switch between the +1 and -1 Bragg orientations. Under electronic control, the user can generate two sequential output beams from a single laser input. Independent modulation levels can be applied to the A and B first order outputs. This model is optimized for pulsed laser applications.



### SPECIFICATIONS

Spectral Range:	2.5 $\mu$ m - 11 $\mu$ m
Operating Wavelength:	9.4 or 10.6 $\mu$ m (specified)
Interaction Medium:	Single Crystal Germanium
Acoustic Velocity:	5.5mm/ $\mu$ s
Centre Frequency (fc):	54.0 MHz (9.4um nominal) 50.9 MHz (10.6um nominal)
RF Bandwidth ( $\Delta$ f):	5MHz
Input Impedance:	50 $\Omega$
Input VSWR:	< 1.7:1 at fc
Optical Insertion Loss:	< 4%
Reflectivity:	< 0.3%/Surface
Laser Polarization:	Linear Horizontal, Parallel to Base
Optical Power :	300 Watts CW
Active Aperture:	9 mmH x 20 mmL
Water Cooling (minimum):	> 2L/minute at < 20°C

### TYPICAL PERFORMANCE

Input beam diameter:	7mm
Optical access time:	0.83us
Diffraction Efficiency:	> 85%
Total RF Power:	180 Watts (nominal)
Input Angle:	0 mrad (+/- 10mrad)
Separation Angle (0 <sup>th</sup> to -1 <sup>st</sup> or +1 <sup>st</sup> ):	+/- 98.1mrad (10.6um) +/- 92.3mrad (9.4um)

#### ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

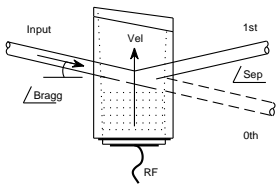
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#### Quality Assured.

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



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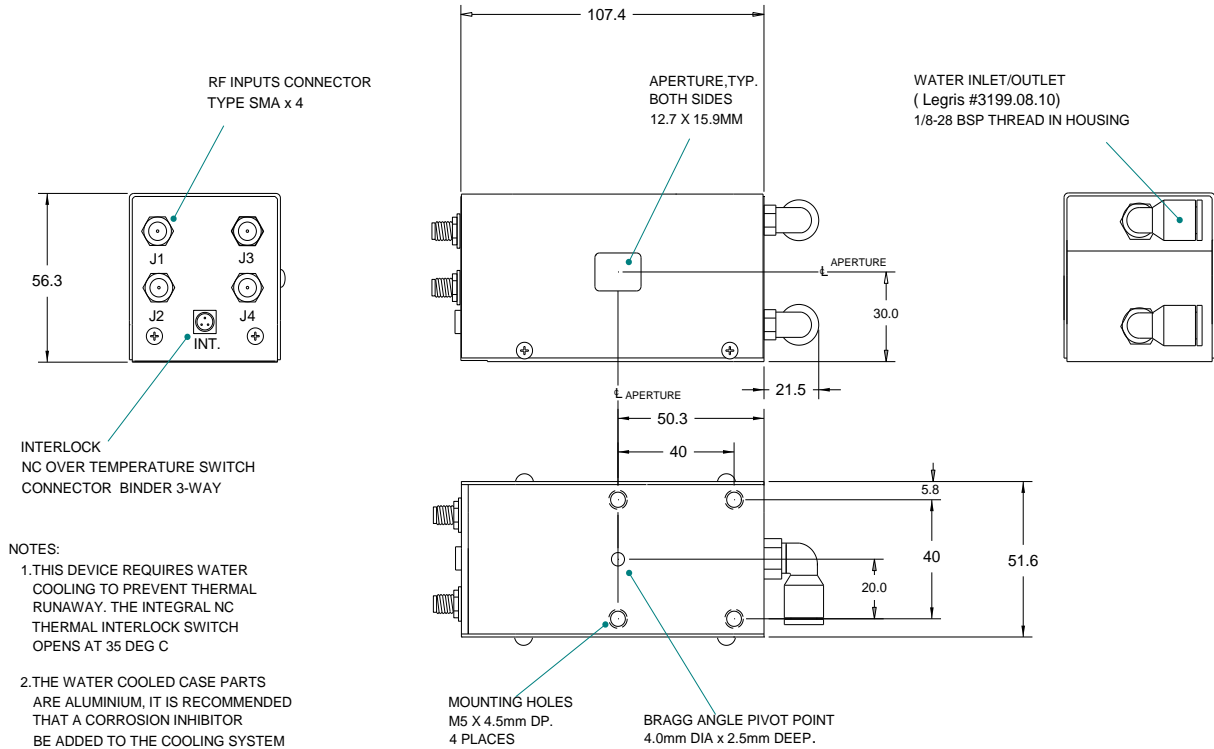


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### OUTLINE DRAWING

All case parts in contact with coolant are fabricated in Anodized Aluminium



Options: -BR : Case parts in contact with coolant fabricated in Nickel plated Brass

### DRIVERS

Modulator Driver/Amplifier

iSA254-4 (54.0MHz / 9.4um)  
iSA251-4 (50.9MHz / 10.6um)

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