

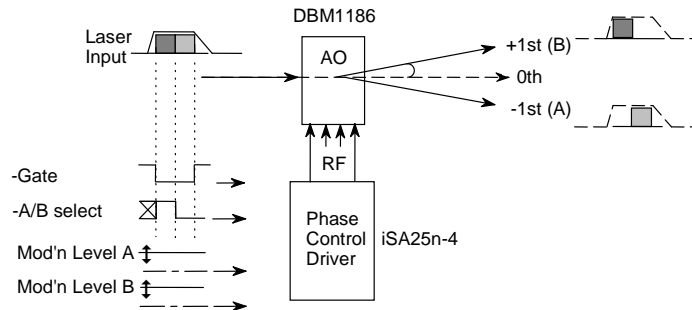
# DBM1199-G54(51)-9C



## Dual Beam IR Acousto-Optic Modulator

0115

The DBM1199 series is an alternative to the popular DBM1186 series. The M1199 differs in that the coolant is not in direct contact with the Germanium block. These Dual Beam Modulators incorporate 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.



### 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

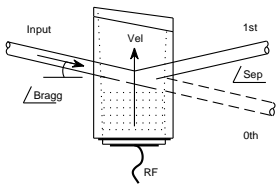
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#### Quality Assured.

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



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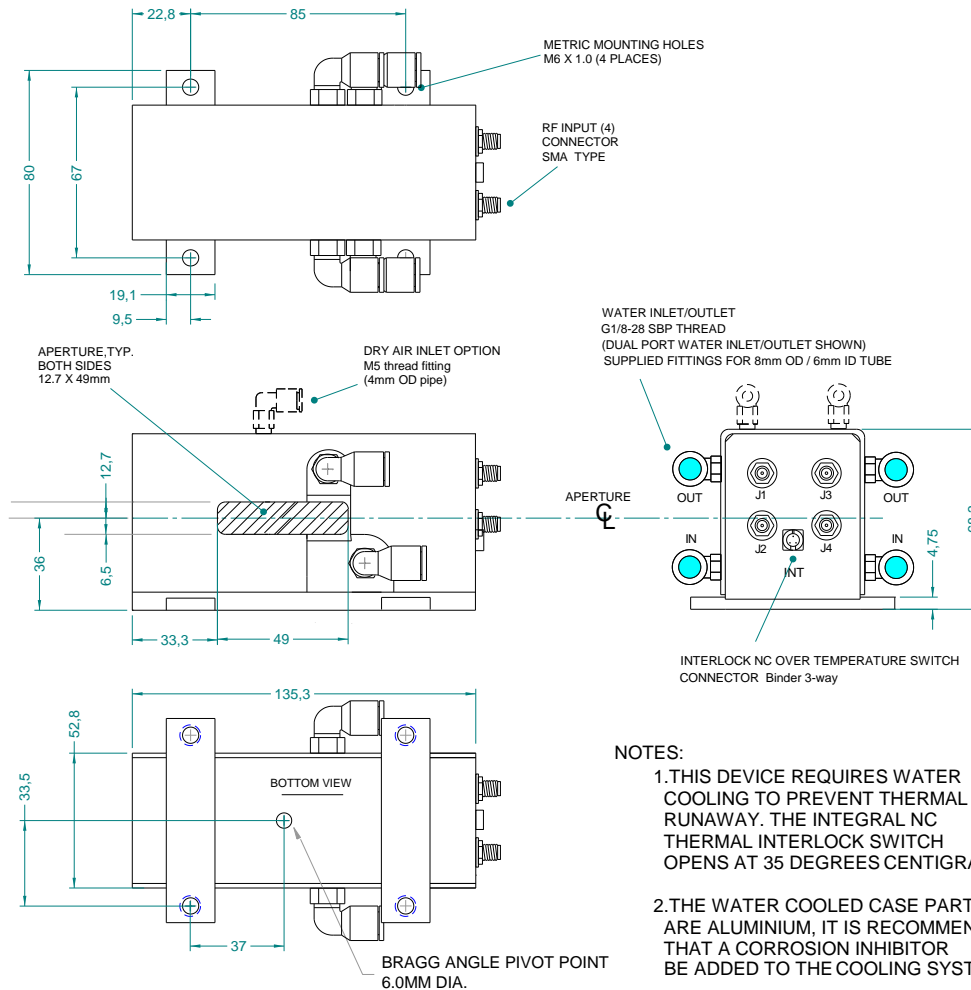


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### OUTLINE DRAWING

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



Dimensions: mm

### Refer application note AN0901 regarding Coolant Specification

Options: -BR : Case parts in contact with coolant fabricated in Nickel plated Brass  
- M : Metric M5 mounting hole threads

### RF DRIVERS

Modulator Driver/Amplifier

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

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