

# D1199-G50C-9

## High Power AO Modulator/Deflector



0417

### APPLICATIONS

- Material Processing
- Via Hole Drilling
- Surface texturing

### FEATURES

- Low loss
- High Optical Power
- All Solid-State

The D1199-G50 series is an alternative to the AOM650 series. Both models are designed to minimize thermal lensing and reduce beam degradation at high powers pulsed systems. The D1199 differs in that the coolant is not in direct contact with the Germanium block and is ideally suited to pulsed laser / duty cycled systems. The D1199 can be used as a high power intensity modulator and/or medium resolution AO deflector.

### SPECIFICATIONS (TYPICAL)

Operating Wavelength:	9 - 11 $\mu$ m (standard)	
Interaction Material:	Germanium	
Active Aperture:		
H=7	7mmH x 30mmW	
H=9	9mmH x 30mmW	
Centre Frequency (fc):	50MHz	
FM Bandwidth:	20MHz	
Diffraction Efficiency:	> 85% at fc, 90% typical	
RF Power for Max. D/E	< 150 Watts total	
Static Insertion Loss:	< 4%	
Maximum Optical Power:	600 Watts, 7mm dia. Gaussian beam	
	<u>9.4<math>\mu</math>m</u>	<u>10.6<math>\mu</math>m</u>
Bragg Angle:	42.7 mrad	48.3 mrad
Separation Angle:	85.5 mrad	96.5 mrad
Scan Angle (20MHz delta freq):	34.2 mrad	38.5 mrad
Laser Polarization:	Linear, Horizontal	
Water Cooling (Minimum):	2 Liter/Min. @ < 20°C	
<u>Modulator performance:</u> 7 mm beam diameter		
Diffraction Efficiency	> 85%	
Optical Rise Time	0.83 $\mu$ sec	
<u>Deflector Performance:</u> 7 x 30mm beam		
Diffraction Efficiency	> 80% across scan	
Access Time:	5.5 $\mu$ sec	
Resolution:	100	
<u>Drivers</u>		
Single spot Modulator:	RFA250-2 (50MHz)	
Dual spot modulator:	RFA4060-2	
Scan Line Deflector:	iMS4-L, RFA200-2	
Options:		
-BR: Brass case parts		
* : other wavelengths in the 2.5 $\mu$ m - 11.2 $\mu$ m range.		

#### ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

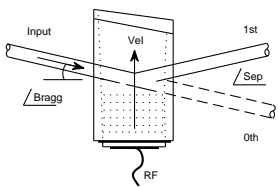
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#### Quality Assured.

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



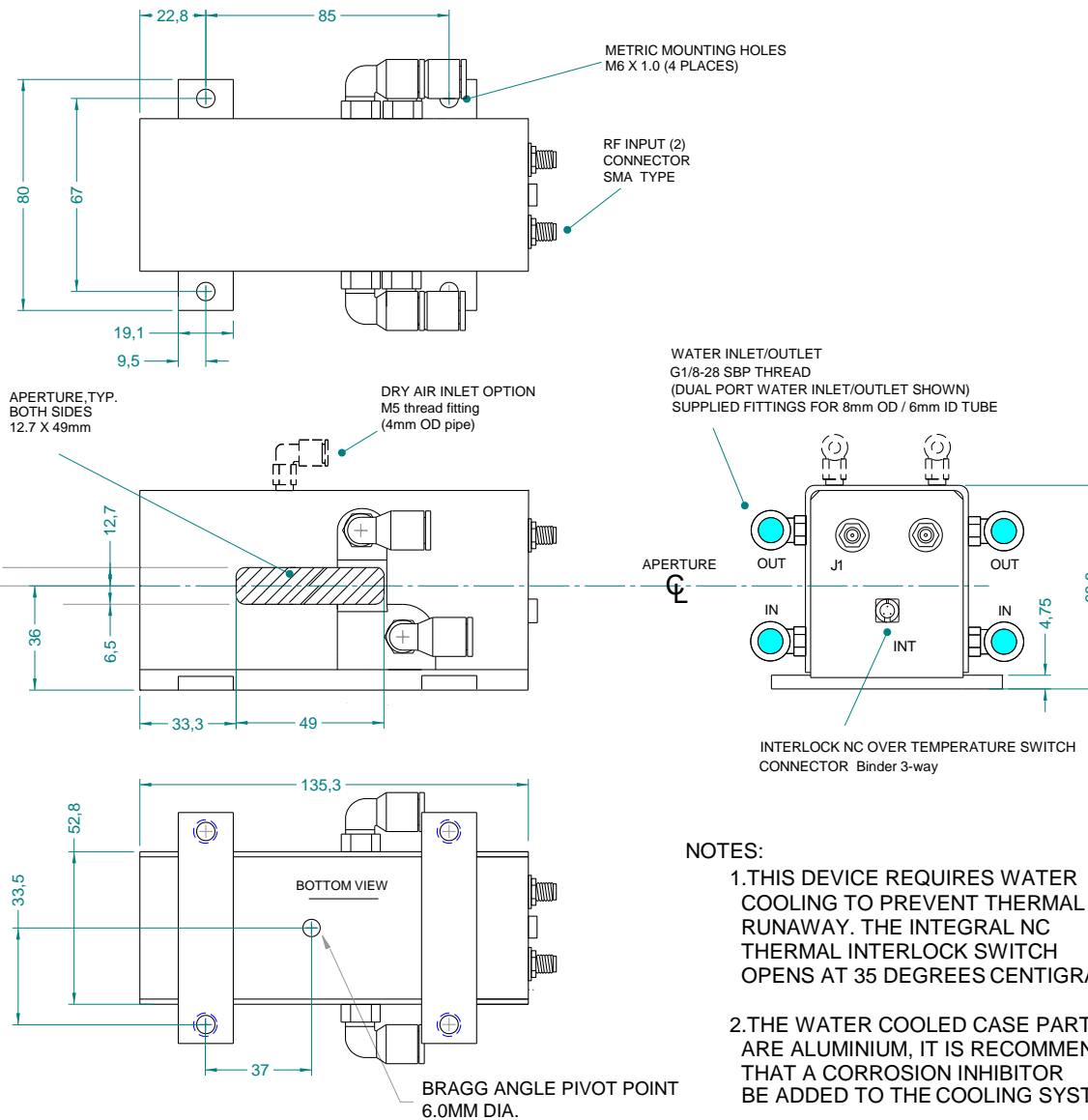
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### OUTLINE DRAWING



#### NOTES:

1. THIS DEVICE REQUIRES WATER COOLING TO PREVENT THERMAL RUNAWAY. THE INTEGRAL NC THERMAL INTERLOCK SWITCH OPENS AT 35 DEGREES CENTIGRADE.
2. THE WATER COOLED CASE PARTS ARE ALUMINIUM, IT IS RECOMMENDED THAT A CORROSION INHIBITOR BE ADDED TO THE COOLING SYSTEM.

Dimensions: mm

Refer application note AN1206 regarding Coolant Specification

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