

D1378-G50L-12

High Power AO Modulator/Deflector



2526

APPLICATIONS

- Material Processing
- Drilling
- Surface texturing

FEATURES

- Low loss
- High Optical Power Capability
- Large Aperture

The D1378 is a large aperture industrial IR Modulator / Deflector designed for duty cycled applications using high power pulsed lasers.

SPECIFICATIONS (TYPICAL)

Operating Wavelength *	A/R @ 9.1-9.6um or 10.2-10.8um	
Interaction Material:	Germanium	
Clear Aperture:	16mmH x 50mmW	
Active Aperture:	12mmH x 30mmW	
Centre Frequency (fc):	50MHz	
FM Bandwidth:	20MHz	
Diffraction Efficiency:	> 85% at fc, 90% typical	
Design duty cycle	30%,	
Maximum duty cycle	100% with caution	
RF Power for Max. D/E	< 240 Watts total at 9.4um	
Static Insertion Loss:	< 5%	
Maximum CW Optical Power:	700 Watts, 10mm dia. Gaussian beam	
	<u>9.4um</u>	<u>10.6 um</u>
Bragg Angle	42.7mrad	48.2mrad
Mid-scan Separation Angle	85.4mrad	96.3mrad
Scan angle 40 – 60MHz	34.1mrad	38.5mrad
Modulation, Optical Rise Time	118nsec/mm	
Beam dia. = 6mm/ 10mm	0.7usec / 1.2usec	
Laser Polarization:	Linear, Horizontal w.r.t. mounting surface	
Water Cooling (Minimum):	> 2 litre/minute, @ < 20°C	
Single beam modulator drive electronics:	RN5-50-2-120 (50MHz)	
Dual beam modulator drive electronics:	RN5-4060-2-120 (40/60MHz)	
Deflector Drive Electronics:	iMS4-P(revE) + RFA050-2-120	

Cooling

Due to RF drive power dissipation, the D1378 requires water-cooling to prevent thermal runaway. The integral NC thermal interlock switch opens at ~35degC. The water-cooled case parts are aluminium. It is recommended that a corrosion inhibitor is added to the cooling system.

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

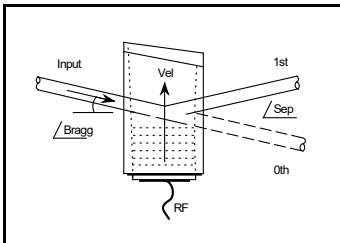
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Quality Assured.

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



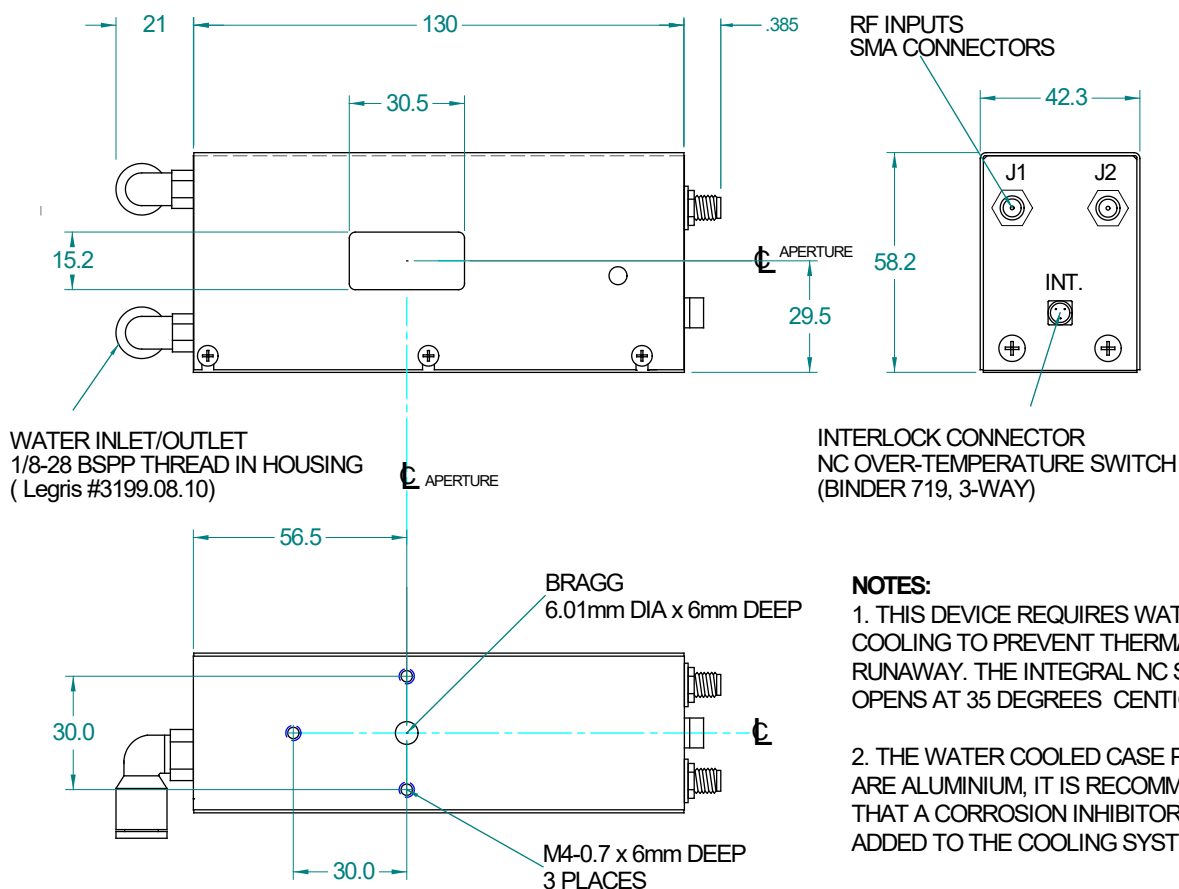
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OUTLINE DRAWING



Refer application note AN1906 regarding Coolant Specification

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

Options: Brass Water-cooled case parts: -BR

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