

# AOFS1373-G190-1.2



## MIR Frequency Shifter / Modulator

0821

A high frequency mid-IR frequency shifter. To further minimize on-axis reflections, one optic face is polished with a 10mrad wedge, angle orthogonal to the diffraction axis.

### SPECIFICATIONS

Operating Wavelengths:	2.5 - 5um (AOFS1373-G190-1.2-FB) 7 - 11um (AOFS1373-G190-1.2-FI)
Center Frequency, $f_c$ :	190 MHz
RF Bandwidth, $\Delta f$ :	70 MHz
Diffraction Efficiency:	> 80% peak, (duty cycled RF drive)
Input Impedance:	50 $\Omega$ (nominal)
Input VSWR:	<1.5:1 @ 190 MHz
Active Aperture:	1.2 mm high
Optical Insertion Loss:	< 3%
Reflectivity:	0.5%/surface, mid-band.
DC Contrast Ratio:	> 1000:1 min, 2000:1 typical
Laser Polarization:	Horizontal, parallel to base
Max recommended RF power:	10W (CW or average)
Cooling:	Conduction. MUST be mounted to a heatsink

### PERFORMANCE vs. WAVELENGTH

Wavelength (nm):	2.5um	5um	7um	11um
Peak RF Drive Power (Watts):	3	13	26	66
Bragg Angle at $f_c$ (mrad):	40.9	81.8	114.6	180
Separation Angle at $f_c$ (mrad):	81.8	163.6	229.1	360
CW Efficiency up to 10W RF:	~85%	~75%	~50%	~20%

### PERFORMANCE vs. BEAM DIAMETER at 7um, 3W RF drive power

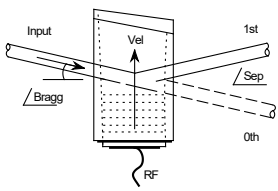
Beam Diameter (mm):	1.0	0.5
Risetime (nsec):	122	61
Video Bandwidth (MHz):	3	5
Diffraction efficiency (typ):	20%	15%

### RF Drive Electronics

Synthesizer Driver / Amp: iMS2-HF with AF0-200T-1-3 (3W) or AJ0-200T-10 (>10W)

**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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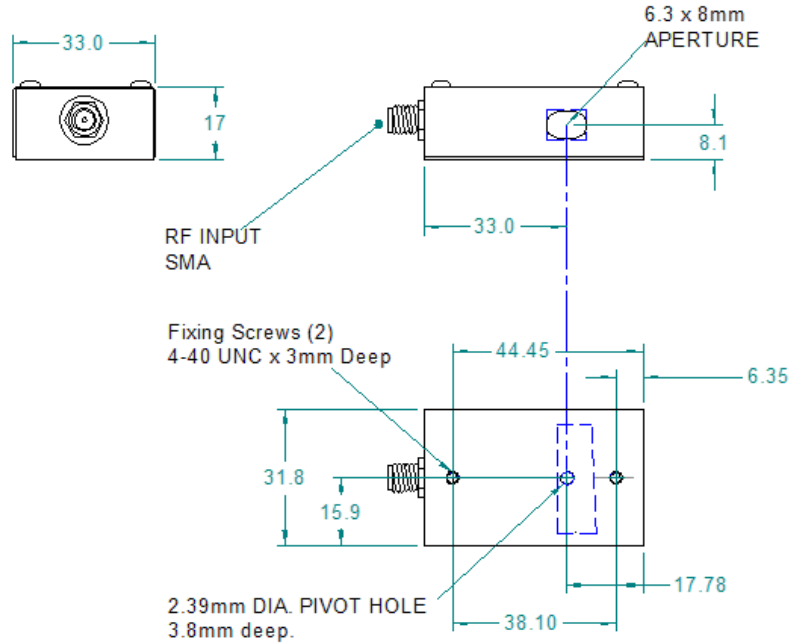


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### OUTLINE DRAWING

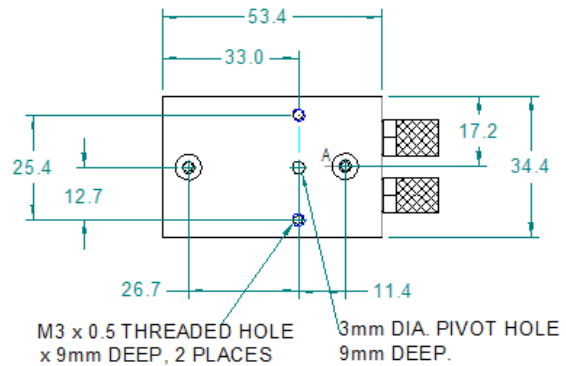
Dim'n: mm



Always mount to a heatsink.

#### Options:

- WB : Water cooled base (10.7mm thick with M5 threaded water fittings)
- M : Metric fixing holes (M3 x 0.5)



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