

# FS1303A-T150S-1



## AO Frequency Shifter (PRELIMINARY)

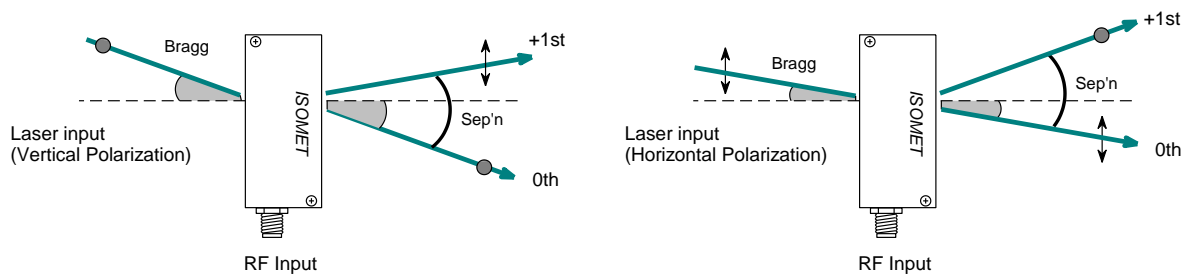
0812

The FS1300 series are specifically designed for operation as high efficiency acousto-optic frequency-shifters and/or low speed amplitude modulators in the NIR wavelength range.

### SPECIFICATIONS

|                                    |                                       |
|------------------------------------|---------------------------------------|
| Standard Operating Wavelength:     | 1550nm (Others available)             |
| Interaction Material:              | Tellurium Dioxide (TeO <sub>2</sub> ) |
| Active Aperture:                   | 2mm                                   |
| Acoustic Velocity                  | 0.615mm/us                            |
| Centre Frequency (f <sub>c</sub> ) | 150MHz                                |
| RF Bandwidth (Δf)                  | ~ 1.5 MHz                             |
| Input Impedance:                   | 50Ω (Nominal)                         |
| VSWR:                              | < 1.5 :1 at f <sub>c</sub>            |
| Optical Power:                     | < 5W                                  |
| Optical rise time                  | 1.1usec per mm beam diameter          |
| Input Laser Polarization:          | Linear, either                        |
| Output Polarization                | Rotated 90deg relative to input       |

### ORIENTATION



### PERFORMANCE

|                              |  |
|------------------------------|--|
| Model                        | FS1303A                                      |
| Wavelength:                  | 1550 nm                                      |
| RF Drive Power:              | < 1.6 W                                      |
| Bragg Angle (@ 150MHz)       | 16.7 degrees (nominal), vertical input pol.  |
|                              | 5.0 degrees (nominal), horizontal input pol. |
| Beam Separation (@ 150 MHz): | 21.7 degrees                                 |
| Diffraction Efficiency       | ≥85% min, >90% typical                       |
| Static Insertion loss        | <3% max, < 2% typical                        |
| Response time                | > 650KHz, for <u>0.5mm</u> beam diameter     |

#### ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

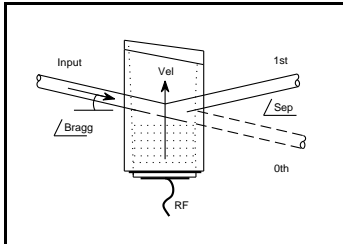
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#### Quality Assured.

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



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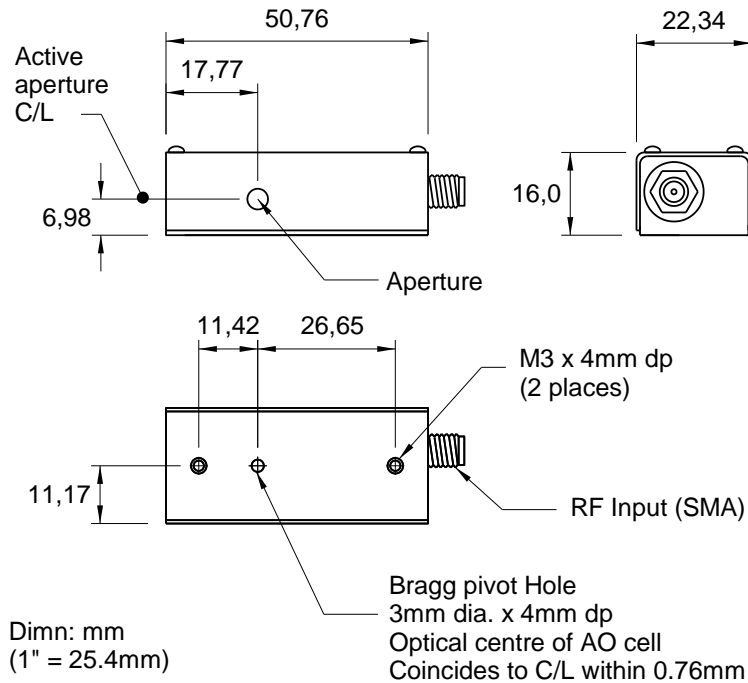


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### OUTLINE DRAWING

Case material: Aluminium



Dimensions: mm

### DRIVER OPTIONS

|                     |          |          |
|---------------------|----------|----------|
| Fixed Frequency,    | 12-15V   | 24V      |
| Digital Modulation: | 524C-L`  | 524C-2   |
| Analog Modulation:  | 534C-L-B | 534C-2-B |
| (-B = with Bias)    |          |          |

|   |                       |
|---|-----------------------|
| Programmable Frequency,<br>Synthesizer with amplitude control | 24V<br>iSPA-SF series |
|---|-----------------------|

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