L3HARRIS®
FAST. FORWARD.

MODEL H-424
ACOUSTO-OPTIC DEFLECTOR (AOD)

The L3Harris Model H-424 AOD utilizes advanced acoustic beamsteering technology to achieve exceptional diffraction efficiency and bandwidth for many solid-state scanning applications. By leveraging coherent transducer acoustic array technology in conjunction with a suitable RF driver, optimal Bragg phase matching conditions may be maintained at all operating frequencies within the specified deflection band.

The H-424 operates with low RF input powers while delivering very high optical efficiency. As a result, thermal effects are largely eliminated. In addition, the H-424 was designed to operate with a circular input beam to simplify system integration in many optical systems. An L3Harris H-400 series compatible driver and interface cable are required for operation.

PERFORMANCE PARAMETERS

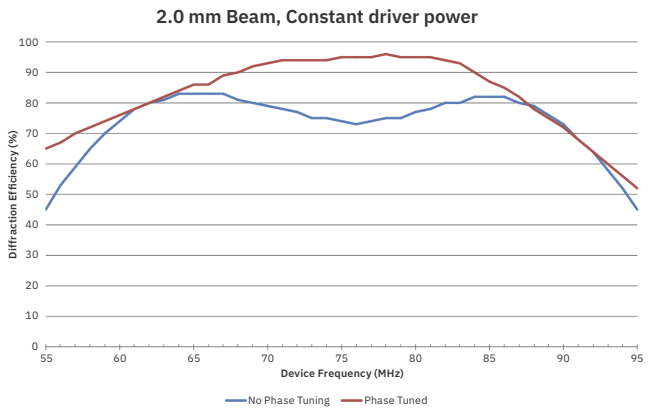
PARAMETER	SPECIFICATION
Unless otherwise noted, all specifications are at 532 nm wavelength, 2 mm circular beam size.	
Input/output diffracted beam polarization	Linear horizontal (parallel to base)/linear vertical
Diffracted beam polarization extinction ratio	15 dB (typ.)
Diffracted beam on/off contrast ratio	45 dB (typ.)
Nominal center frequency (fc)	75 MHz
Deflection bandwidth	55 MHz – 95 MHz
Total angular deflection range of diffracted beam	33 mrad
Nominal input optical beam diameter	2 mm (circular)
Optical damage threshold	3 W (nominal)
Nominal rise time	2.1 us
Optical wavelength	532 nm
Optical material	SS TeO_2

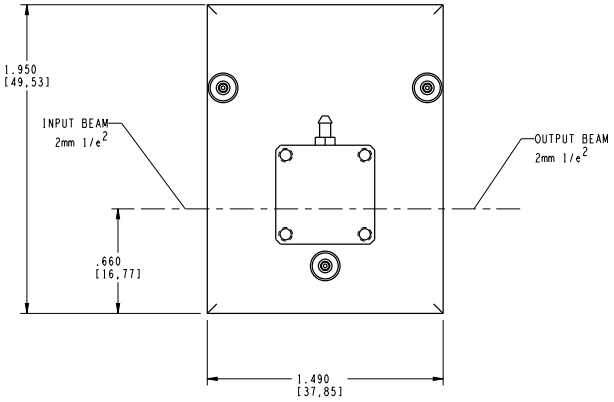
APPLICATIONS

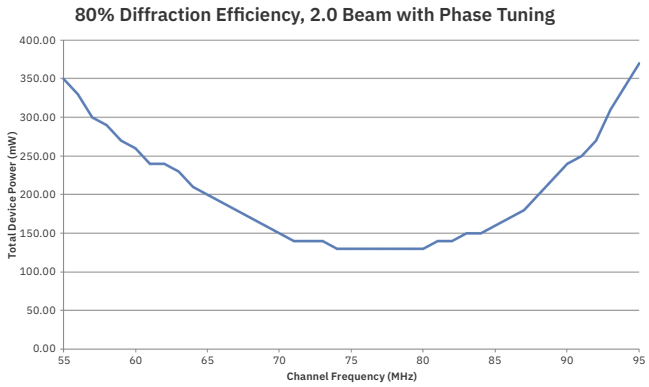
- Optical deflection in 532nm systems requiring the ultimate in beam-pointing stability
- Predeflection, modulation, pointing adjustment and micro-machining in visible and NIR laser systems

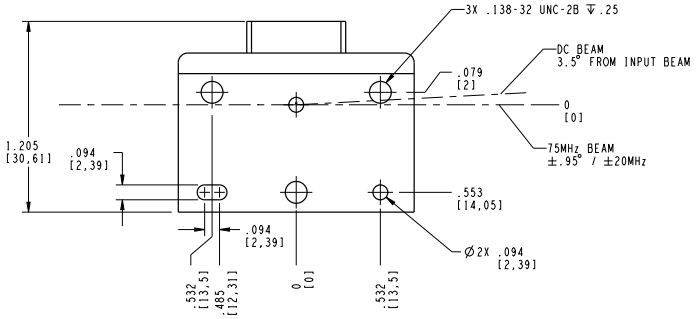
HIGHLIGHTS

- Employs advanced coherent transducer array technology providing in excess of 100 (1/e2) resolved scan beams
- Achieves excellent performance through use of single crystal bulk wave transducers and specialized fabrication techniques
- Assures high reliability due to high-vacuum application of alloy bonded transducers and low-loss, ion assisted e-beam deposited antireflective coatings









Part Ordering Configuration

H424-STE-WL-CF-MC-R

- H-400 series AOM model number
- Material – STE for Slow Shear TeO_2
- Wavelength – 532 nm nominally
- Center frequency – xx MHz
- **PM** – Phase modulation capable
  AM – standard amplitude modulation only capable
- R for ROHS compliant

For additional information, email Acousto-Optics@L3Harris.com or visit www.L3Harris.com/Acousto-Optics.

Model H-424 Acousto-Optic Deflector (AOD)

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