1250C-974(M)
OEM Acousto-Optic Modulator

APPLICATION

- Wideband Modulator
- Frequency Shifter
- Optimised for visible wavelengths

FEATURES

- Very High Video Bandwidth
- Low Drive Power
- Improved Dynamic Contrast Ratio
- Good Temperature Stability

DRIVERS

525C-L (DIGITAL MODULATION)  620C-200 (VARIABLE FREQUENCY & DIGITAL MOD’N)
535C-L (ANALOG MODULATION)   630C-200 (VARIABLE FREQUENCY & ANALOG MOD’N)

OUTLINE DRAWING

(For M3 metric screws fixings add suffix M)
**SPECIFICATIONS**

Spectral Range: 0.442 - 1.5 µm
Standard A/R Wavelengths: 488-633nm
Interaction Medium: Tellurium Dioxide (TeO₂)
Acoustic Velocity: 4.2mm/µs
Active Aperture: 0.5mm
Centre Frequency: 200MHz
RF Bandwidth: 100MHz
RF Input Impedance: 50Ω Nominal
DC Contrast Ratio: >1000:1 min (2000:1 typical)

**PERFORMANCE vs. BEAM DIA. at 532nm**

![Graph showing Efficiency vs. Beam Diameter at 532nm](image)

- **Efficiency**
- **Rise time**

**PERFORMANCE vs. WAVELENGTH**

- Operating Wavelength (nm): 532
- RF Drive Power (W): <0.9
- Input Bragg Angle (mrad): 12.7
- 0°-1st Order Beam Separation (mrad): 25.3
- Static Insertion Loss (%): <3

**DYNAMIC CONTRAST RATIO**

Maximum modulation bandwidth (50MHz) dynamic contrast ratio (CR) is obtained with a focused beam diameter of 31µm. The typical MTF (depth of modulation) curve for the 1250C is shown at left. For larger beam diameters, the abscissa scales linearly. The value of M from the curve may be used to determine the sine wave contrast ratio at a particular modulating frequency according to the relation:

\[
CR = 1 + \frac{M}{1 - M}
\]

For digital, on-off modulation, the CR will be greater than the value calculated from the above equation.