1250C
Acousto-Optic Modulator

APPLICATION

- Wideband Modulator
- Frequency Shifter

FEATURES

- Very High Video Bandwidth
- Low Drive Power
- Compact
- 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

[Diagram showing dimensions and features of the modulator]

DIMN: mm
(1” = 25.4mm)

Active aperture C/L
6,98
17,77
50,76
16,00
11,42
26,65
22,34
11,17

Aperture
RF Input (SMA)

Bragg pivot Hole
2.38mm x 4mm dp
Optical centre of AO cell
Coincides to C/L within 0.76mm

[Please refer to 1205/06/50C-NIR Data sheet addendum for performance at wavelengths > 800nm]
1250C
Acousto-Optic Modulator

SPECIFICATIONS

Spectral Range: .442->1.5µm*
Standard Arc Wavelengths: 442-488nm, 488-633nm (Options to 1.5µm available)
Interaction Medium: Lead Molybdate (PbMoO4)
Acoustic Velocity: 3.63mm/µs
Active Aperture: 0.75mm
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 515nm

PERFORMANCE vs. WAVELENGTH

Operating Wavelength (nm) 442 488 515 633
RF Drive Power (W): <0.7 <0.8 <0.9 <1.3
Input Bragg Angle (mrad): 12.1 13.4 14.2 17.4
0th-1st Order Beam Separation (mrad): 24.3 26.9 28.4 34.9
Static Insertion Loss (%): <10 <5 <3 <3

MTF

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+M/1-M

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

ALL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
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