M1211-aQ110-3-(A/R)

Acousto-Optic Modulator
FOR USE WITH HIGH POWER VISIBLE LASERS*

SPECIFICATIONS

- A/R Operating Wavelength: 532nm
- Centre Frequency: 110MHz
- RF Bandwidth: 20MHz
- Input Impedance: 50Ω (Nominal)
- Input VSWR: <1.5:1 @ 110MHz
- Diffraction Efficiency: Minimum: 85%, Typical: 90%
- Active Aperture Height (at Bragg Point A) **: Minimum: 2.7mm, Typical: 3.0mm
- Optical Insertion Loss: Minimum: 3%, Typical: 2.2%
- Reflectivity/surface: Minimum: 0.7%, Typical: 0.5%
- DC Contrast Ratio: Minimum: 1000:1, Typical: 2500:1
- Laser Polarization: Vertical, Perpendicular to Base
- First order orientation: Towards transducer preferred.
- Water Cooling (Min): 250ml/minute @ 25 degC
- Anti-corrosion additives recommended
- Outline Dimensions: (See reverse side)

PERFORMANCE vs. WAVELENGTH

<table>
<thead>
<tr>
<th>Wavelength (nm)</th>
<th>515</th>
<th>532</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF Drive Power (Watts)</td>
<td>12 (Nominal)</td>
<td>14 (Nominal)</td>
</tr>
<tr>
<td>Bragg Angle (mrad)</td>
<td>4.9</td>
<td>5.1</td>
</tr>
<tr>
<td>Separation Angle (mrad)</td>
<td>9.9</td>
<td>10.2</td>
</tr>
</tbody>
</table>

PERFORMANCE vs. BEAM DIAMETER

<table>
<thead>
<tr>
<th>Beam Diameter (mm)</th>
<th>3.0</th>
<th>2.0</th>
<th>1.0</th>
<th>0.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risetime (nsec)</td>
<td>342</td>
<td>227</td>
<td>113</td>
<td>57</td>
</tr>
<tr>
<td>Video Bandwidth (MHz)</td>
<td>1</td>
<td>1.5</td>
<td>3</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Notes:
* The performance of the Model 1211 was evaluated using a 20W Argon-ion laser with various input beam diameters and optical power levels. These tests were conducted continuously over a period of several months. Throughout, the Model 1211 performed exceptionally well, particularly in terms of beam pointing stability and low wavefront distortion.

** Aperture height specified to FWHH points

RF Drive Electronics

RFA2110 (water cooled) or RFA910-110 (air cooled)
Cooling water required for RF powers exceeding 4W average. An internal isolated thermal interlock switch opens at 35°C.

Water cooled case parts are Aluminium. It is recommended that a corrosion inhibitor is added to the cooling system.