Test Data Sheet

AM-T70R3-YAG
S/N:

High-Q, resonant electro-optic amplitude modulator
with
- tunable resonance frequency
- thermal crystal mount

Optical properties

<table>
<thead>
<tr>
<th>Sym</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>EO crystal</td>
<td>RTP</td>
<td></td>
</tr>
<tr>
<td>Aperture</td>
<td>3x3</td>
<td>mm²</td>
</tr>
<tr>
<td>Wavefront distortion</td>
<td>λ/8</td>
<td>nm</td>
</tr>
<tr>
<td>max. optical intensity (671nm)</td>
<td>&lt;10</td>
<td>W/mm²</td>
</tr>
<tr>
<td>AR coating (R&lt;0.5%)</td>
<td>532</td>
<td>nm</td>
</tr>
</tbody>
</table>

RF properties

<table>
<thead>
<tr>
<th>Sym</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resonance frequency ¹</td>
<td>f₁-f₂</td>
<td>58.4-79.9 MHz</td>
</tr>
<tr>
<td>Preset frequency ²</td>
<td>f₀</td>
<td>70.0 MHz</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>Δν</td>
<td>700 kHz</td>
</tr>
<tr>
<td>Quality factor</td>
<td>Q</td>
<td>100</td>
</tr>
<tr>
<td>Required voltage (@532nm) ²</td>
<td>Vₑ</td>
<td>14.2 Vpp</td>
</tr>
<tr>
<td>max. RFp power ³</td>
<td>RFₚ₂₆</td>
<td>2 W</td>
</tr>
</tbody>
</table>

1) at 20°C  ² with 50Ω termination  ³ no damage with RF<₁₀W

Test wavelength: λₖₑₓₜ  = 532 nm
Resonance frequency: f₀ = 70 MHz
RF power: RFₚ = 27 dBm
Extinction ratio: R = ~100:1

Laser Extinction with parallel polarisers!
Return loss

Optical modulation

**Test Setup:**
- **F0 min | max**
  - f0 = 58.4 | 79.9 GHz
- **Max. number of turns**
  - N_max = 12 turns
- **Inc. frequency shift**
  - Δf ~ 1.8 MHz/turn
- **Tuning orientation**
  - ccw

**Attention!!**
- Use only supplied tuning tool.
- Actuate tuner carefully.
- Do not apply too much pressure or torque.
- Keep tuning tool coaxial.
- Tuner might not be perfectly orthogonal to box.

**Package Drawing**
- Note 1: Mounting screws (M4x0.7) must not exceed 5mm length.
- Note 2: Crystal aperture is 3x3mm.

**Attention:**
- Laser polarization (linear) must be +/- 45° with respect to the white markers.

**Required Laser Polarization:**
- Linear
- +/- 45° with respect to the white markers.