FEATURES
- 500 MHz to 18 GHz
- Compensation for Temperature Drift
- Low-Profile Package
- Input Regulators for Improved Stability
  - Versus Power Supply Variations
- 0-10 Volt Tuning Resolution

DESCRIPTION
MICRO LAMBDA YIG Filters, model types MLFI Series and MLFM-series are available with integrated analog driver circuits.

MICRO LAMBDA drivers eliminate the need for customers to design or develop their own driver circuits and sophisticated test and alignment procedures. Integrating a driver at MICRO LAMBDA’s factory ensures that peak performance will be achieved at the time of manufacture. Alignment and compensation with the particular YIG filter can be maximized down to the component level.

All drivers in this series provide input voltage regulators, and compensation circuits to improve frequency drift.

YIG drivers act as Voltage-To-Current converters, converting standard 0-10 DC voltages into mA of current to tune a magnetic tuning coil.

POSITIVE INPUT ANALOG DRIVERS
CA Series

MICRO LAMBDA positive analog drivers are available for commercial environments. Standard products provide 0-10 Volt tuning input and operate over the 0° to 65° temperature range.

The CA series of analog driver provide the main coil current from the +15 volt input line. Current increases linearly from 0 mA = 0 GHz at a rate of approximately 50 mA per 1 GHz. A 2-8 GHz filter will require 100 mA @ 2 GHz and 400 mA @ 8 GHz.

Frequency drift performance can be optimized with the inclusive temperature compensation circuits within the driver. This yields filter/driver combinations set at the factory with excellent frequency accuracy performance.

In special cases, speed-up circuits like those used to improve the tuning speed of YIG oscillators can also be included to provide both fast-tuned filters and with good accuracy. Filter parameters can be maximized during factory alignment to meet customer specific requirements.

AVAILABLE OPTIONS FOR CA-SERIES
COMMERCIAL ANALOG DRIVERS
- Optional Tuning Speeds
- Optional Sweep Speeds
### YIG TUNED FILTERS WITH COMMERCIAL ANALOG DRIVERS

#### DRIVER INPUT & RESPONSE SPECIFICATION (0 to +65 deg. C)

| Main Coil Driver Function | 0 Volts = Lowest Frequency  
|                          | +10 Volts = Highest Frequency  |
| Tuning Command           |  
| Tuning Accuracy          | See Table  
| (excluding hysteresis)   |  
| Tuning Speed (Note 1)    | 5 mS for 1 GHz step to within +/-10 MHz.  
| Sweep Speed (Note 2)     | 50 mS up / 10 mS Retrace for 1 GHz, Linearity @ 0.1%  
| (0-10 Volt Ramp)         |  

**Main Driver Inputs**

- **Supply Voltage & Current**  
  +15 V +/- .5 V @ Filter Tuning Current + 50 mA, Max.  
  -15 V +/- .5 V @ 50 mA, Max.  
- **Supply Voltage Pushing**  
  +/-100 kHz, Max. @ +/- .5 Vdc  
- **Supply Voltage Ripple**  
  10 mV Ripple Pk-Pk from 2 kHz to 3 MHz  
- **Ground**  
  Chassis Ground  
- **YIG Heater Voltage & Current**  
  +24 Vdc ±4 Vdc @ 500 mA surge for 2 seconds. 150 mA steady state  
  Polarity independent: ±12 Vdc or ±15 Vdc acceptable  
- **Input Impedance**  
  > 10 k-Ohms  
- **Common Rejection Mode**  
  > 40 dB

---

**Note 1:** Optional 0.5 mS Tuning Speeds Available  
**Note 2:** Optional 5 mS Sweep Speed Available
<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>Stages</th>
<th>Frequency (GHz)</th>
<th>3 dB Bandwidth (MHz)</th>
<th>Accuracy (MHz)*</th>
<th>+15V (mA)</th>
<th>-15V (mA)</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLFI-41002CA</td>
<td>4</td>
<td>1.0 to 2.0</td>
<td>20</td>
<td>+/- 6</td>
<td>150</td>
<td>50</td>
<td>21-037</td>
</tr>
<tr>
<td>MLFI-42004CA</td>
<td>4</td>
<td>2.0 to 4.0</td>
<td>30</td>
<td>+/- 8</td>
<td>250</td>
<td>50</td>
<td>21-037</td>
</tr>
<tr>
<td>MLFI-44008CA</td>
<td>4</td>
<td>4.0 to 8.0</td>
<td>40</td>
<td>+/- 12</td>
<td>450</td>
<td>50</td>
<td>21-037</td>
</tr>
<tr>
<td>MLFI-42008CA</td>
<td>4</td>
<td>2.0 to 8.0</td>
<td>30</td>
<td>+/- 13</td>
<td>450</td>
<td>50</td>
<td>21-037</td>
</tr>
<tr>
<td>MLFI-61002CA</td>
<td>6</td>
<td>1.0 to 2.0</td>
<td>25</td>
<td>+/- 6</td>
<td>150</td>
<td>50</td>
<td>21-037</td>
</tr>
<tr>
<td>MLFI-62004CA</td>
<td>6</td>
<td>2.0 to 4.0</td>
<td>40</td>
<td>+/- 8</td>
<td>250</td>
<td>50</td>
<td>21-037</td>
</tr>
<tr>
<td>MLFI-64008CA</td>
<td>6</td>
<td>4.0 to 8.0</td>
<td>45</td>
<td>+/- 12</td>
<td>450</td>
<td>50</td>
<td>21-037</td>
</tr>
<tr>
<td>MLFI-62008CA</td>
<td>6</td>
<td>2.0 to 8.0</td>
<td>40</td>
<td>+/- 13</td>
<td>450</td>
<td>50</td>
<td>21-037</td>
</tr>
</tbody>
</table>

* Accuracy includes frequency drift and linearity errors over the temperature range.

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>Stages</th>
<th>Frequency (GHz)</th>
<th>3 dB Bandwidth (MHz)</th>
<th>Accuracy (MHz)*</th>
<th>+15V (mA)</th>
<th>-15V (mA)</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLFM-30520CA</td>
<td>3</td>
<td>0.5 to 2.0</td>
<td>15</td>
<td>+/- 7</td>
<td>150</td>
<td>50</td>
<td>21-051</td>
</tr>
<tr>
<td>MLFM-40540CA</td>
<td>4</td>
<td>0.5 to 4.0</td>
<td>15</td>
<td>+/- 10</td>
<td>250</td>
<td>50</td>
<td>21-051</td>
</tr>
<tr>
<td>MLFM-42008CA</td>
<td>4</td>
<td>2.0 to 8.0</td>
<td>30</td>
<td>+/- 13</td>
<td>450</td>
<td>50</td>
<td>21-051</td>
</tr>
<tr>
<td>MLFM-42018CA</td>
<td>4</td>
<td>2.0 to 18.0</td>
<td>30</td>
<td>+/- 13</td>
<td>950</td>
<td>50</td>
<td>21-051</td>
</tr>
<tr>
<td>MLFM-46018CA</td>
<td>4</td>
<td>6.0 to 18.0</td>
<td>40</td>
<td>+/- 13</td>
<td>950</td>
<td>50</td>
<td>21-051</td>
</tr>
</tbody>
</table>

* Accuracy includes frequency drift and linearity errors over the temperature range.