DUAL TRACKING
BAND PASS/BAND REJECT YIG FILTERS
DUAL 10-STAGES
Octave and Multioctave
Integral Drivers

APPLICATIONS
- Spectrum Analyzers
- Sweep Generators
- ECM Receivers
- Frequency Synthesizers
- Broadband Test Equipment

FEATURES
- Low Insertion Loss-1.0 dB in
  Some Models
- Frequency vs. Temperature Stability
  as Low as 200 KHz/°C
- Repeatable RF Performance from
  Unit to Unit
- Package Sizes Typically 1.7 Inch³
- Qualification to MIL-E-5400, Class II
  Specification Available.

OMNIYIG's newest standard line of integrated band
Pass Band Reject YIG Filters are electronically tunable
in octave and/or multioctave frequency range from 500
MHz to 18 GHz. These Band Pass/Band Reject YIG
Filters consist of two units designed and integrated
under a common tuning magnetic circuit. The Band
Pass YIG Filter section is of a 4-Stage unit and the
Band Reject section is of a 6-stage unit. We could also
design various other number of stages to customer's
requirements. Over 20 years of experience in YIG
development has resulted in improved designs which
exhibit excellent performance. Proprietary production
techniques enable OMNIYIG to give each customer
higher quality YIG Band Reject Filters at very attract-
tive prices. These compact packaged solid-state
devices provide outstanding tuning linearity over one
to five octave bands. Analog drivers and TTL drivers
are available as integrated parts to the YIG Filter. Bes-
sides the standard line, OMNIYIG manufactures many
special designs of Band Reject Filters, YIG Oscillators,
Discriminators, YIG Bandpass Filters and other YIG
designs. All devices can be qualified to MIL-E-5400,
Class II specification.

PARAMETER DEFINITIONS
BAND REJECT FILTER

A = Passband Insertion Loss
B = Peak Rejection
C = Spurious Response Rejection
D = Bandwidth at 40 dB Rejection
E = 3 dB Bandwidth

0 dB Loss

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## Standard Double Octave Bands

<table>
<thead>
<tr>
<th>Type</th>
<th>OMNIYIG Model No.</th>
<th>Frequency Range (GHz)</th>
<th>3dB BW Max. (MHz)</th>
<th>Insertion Loss Max. (dB)</th>
<th>Bandwidth at 30dB^2 (MHz)</th>
<th>Off Resonance Spurious Minimum (dB)</th>
<th>Frequency Drift 0° to 60° C (MHz)</th>
<th>VSWR</th>
<th>Weight (Oz.)</th>
<th>Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAND PASS</td>
<td>M138</td>
<td>2.8</td>
<td>25-50</td>
<td>4.5</td>
<td>N/A</td>
<td>50</td>
<td>8</td>
<td>2.1:1</td>
<td>20</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>M139</td>
<td>8.18</td>
<td>25-50</td>
<td>4.5</td>
<td>N/A</td>
<td>50</td>
<td>10</td>
<td>2.1:1</td>
<td>20</td>
<td>A</td>
</tr>
<tr>
<td>BAND REJECT</td>
<td>M138</td>
<td>2.8</td>
<td>125</td>
<td>1.5</td>
<td>20</td>
<td>4.5</td>
<td>8</td>
<td>2.5:1</td>
<td>20</td>
<td>A</td>
</tr>
<tr>
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</tr>
</tbody>
</table>

### Power Supply Requirements:
- Tuning sensitivity (Typically): 22 MHz/ma
- Heater Supply Voltage (unregulated): 22-30 V.
- Heater Current: 5 Sec. Surge 1.2 Amps.
- Steady State: 100 ma max.

### OUTLINE A

#### Feedthru Terminals
- 4 Places
- Connector
- SMA-F 2 Places

#### Conn. No. | Description
--- | ---
1&2 | Tuning Coil (observe polarity)
3&4 | Heater (20-30 V)
J1 | RF Input Band Pass
J2 | RF Output Band Pass
J3 | RF Input Band Reject
J4 | RF Output Band Reject

### NOTES:
1. All connectors are standard 3mm (SMA) female.
2. Limiting levels for all units is greater than + 10 dBm.
3. Nominal bandwidths; other bandwidths are available.
4. Deviation from linear ±0.1%.
5. Sweeping time required for bandpass to stabilize within 0.2% of full band step, 10 Milli seconds.
6. All units can be qualified to MIL-E-5400, Class II specification or special order.