

Dual 4-STAGE YIG FILTERS with By-Pass Switch OCTAVE BAND MULTI-OCTAVE FAST SWITCHING INTEGRAL DRIVERS DUAL TRACKING ± 4 MHz



FEATURES

- Low/Insertion Loss, 3.0 dB in some Models.
- Frequency vs. Temperature as Low as 5 MHz/60° C.
- Repeatable RF Performance from Unit to Unit.
- Package Sizes Typically 1.4 inch³ and 1.7 inch³ for Filters.
- Qualification to MIL-E-5400, Class II Specification Available.

APPLICATIONS

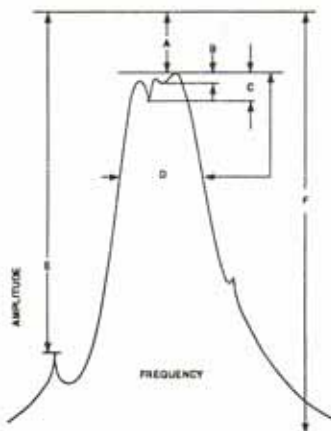
- Telecommunications
- Spectrum Analyzers
- Sweep Generators
- ECM Receivers
- Frequency Synthesizers
- Broadband Test Equipment
- Multi-octave Receivers

DESCRIPTION

OMNIYIG's latest standard line of dual 4-stage, bandpass YIG filters are electronically tunable from 500 MHz to 26 GHz. These units are also provided with a bypass switch with TTL=1, thus bypassing the YIG filter. Insertion loss is very low across the frequency band of interest. Twenty-five years of experience in YIG development has resulted in improved designs which exhibit excellent performance. Proprietary

production techniques enable OMNIYIG to give each customer the highest quality YIG filters at very attractive prices. These compact packaged solid-state devices provide outstanding tuning linearity over one to five octave bands. OMNIYIG manufactures integrated packages complete with YIG filter, oscillator, and analog or digital driver. All devices can be qualified to MIL-E-5400, Class II Specification.

YIG FILTER PARAMETER DEFINITIONS



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|---|---|
| <p>A. INSERTION LOSS
Loss in excess of straight transmission.</p> <p>B. PASS BAND RIPPLE
Over coupling variations in peak response of pass band.</p> <p>C. PASS BAND SPURIOUS
Magnetostatic mode pass band interference.</p> <p>D. BANDWIDTH
Half power (3 dB) width of response when measured from peak.</p> | <p>E. OFF RESONANCE SPURIOUS
Spurious or magnetostatic modes down to a total of 5 dB affecting skirt response.</p> <p>F. OFF RESONANCE ISOLATION
Attenuation outside band of filter response.</p> |
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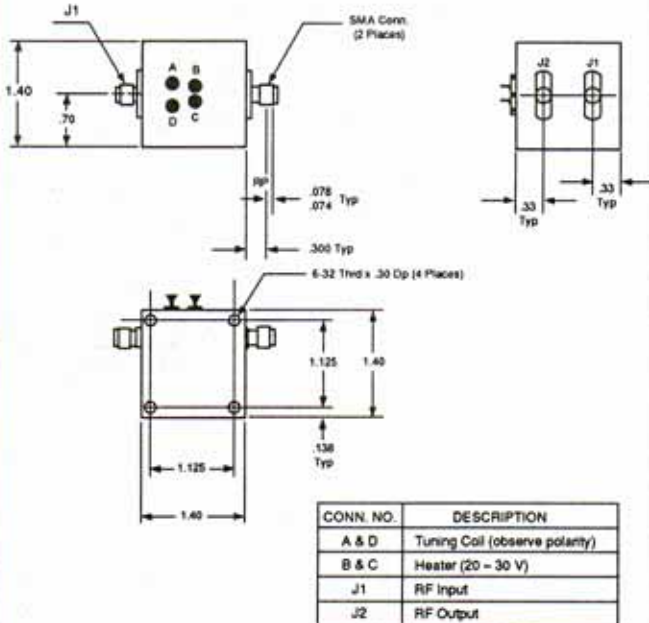
STANDARD OCTAVE BANDS⁽⁶⁾

TYPE ^{1,7}	OMNIYIG MODEL No. ^{2,5}	FREQUENCY RANGE (GHz)	INSERTION LOSS (dB)	BANDWIDTH at 3 dB ³ (MHz)	COMBINED OFF RESONANCE		FREQUENCY DRIFT 0° to 60°C (MHz)	OFF RESONANCE ISOLATION MINIMUM (dB)	DIMENSIONS CUBED (INCHES)	WEIGHT (oz)	FREQUENCY TRACKING BETWEEN CHANNELS (MHz)
					RESONANCE SPURIOUS MINIMUM (dB)	PASSBAND RIPPLE & SPURIOUS MAXIMUM (dB)					
DUAL 4-STAGE (Per Channel)	M1841	0.5 - 1.0	6.5	12 - 23	60	1.0	5	100	1.4	9.8	5
	M1842	1.0 - 2.0	5.5	20 - 35	60	1.5	5	100	1.4	9.8	6
	M1843	2.0 - 4.0	5.0	20 - 35	60	1.5	6	100	1.4	9.8	6
	M1844	4.0 - 8.0	4.5	25 - 40	60	1.5	9	100	1.4	9.8	7
	M1845	8.0 - 12.4	4.5	25 - 40	60	1.5	10	100	1.69	17.5	8
	M1846	12.4 - 18.0	4.5	28 - 45	60	1.0	12	100	1.69	17.5	7
BYPASS SWITCH w/ DUAL 4-STAGE (Per Channel)	M18475	0.5 - 1.0	6.5	17 - 35	35	1.0	5	70	1.4	9.8	5
	M18485	1.0 - 2.0	6.0	24 - 40	35	1.5	5	70	1.4	9.8	6
	M18495	2.0 - 4.0	5.5	30 - 45	30	1.5	5	70	1.4	9.8	6
	M18505	4.0 - 8.0	5.5	30 - 45	30	1.5	9	70	1.4	9.8	7
	M18515	8.0 - 12.4	5.5	35 - 50	30	1.5	10	70	1.69	17.5	8
	M18525	12.4 - 18.0	5.5	35 - 50	30	1.5	10	70	1.69	17.5	7

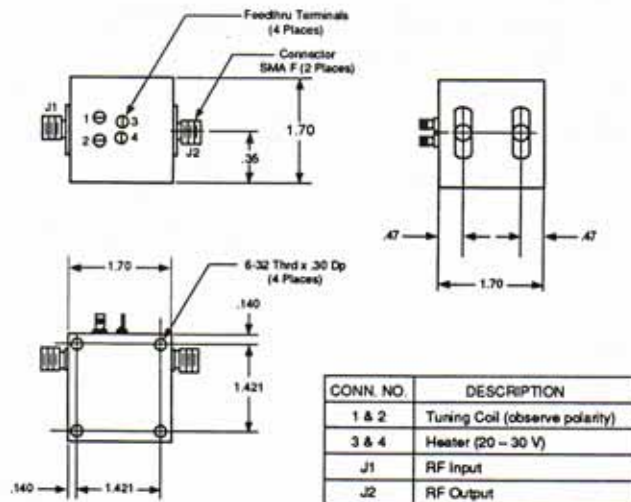
STANDARD MULTI-OCTAVE BANDS⁽⁶⁾

DUAL	M1853	0.5 - 2.0	7.0	12 - 26	60	2.5	13	100	1.69	17.5	5
4-STAGE (Per Channel)	M1854	2.0 - 8.0	6.0	25 - 40	60	2.5	13	100	1.69	17.5	5
	M1855	8.0 - 18.0	6.0	25 - 60	60	2.5	13	100	1.69	17.5	10
	M1856	4.0 - 18.0		30 - 50	60	2.0	13		1.69	17.5	10
	M1857	2.0 - 18.0	6.5	25 - 60	60	2.5	13	100	1.69	17.5	10

OUTLINE A



OUTLINE B



NOTES:

- All connectors are standard 3mm (SMA) female.
- Limiting levels for all units are greater than +10 dBm.
- Nominal bandwidths, other bandwidths are available.
- Deviation from linear $\pm 0.1\%$.
- Sweeping time required for bandpass to stabilize within 0.2% of full band step. 20 ms. fast switching models available.
- All units can be qualified to MIL-E-5400, Class II Specification on special order.
- Data per channel.