



# MICRO LAMBDA WIRELESS, INC.

## MILLIMETER WAVE YIG BANDPASS FILTERS 2-50 GHz

### FEATURES

- 2-50 GHz Frequency Coverage
- Excellent Linearity
- K-Type and V-Type RF Connectors
- Low Insertion Loss



### DESCRIPTION

The MICRO LAMBDA Millimeter Wave line of 4-stage YIG bandpass filters provide high selectivity and offer excellent image rejection. These filters provide excellent linearity, low frequency drift and very flat 3 dB bandwidth response over the frequency range. These filters are suited for spectrum analyzers, down-converters and a variety of micro-wave test equipment applications.

### ELECTRICAL AND PERFORMANCE SPECIFICATIONS

Guaranteed Specifications at 0° to +65° C Case Temperature

Model No.	MLFP-42040	MLFP-43040	MLFP-43050
Frequency Range, Min. (Note 2)	2-40 GHz	3-40 GHz	3-50 GHz
No. of Stages	4	4	4
3dB Bandwidth, Min. (Note 1)	25 MHz	30 MHz	30 MHz
Insertion Loss, Max.	7.5 dB	7 dB	7 dB
Passband Spurs & Ripple, Max.	2.0 dB	2.0 dB	2.0 dB
Passband VSWR, Max.	2:1	2:1	2:1
Selectivity, Typ.	24 dB/Octave	24 dB/Octave	24 dB/Octave
Off Resonance Isolation, Min.	80 dB	80 dB	60 db
Off Resonance Spurious, Min.	60 dB	60 dB	40 db
Limiting Level, Min.	+10 dBm	+10 dBm	+10 dBm
Tuning Coil Characteristics			
Tuning Sensitivity, Typ.	30 MHz/mA	30 MHz/mA	25 MHz/mA
Linearity, Max.	+/- 35 MHz	+/- 35 MHz	+/- 35 MHz
Hysteresis, Typ.	50 MHz	50 MHz	60 MHz
Temperature Drift, Max.	80 MHz	80 MHz	180 MHz
Coil Resistance, Typ.	6 Ohms	6 Ohms	4 Ohms
Coil Inductance, Typ.	200 mH	200 mH	100 mH
Heater Voltage	20-30 Vdc	20-30 Vdc	20-30 Vdc
Heater Current-Surge, Max. @ 25 deg. C.	750 mA	750 mA	750 mA
Steady State @ 25 deg. C.	150 mA	150 mA	150 mA
Case Style	21-056	21-056	21-106

Note: 1) Modified 3 dB Bandwidths Available.

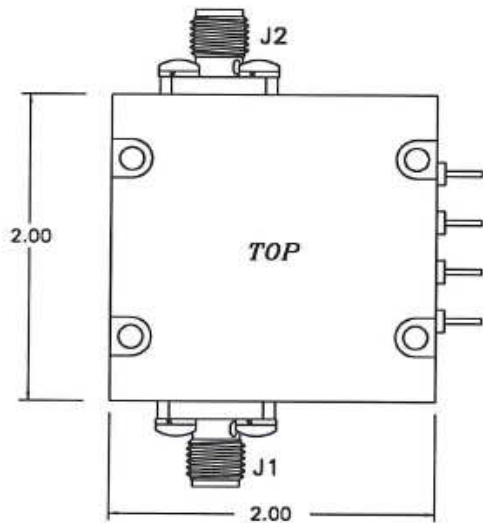
2) Other Frequency Ranges Available.



Model No.	MLFP-47040	MLFP-40840	MLFP-41840
Frequency Range, Min. (Note 2)	7-40 GHz	8-40 GHz	18-40 GHz
No. of Stages	4	4	4
3dB Bandwidth, Min. (Note 1)	35 MHz	250 MHz	50 MHz
Insertion Loss, Max.	5 dB	6 dB	5 dB
Passband Spurs & Ripple, Max.	2.0 dB	2.0 dB	2.0 dB
Passband VSWR, Max.	2:1	2:1	2:1
Selectivity, Typ.	24 dB/Octave	24 dB/Octave	24 dB/Octave
Off Resonance Isolation, Min.	80 db	80 db	80 db
Off Resonance Spurious, Min.	60 db	60 db	60 db
Limiting Level, Min.	+10 dBm	+10 dBm	+10 dBm
<b>Tuning Coil Characteristics</b>			
Tuning Sensitivity, Typ.	30 MHz/mA	25 MHz/mA	30 MHz/mA
Linearity, Max.	+/- 30 MHz	+/- 30 MHz	+/- 25 MHz
Hysteresis, Typ.	45 MHz	30 MHz	30 MHz
Temperature Drift, Max.	80 MHz	80 MHz	80 MHz
Coil Resistance, Typ.	6 Ohms	4 Ohms	6 Ohms
Coil Inductance, Typ.	200 mH	200 mH	200 mH
Heater Voltage	20-30 Vdc	20-30 Vdc	20-30 Vdc
Heater Current-Surge, Max. @ 25 deg. C.	750 mA	750 mA	750 mA
Steady State @ 25 deg. C.	150 mA	150 mA	150 mA
Case Style	21-056	21-056	21-056

Note: 1) Modified 3 dB Bandwidths Available.

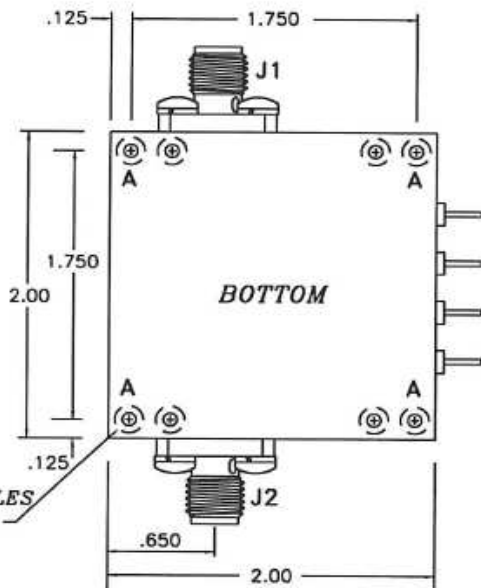
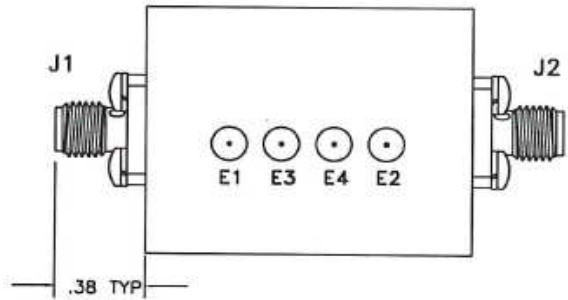
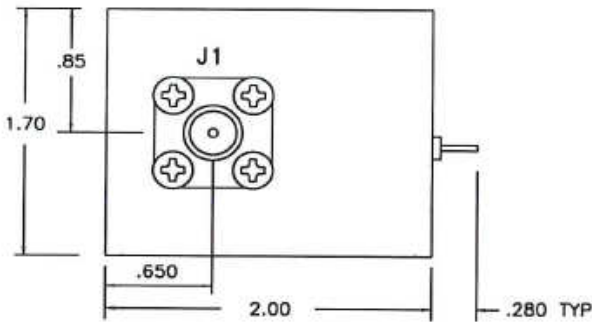
2) Other Frequency Ranges Available.



CONN	FUNCTIONS
J1	RF IN (K-CONN; FEM.)
J2	RF OUT (K-CONN; FEM.)
E1	+ COIL
E2	- COIL
E3	HEATER
E4	HEATER

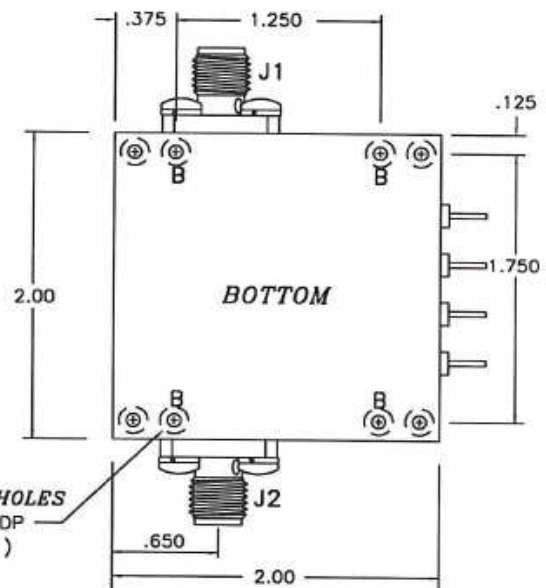
\* POSITION OF E1 & E2  
SELECTED AT FACTORY FOR  
COIL POLARITY

**WEIGHT : 24 Oz.(680 GRAMS) MAX**



MOUNTING HOLES  
6-32 X.22 DP  
( 4 PLS )

MOUNTING HOLES LOCATION: OPTION A



MOUNTING HOLES  
6-32 X.22 DP  
( 4 PLS )

MOUNTING HOLES LOCATION: OPTION B

UNLESS OTHERWISE SPECIFIED DIMENSIONS  
ARE IN INCHES  
TOLERANCE ARE :

FRACTIONS DECIMALS ANGLES  
• .XX ±.010  
• .XXX ±.005

MATERIAL  
CARPENTER 49

FINISH

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS DATE

DRAWN N.NGUYEN 6/8/04

CHECKED 11/18/04

ISSUED



MICRO LAMBDA WIRELESS, INC.

MMW FILTER ( 2.0" X 2.0" X 1.7" )

SIZE

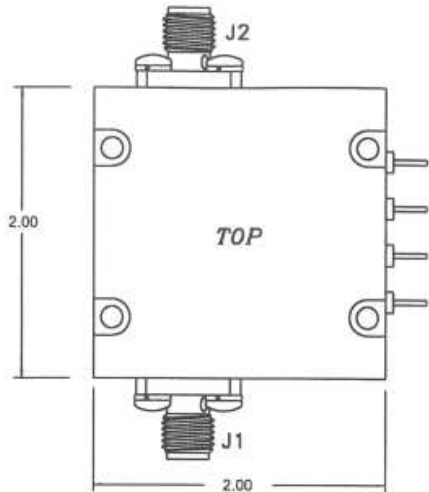
CAGE No  
ORN63

DWG. NO.

21 - 056

REV.

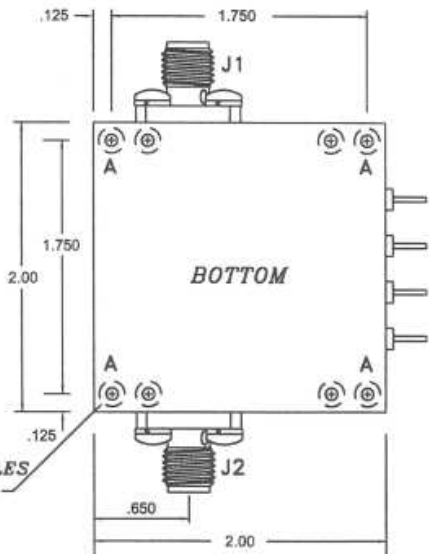
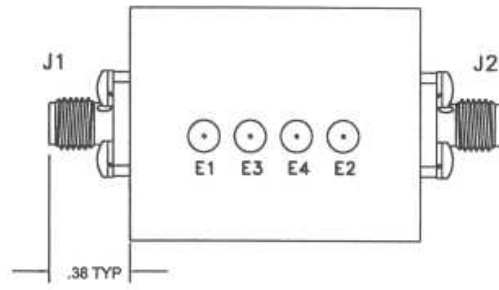
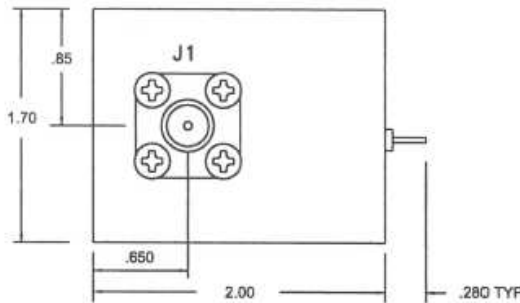
A



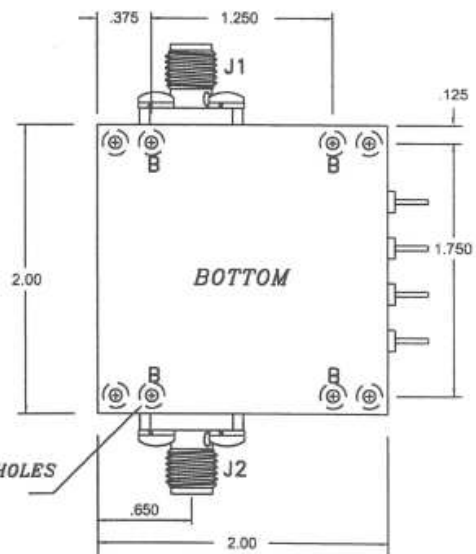
CONN	FUNCTIONS
J1	RF IN [2.4mm; JACK (FEM.)]
J2	RF OUT [2.4mm; JACK (FEM.)]
E1	+ COIL
E2	- COIL
E3	HEATER
E4	HEATER

\* POSITION OF E1 & E2  
SELECTED AT FACTORY FOR  
COIL POLARITY

**WEIGHT : 24 Oz.(680 GRAMS) MAX**



MOUNTING HOLES LOCATION: OPTION A



MOUNTING HOLES LOCATION: OPTION B

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES  
TOLERANCE ARE:  
FRACTIONS DECIMALS ANGLES  
± .010 ± .005

MATERIAL CARPENTER 49  
FINISH

DO NOT SCALE DRAWING

CONTRACT NO.	
APPROVALS	DATE
DRAWN N.NGUYEN	4/02/08
CHECKED [Signature]	4/1/08
ISSUED	



MICRO LAMBDA WIRELESS, INC.

**50GHz FILTER ( 2.0" X 2.0" X 1.7" )**

SIZE	CAGE NO. 0RN63	DWG. NO. 21 - 106	REV B
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