



Description

Model VF7-FM-HR3 (Fo) is highly selective FM Narrow band pass filter. It is frequency tunable, designed to pass a specific FM signal (Fo) and reject signals ± 1 MHz away from Fo (see graph below). Band pass frequency is factory preset at 99 MHz, or, User specified (Fo). VF7-FM-HR3 frequency is tunable via three High-Q trimmers (T1,T2, and, T3), with tuning range from 88-108 MHz.

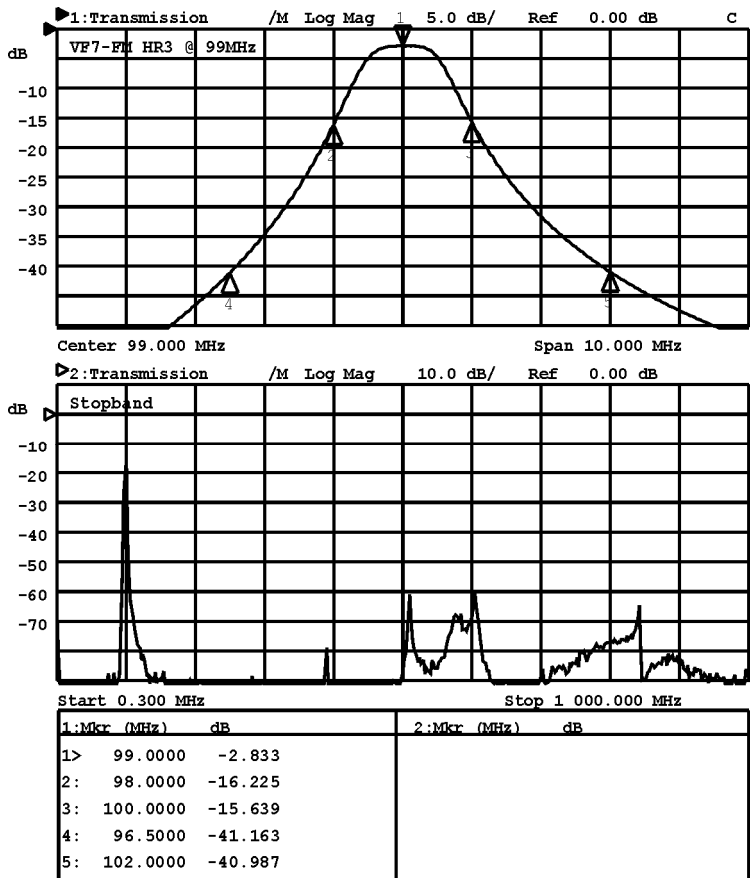
- Narrow Pass band: 0.5 MHz
- Selectivity: >20dB rejection ± 1 to 1.25 MHz from Fo
- Pass band insertion loss 2.75 to 3.25 dB at Fo
- Stop band >60 dB: 5-80 MHz, 118-1000 MHz (see graph)
- Connectors: F type, 75 ohms (BNC 75 option)
- Connector 50 ohms options: BNC, N, SMA, TNC
- RF power handling: 2 Watts max (up to 25 Watts– inquire)



RF Characteristics

| Bandpass Frequency | Insertion Loss (dB) | VSWR | Return Loss (dB) | Attenuation (20dB) | Attenuation (40dB) | -3dB BW (MHz) |
|--------------------|---------------------|--------|------------------|--------------------|--------------------|---------------|
| 88 | <3.5 | 1.38:1 | 16 | ± 1.0 MHz | ± 2.5 MHz | 0.5 |
| 99 | <3.0 | 1.28:1 | 18 | ± 1.25 MHz | ± 3.5 MHz | 0.4 |
| 108 | <3.0 | 1.38:1 | 16 | ± 1.25 MHz | ± 4.0 MHz | 0.4 |

VF7-FM HR3 Frequency Response @ 99 MHz



Bandpass Adjustments

To adjust frequency of band pass, use small flat head screwdriver to turn T1, T2, and T3 screws. Use RF Network Analyzer or a spectrum analyzer with tracking generator to view frequency response of the filter. VF7 passband can be tuned to a higher frequency (turn to left) or lower frequency (turn to right).

- Turn Screw T1, T2, T3 clockwise (left) for lower Fo
- Turn Screw T1,T2, T3 counter-clockwise (right) for higher Fo

Screw Adjustments:

- Remove plugs covering screw access holes
- Use small flat head screw driver
- Turn Screw approx. 1/2 for course adjustment
- Turn Screw approx. 1/8 for fine adjustment
- Turn each screw one at a time to change the frequency of the resonator to desired Fo
- Alternately fine tune each screw for optimized response