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Cavity Filters
Low Band, Aviation, and VHF Q-Circuit Cavities
FQ20107 Series

FQ20107-1

Cavity filter, Q circuit, high Q, one 7" cavity, 108-138 MHz

Also referred as: FQ20107*1

- Aluminum cylinder with brass and copper coaxial inner conductor
- Silver plating and chromate conversion coating limit corrosion and enhance performance
- Temperature compensated for extremely low frequency drift

These filters employ the Sinclair-developed Q-circuit design. The operation of the Q-circuit is such that it inverts the characteristics of a standard notch filter, and uses the narrow resonance notch to create the circuit passband while allowing the lower Q elements, such as the loop and its reactance adjustment, to produce the relatively broad isolation notch. In this manner, optimum use of the cavity components is realized, resulting in close pass/reject spacing, low insertion loss, and broad isolation notch. The filters can be tuned for either high or low pass condition, with minimum frequency separations.
The Q-circuit filter combines the features of a bandpass and reject filter. This can be particularly useful when a close frequency might interfere with the desired frequency. For this reason, both the pass and reject frequencies and required insertion loss must be specified when ordering Q-circuit filters. The insertion loss, pass-to-reject frequency spacing and notch depth are all field adjustable.

The FQ series Q-circuit filters are designed to:

•Suppress sideband noise of a single co-located transmitter on a closely-spaced receiver.
•Protect a closely-spaced receiver from front-end overload by the carrier of co-located transmitter.
•Suppress IM generation in one transmitter by protecting it further from an incoming carrier of a closely-spaced co-located transmitter.
•Generally, “Protect One from One’’ at close frequency spacings.

Region	United States	Europe, Middle East and Africa	Caribbean and Latin America	Canada and rest of the world
Telephone	USA: 1 800 263 3275	International: +44 (0) 1487 84 28 19	International: +1 905 726 7676	Canada: 1 800 263 3275 International: +1 905 727 0165
E-mail	salesusa@sinctech.com	salesuk@sinctech.com	salesla@sinctech.com	salescan@sinctech.com

Electrical Specifications		
Frequency Range	MHz	108 to 138
Input VSWR (max)		1.5:1
Impedance	Ω	50
Average Power Input (max)	W	350
Input Connectors		N-Female
Output Connectors		N-Female

Mechanical Specifications		
Width	in (mm)	7 (178)
Depth	in (mm)	7 (178)
Length/ Height	in (mm)	43.75 (1111)
Finish		chromate conversion
Weight	lbs (kg)	15 (6.81)
Actual shipping weight	lbs (kg)	20 (9.08)
Shipping dimensions	in (mm)	46x9x9 (1168x229x229)

Environmental Specifications		
Temperature range	°F (°C)	-40 to +140 (-40 to +60)