

FQ20307-3

Cavity filter, Q circuit, high Q, three 7" cavity, 138-174 MHz

Also referred as: FQ20307*3

- 7 inch diameter 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 further 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.

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Product Specification Sheet		FQ20307-3	Issue: 2	Dated: 08-10-13

Electrical Specifications

Frequency Range	MHz	138 to 174
VSWR (max)		1.5:1
Input VSWR (max)		1.5:1
Impedance	Ω	50
Number of Cavities		3
Input Connectors		N-Female
Output Connectors		N-Female

Mechanical Specifications

Depth	in (mm)	15 (381)
Length/ Height	in (mm)	32.5 (826)
Width	in (mm)	19 (483)
Weight	lbs (kg)	35 (15.89)
Finish		alodine
Actual Shipping weight	lbs (kg)	40 (18.16)
Shipping dimensions	in (mm)	20x19x38 (508x483x965)
Mounting configurations		19 inch rack

Environmental Specifications

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