

TECHNICAL DESCRIPTION / APPLICATION

MULTI-MIX® FILTERS

- UP TO 40GHz
- LOW LOSS
- NO TUNING
- SMT COMPATIBLE
- SMALL & LIGHT WEIGHT
- LOW COST



Merrimac's FBKA Series millimeter-wave filters provide superior performance over conventional filter topologies, with center frequencies as high as 40 GHz. They are extremely small, lightweight, and rugged, and can be qualified for spaceflight applications. In addition, they are low in cost and need no tuning, which makes them an excellent choice for high-volume production in LMDS and other millimeter-wave communications applications. The FBKA Series filters incorporate all of the advantages of Merrimac's patented Multi-Mix® multilayer fabrication process, including superior electrical characteristics, extremely small size, and negligible part-to-part performance variation.

Their benefits include:

- Employs fusion bonded stripline with inherent performance benefits at high frequencies.
- Passbands as narrow as 1%.
- Extremely small size and cost effective.
- Can be specified with center frequencies from 17.5 GHz through 40 GHz.
- Designed for wire-bond attachment / BGA compatible.
- Tuning is not required, which eliminates the filter-tuning step in production test, along with the external tuning circuits or tuning screws required by conventional designs.
- Can be integrated with other Multi-Mix® components in a compact enclosure to form a complete passive or active subsystem.
- Inherently low EM emissions.
- No spurious reentrant passbands over wide frequency range (up to 65 GHz).

GENERAL SPECIFICATIONS

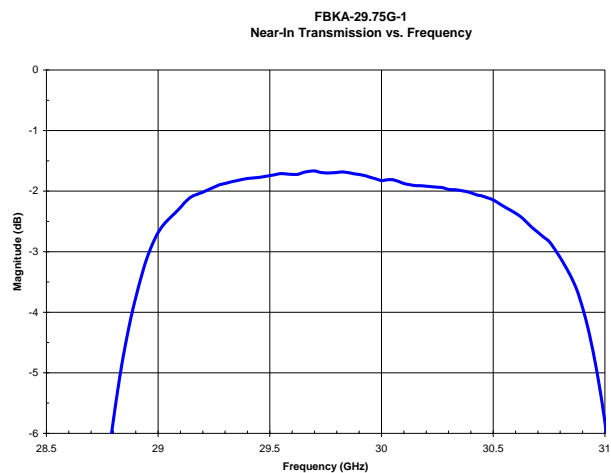
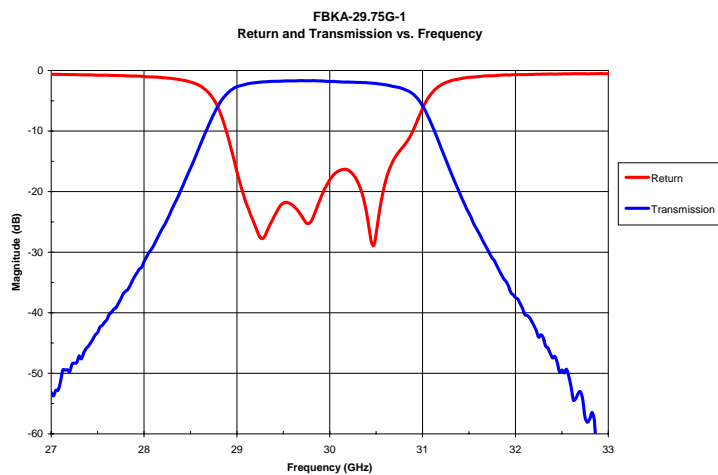
FILTER TYPE	OPERATING BANDPASS	PASSBAND INSERTION LOSS (MAX)	INPUT/OUTPUT RETURN LOSS (MAX)	REJECTION	PASSBAND GROUP DELAY
BANDPASS	29.5 - 30.0 GHz	3 dB	12 dB	43 dB MIN. @ 27.0 GHz 30 dB MIN @ 32.0 - 33.0 GHz	1 nS p-p (MAX)
POWER LEVEL	SIZE (INCHES)	WEIGHT (GRAMS)	RF INTERFACE/ CONNECTIONS	OPERATING TEMPERATURE	
1 W (TYP)	0.413 x 0.296 x 0.020	0.1	Gold plated co-planar WG launch/ BGA compatible	-55° - +125° C	

THE MULTI-MIX MICROTECHNOLOGY® GROUP IS ISO 9001:2000 REGISTERED



U.S. patent 6,099,677 and other patents pending.

TYPICAL PERFORMANCE



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