CERAMIC

Bandpass Filter

BFHK-1982+

50Ω 17.5 to 22.2 GHz

THE BIG DEAL

- Ultra-High Stopband Rejection Structure – 80 dB typical
- Surface mountable pick and place standard case style
- Standard small 1812 (4.5mm x 3.2mm) case style
- High quality distributed filter topology
- Wide rejection band
- Shielded construction preventing filter from de-tuning
- Reduced footprint area by employing LGA (land grid array)
- Suited for very high-volume production
- Patent Pending

Generic photo used for illustration purposes only

CASE STYLE: NM1812C-3

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

APPLICATIONS

- Test and Measurement
- Aerospace and Defense Signal Conditioning

PRODUCT OVERVIEW

The BFHK-1982+ LTCC Band Pass Filter achieves a miniature size and high repeatability of performance by utilizing a proprietary LTCC material system and distributed filter topology. The passband loss at 17.5 – 22.2 GHz is as low as 2.8 dB, with typical stopband rejections at 80 dB up to 39 GHz and 55 dB up to 53 GHz. This model handles up to 1W RF input power, and provides a wide operating temperature range from -55 to +125°C. Utilizing a proprietary LTCC material system and a distributed filter topology, this filter is able to achieve repeatable performance on a lot-to-lot basis.

KEY FEATURES

Feature	Advantages
Ultra-High Rejection	Typical stopband rejections at 80 dB up to 39 GHz and 60 dB up to 53 GHz
Cost effective	LTCC is scalable technology that is cost effective due to ease of production in high quantities.
Small size (4.5mm x 3.2mm)	Allows for high layout density of circuit boards, while minimizing effects of parasitics.
Surface Mountable	Suitable for very high volume automated assembly process.

REV. OR
ECO-013325
BFHK-1982+
CGD/CP/AM
220520

ELECTRICAL SPECIFICATIONS[1] AT 25°C

Parameter		F#	Frequency (GHz)		Min.	Typ.	Max.	Units
Pass Band	Center Frequency	—	—	—	—	19.7	—	GHz
	Insertion Loss	F1-F2	17.5	22.2	—	2.8	4.0	dB
	Return Loss	F1-F2	17.5	22.2	—	12.0	—	dB
Stop Band, Lower	Insertion Loss	DC-F3	0.1	12.6	70	80	—	dB
Stop Band, Upper	Insertion Loss	F4-F5	27.5	39	70	80	—	dB
			39	53	40	55.0	—	

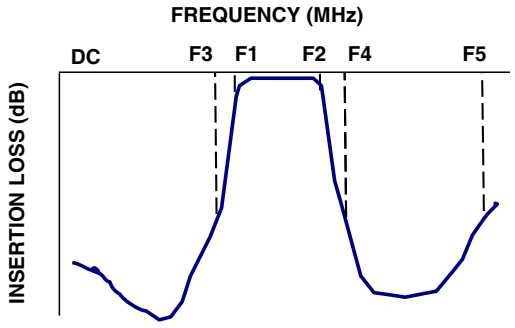
1.Measured on Mini-Circuits Test Board TB-BFHK-1982C+ with connectors and feedlines de-embedded.

MAXIMUM RATINGS

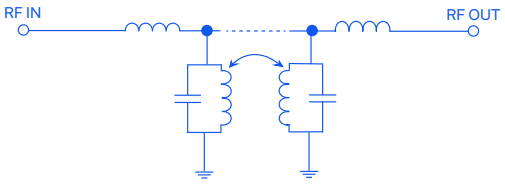
Parameter	Ratings
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power Input	1W max.

Permanent damage may occur if any of these limits are exceeded

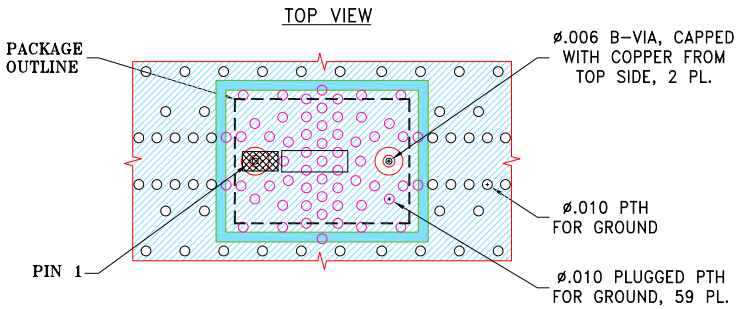
TYPICAL FREQUENCY RESPONSE

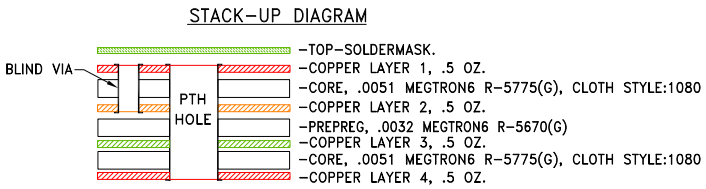


FUNCTIONAL SCHEMATIC

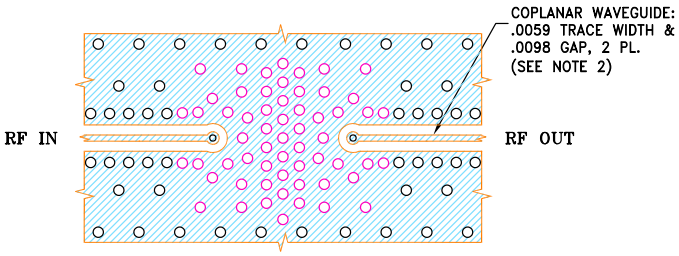


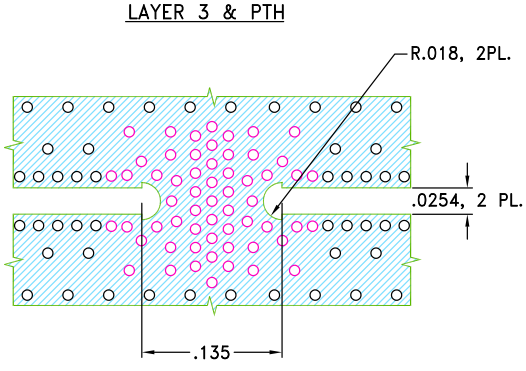
EVALUATION BOARD MCL P/N: TB-BFHK-1982C+
SUGGESTED PCB LAYOUT: PL-730





1. TOTAL FINISHED THICKNESS 0.019±10%.
2. B-VIA PRESENT FROM COPPER LAYER 1 TO COPPER LAYER 2.
3. PTH PRESENT FROM COPPER LAYER 1 TO COPPER LAYER 4.
4. INDICATED PLUGGED PTH's ARE PLUGGED WITH EPOXY AND CAPPED WITH COPPER FROM TOP SIDE.
5. LAYER 4 IS CONTINUOUS GROUND PLANE.



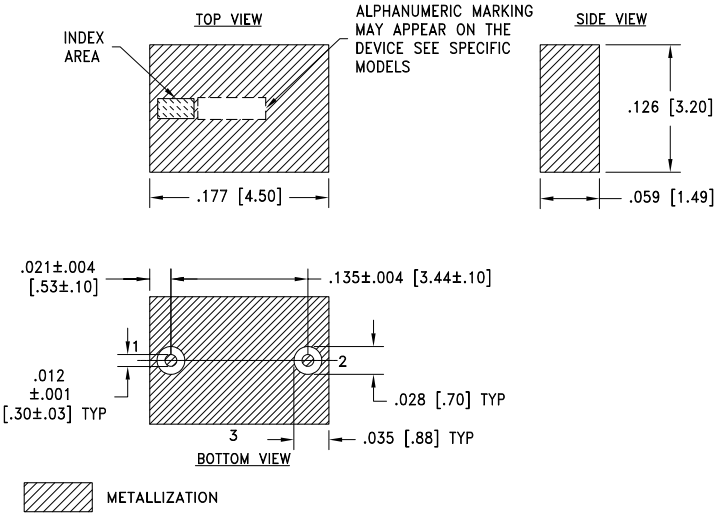


PAD CONNECTIONS

INPUT	1
OUTPUT	2
GROUND	3

PRODUCT MARKING: F471

OUTLINE DRAWING



Weight: .126 grams.

Dimensions are in inches [mm]. Tolerances: 2Pl.±.01; 3Pl. ±.005