LTCC SURFACE MOUNT

Band Pass Filter

BFHK-1432+

50Ω 14 to 14.5 GHz

THE BIG DEAL

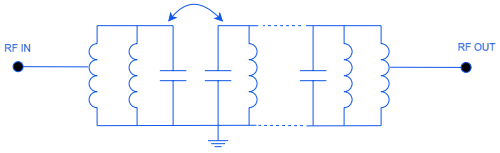
- Ultra-High Stopband Rejection, 65 dB Typ.
- Surface mountable pick and place standard case style
- Standard small 1812 (4.5x3.2 mm) case style
- High quality distributed filter topology
- Wide rejection band
- Shielded construction preventing filter from de-tuning
- Reduced footprint area by employing LGA (Land Grid Array)
- Suited for very high-volume production

Generic photo used for illustration purposes only

APPLICATIONS

- Test & Measurement Equipment
- Satellite Communications
- Aerospace and Defense Signal Conditioning

FUNCTIONAL DIAGRAM



PRODUCT OVERVIEW

Mini-Circuits' BFHK-1432+ Band Pass Filter delivers precision filtering for Ku-band uplinks in a compact, rugged ceramic package. Leveraging proprietary materials science and a distributed design topology ensures highly repeatable performance for mission-critical operation. The filter provides a typical passband loss of 3.0 dB from 14 to 14.5 GHz with exceptional stopband rejection of 60 dB from 0.1 to 5 GHz and 65 dB through 27.5 GHz, greatly suppressing interference and harmonics. The BFHK-1432+ is rated for 6.3 W of RF input power and operates over a wide temperature range of -55°C to +125°C, combining reliability and high performance for demanding SATCOM (VSAT), defense and test environments.

ELECTRICAL SPECIFICATIONS[1,2,3] AT +25°C, Z_0 = 50Ω

Parameter		F#	Frequency (GHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency[4]	—	—	—	14.3	—	GHz
	Insertion Loss	F4-F5	14 – 14.5	—	3	4.5	dB
	Return Loss	F4-F5	14 – 14.5	—	9	—	dB
Stopband, Lower	Rejection	DC-F1	0.1 – 5	53	60	—	dB
		F1-F2	5 – 10	41	50	—	
		F2-F3	10 – 12.75	33	40	—	
Stopband, Upper	Rejection	F6-F7	15.7 – 16	30	35	—	dB
		F7-F8	16 – 18.5	45	50	—	
		F8-F9	18.5 – 27.5	55	65	—	
		F9-F10	27.5 – 31	50	60	—	

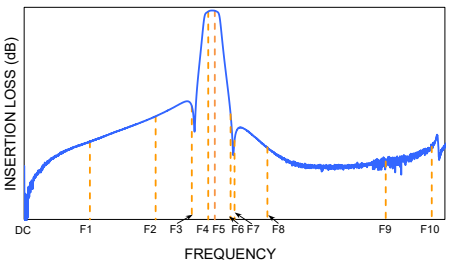
1. Tested in Evaluation Board P/N TB-BFHK-1432C+.
2. This filter is bi-directional RF1 and RF2 ports may be interchanged, see S-Parameters for actual performance.
3. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.
4. Typical variation ± 1.5%

ABSOLUTE MAXIMUM RATINGS[5]

Operating Temperature	-55 °C to +125 °C
Storage Temperature	-55 °C to +125 °C
Input Power[6]	6.3 W

5. Permanent damage may occur if any of these limits are exceeded.
6. Power rating applies only to signals within the passband. Power rating above +25°C operating temperature decreases linearly to 1.9 W at +125°C.

TYPICAL FREQUENCY RESPONSE



REV. OR
ECO-027828
BFHK-1432+
MCL NY
251201

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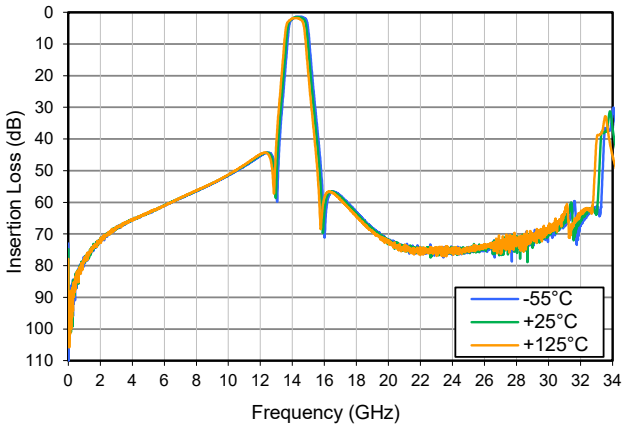
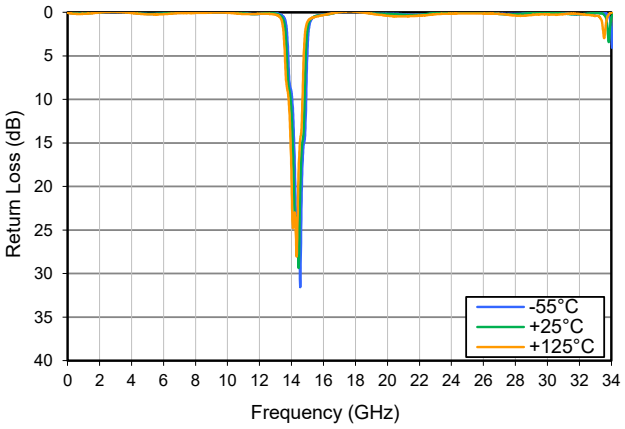
TYPICAL PERFORMANCE GRAPHS

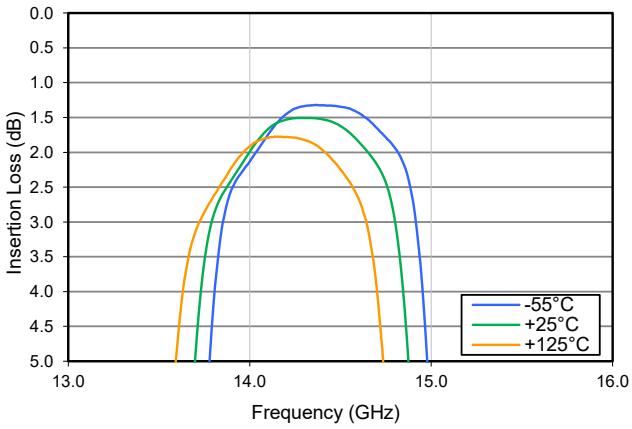
INSERTION LOSS



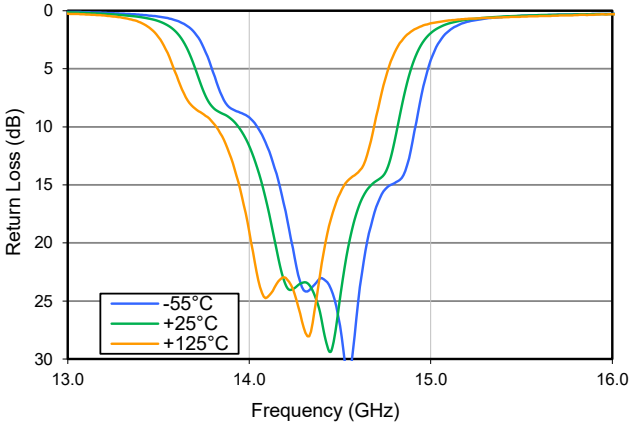
RETURN LOSS



INSERTION LOSS (PASSBAND)



RETURN LOSS (PASSBAND)



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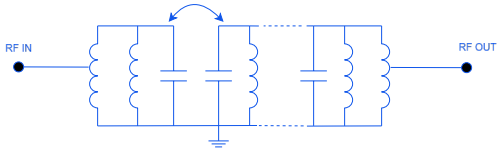
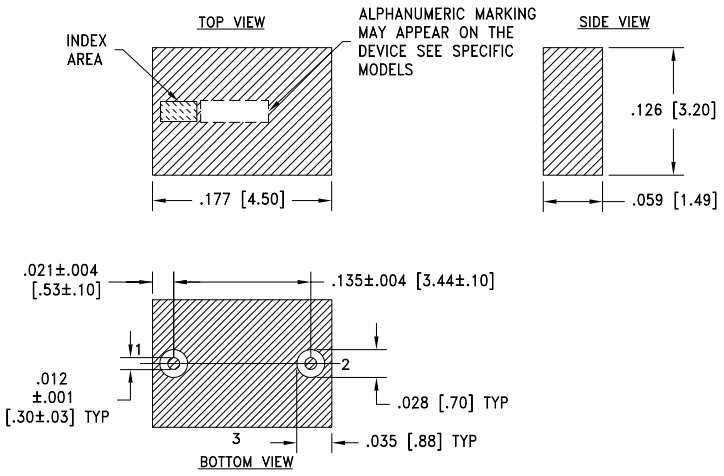


Figure 1. BFHK-1432+ Functional Diagram

PAD DESCRIPTION

Function	Pad Number	Description
RF1[2]	1	Connects to RF Input Port
RF2[2]	2	Connects to RF Output Port
GROUND	3	Connects to Ground on PCB, (See drawing PL-730)

CASE STYLE DRAWING

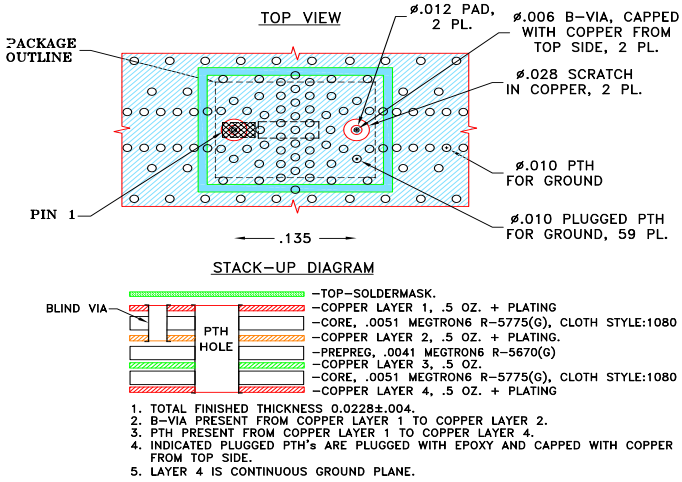


Weight: .126 grams
Dimensions are in inches [mm]. Tolerances: 2 Pl.±.01; 3 Pl. ±.005

PRODUCT MARKING*: F605

*Marking may contain other features or characters for internal lot control.

SUGGESTED PCB LAYOUT: PL-730



NOTES:
1. PCB IS MULTILAYER PCB, SEE STACK-UP DIAGRAM.
2. TRACE WIDTH & GAP PARAMETERS ARE SHOWN FOR MEGTRON6 R-5775(G), CLOTH STYLE:1080 WITH DIELECTRIC THICKNESS .0051; COPPER: 1/2 OZ.+PLATING. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
3. COPPER LAYER 4 OF THE PCB ARE CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

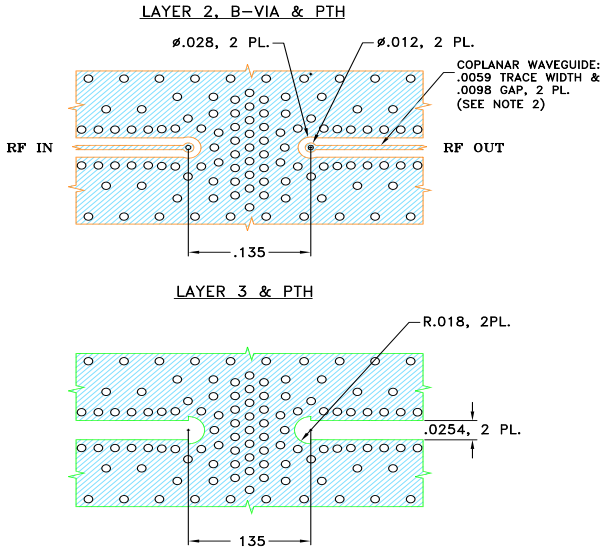


Figure 2. Suggested PCB Layout

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ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file) De-embedded to device pads
Case Style	NM1812C-3 Lead Finish: Tin over Nickel Plating
RoHS/REACH Status	Compliant
Tape and Reel	F77
Suggested Layout for PCB Design	PL-730
Evaluation Board	TB-BFHK-1432C+ Gerber File
Environmental Rating	ENV06T12

NOTES

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html