Ceramic

Bandpass Filter

BFHK-2582+

50Ω 24.25 to 27.50 GHz

The Big Deal

- 5G n258 bandpass filter
- Low Insertion Loss – Mid band 2.0dB typical
- Pick and place standard case style
- Small size 4.5mm x 3.2mm
- High quality distributed filter topology

CASE STYLE: NM1812C-2

Product Overview

The BFHK-2582+ LTCC Bandpass Filter covers the 5G n258 band. This corresponds to a passband of 24.25 to 27.5 GHz, with as low as 2dB passband loss, and up to 58dB stopband rejection. 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, up to mmWave frequencies.

Key Features

Feature	Advantages
5G n258 band	Designed for 5G Telecommunications, n258 band, 24.25 - 27.50 GHz
Proprietary mmWave compatible LTCC material system	Low loss and repeatable performance on a lot to lot basis up to mmWave frequencies.
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.

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Generic photo used for illustration purposes only

CASE STYLE: NM1812C-2

Features

- Small size
- Temperature stable
- Hermetically sealed
- LTCC construction

Applications

- 5G Telecommunications

+RoHS Compliant

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

Available Tape and Reel at no extra cost

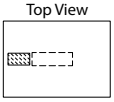
Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500,1000, 3000

Maximum Ratings

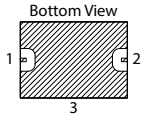
Operating Temperature	-55°C to +125°C
Storage Temperature	-55°C to +125°C
RF Power Input	1W at 25°C

Permanent damage may occur if any of these limits are exceeded.

Top View



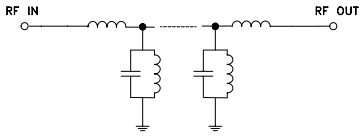
Bottom View



Pad Connections

Input	1
Output	2
Ground	3

Functional Schematic



Electrical Specifications[1] at 25°C

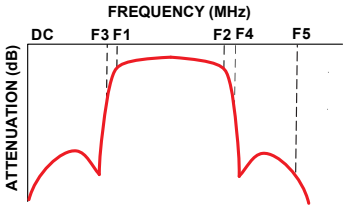
Parameter		F#	Frequency (GHz)	Min.	Typ.	Max.	Unit
	Center Frequency	—			25.8		MHz
Pass Band	Insertion Loss	F1-F2	24.25 - 24.56	—	4	—	dB
			24.56 - 26.45	—	2	4.5	
			26.45 - 27.5	—	4	—	
	Return Loss	F1-F2	24.25 - 27.5	—	10	—	dB
Stop Band, Lower	Insertion Loss	DC-F3	DC - 9	45	58	—	dB
			9 - 21	34	40	—	
			21 - 21.7	—	40	—	
Stop Band, Upper	Insertion Loss	F4-F5	29.43 - 33	—	30	—	dB
			33 - 35.4	21	30	—	
			35.4 - 46	—	25	—	

1. Measured on Mini-Circuits Characterization Test Board TB-BFHK-2582C+ with feedline losses removed by normalization of S12 and S21 traces to measurement of TB thru-line.

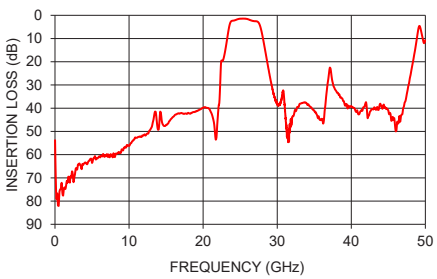
Typical Performance Data at 25°C

Frequency (GHz)	Insertion Loss (dB)	Return Loss (dB)
1	76.49	0.38
5	63.57	1.12
10	56.27	1.26
15	47.15	1.51
20	39.84	1.86
23	14.86	2.70
24	2.32	12.94
25	1.46	26.07
26	1.64	14.78
27	2.54	11.86
28	8.70	5.33
30	38.18	2.42
35	40.95	2.58
40	39.07	2.56
45	41.01	2.57
50	10.66	4.74

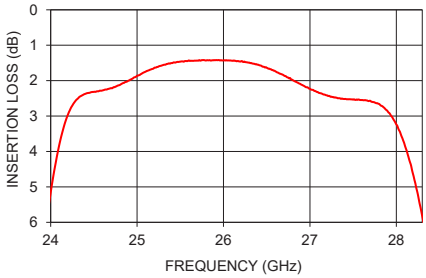
Specification Definition



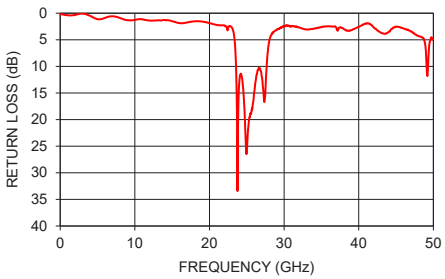
BFHK-2582+
INSERTION LOSS



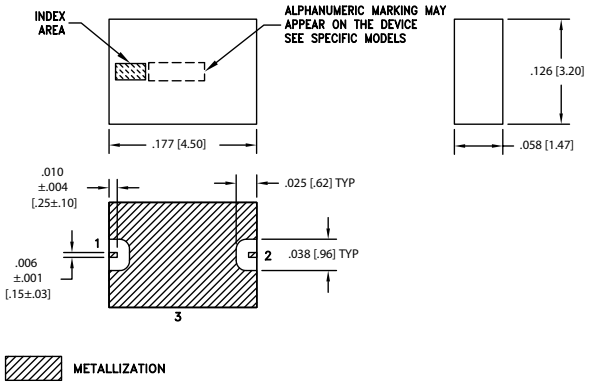
BFHK-2582+
INSERTION LOSS (ZOOM)



BFHK-2582+
RETURN LOSS

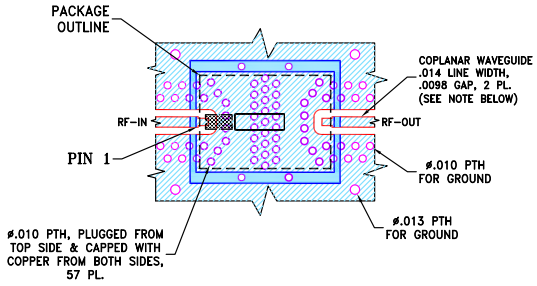


Outline Drawing



Weight: .064 grams.
Dimensions are in inches [mm]

Demo Board MCL P/N: TB-BFHK-2582C+
Suggested PCB Layout (PL-677)



NOTES:
1. TRACE WIDTH AND GAP ARE SHOWN FOR MEGTRON7 WITH DIELECTRIC THICKNESS: .0079±.001"; COPPER: HVLP/HVLP.
   FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

Product Marking: F415

Pad Connections

Input	1
Output	2
Ground	3

Additional 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-Circuit's 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/MCLStore/terms.jsp

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