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Sales & Customer Support: sales@markimicrowave.com
Tech Support: support@markimicrowave.com

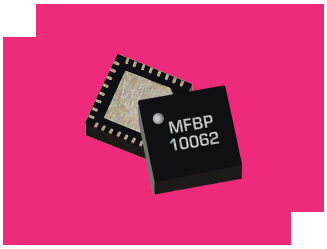
MFBP-00095PSM

Passive GaAs MMIC 4 - 6 GHz Bandpass Filter

DEVICE OVERVIEW

General Description

The MFBP-00095PSM passive MMIC surface mount bandpass filter is an ideal solution for small form factor, high rejection filtering. Passive GaAs MMIC technology allows production of smaller filter constructions that replace larger form factor circuit board constructions. Tight fabrication tolerances allow for less unit-to-unit variation than traditional filter technologies. The MFBP-00095PSM is available as a 5 mm plastic QFN. Low unit to unit variation allows for accurate simulations using the provided S2P file taken from measured production units.



Download s-parameters here

Features

- Excellent Return Loss
- High Stop Band Suppression
- Wide Stop Band with Fast Roll-Off

Applications

N/A

Functional Block Diagram

Part Ordering Options

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
MFBP-00095PSM	Passive GaAs MMIC 4 - 6 GHz Bandpass Filter	PSM	RoHS REACH	Released	EAR99
EVB-MFBP-00095P	Evaluation Board, Passive GaAs 4-6 GHz MMIC Bandpass Filter	EVB	RoHS REACH	Released	EAR99

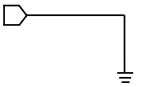
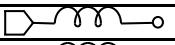
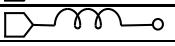
Table Of Contents

Revision History

Revision Code	Revision Date	Comment
-	2024-12-13	Initial Release
A	2025-03-06	Port Function Description correction

Port Configuration and Functions

Port Functions

Port	Function	Description	Equivalent Circuit for Package
Ground Paddle	Ground	PSM package ground path is provided through the ground paddle and should be connected to RF ground.	
Pin 20	Input/Output	Pin 20 is DC open for the PSM package.	
Pin 5	Input/Output	Pin 5 is DC open for the PSM package.	

Specifications

Absolute Maximum Ratings

The Absolute Maximum Ratings indicate limits beyond which damage may occur to the device. If these limits are exceeded, the device may be inoperable or have a reduced lifetime.

Parameter	Maximum Rating	Unit
Maximum Operating Temperature	100	°C
Maximum Storage Temperature	125	°C
Minimum Operating Temperature	-55	°C
Minimum Storage Temperature	-65	°C

Package Information

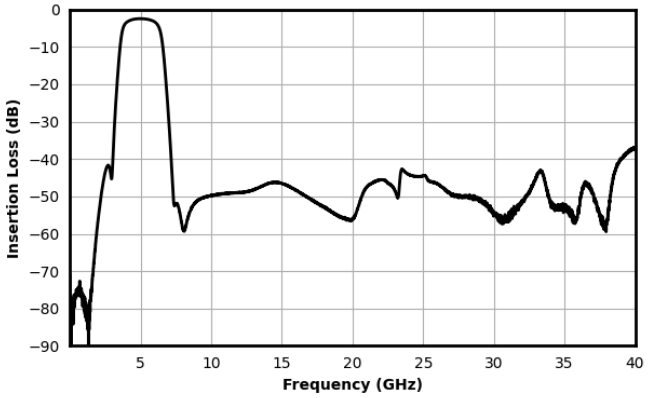
Parameter	Details	Rating
Dimensions	-	5 x 5 mm
Moisture Sensitivity Level	-	MSL 1

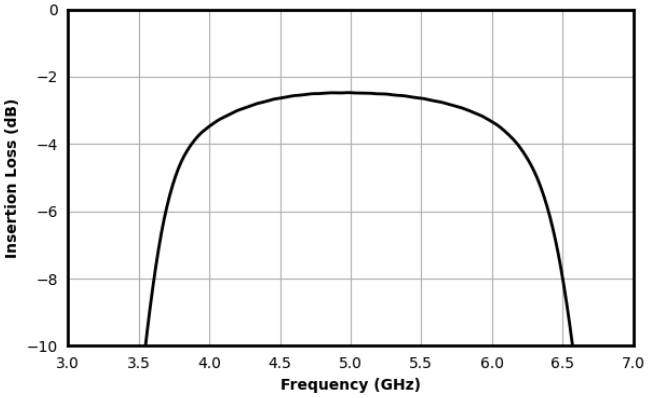
Electrical Specifications

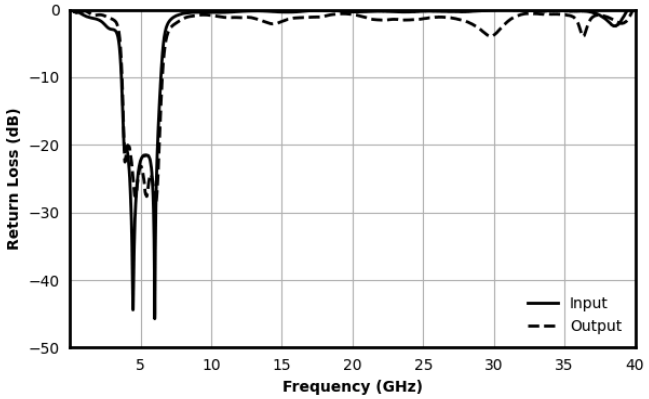
The electrical specifications apply at TA=+25°C in a 50Ω system. Typical data shown is for the filter in a PSM package with a sine wave input applied to Pin 5. Min and Max limits are guaranteed at TA=+25°C.

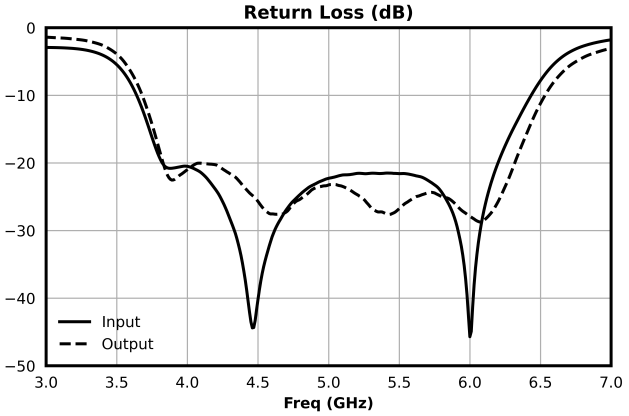
Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
1 dBc Passband	Configuration A, 25°C	4.01	6.05	-	-	-	GHz
30 dBc Rejection Point	Configuration A, 25°C	3.13	7.04	-	-	-	GHz
3 dBc Passband	Configuration A, 25°C	3.73	6.36	-	-	-	GHz
Center Freq	Configuration A, 25°C	-	-	-	4.93	-	GHz
Group Delay	Configuration A, 25°C	-	-	-	506	-	ps
Impedance	Configuration A, 25°C	-	-	-	50	-	Ω
Insertion Loss @ fc	Configuration A, 25°C	-	-	-	2.5	-	dB
Passband Return Loss	Configuration A, 25°C	-	-	-	25	-	dB

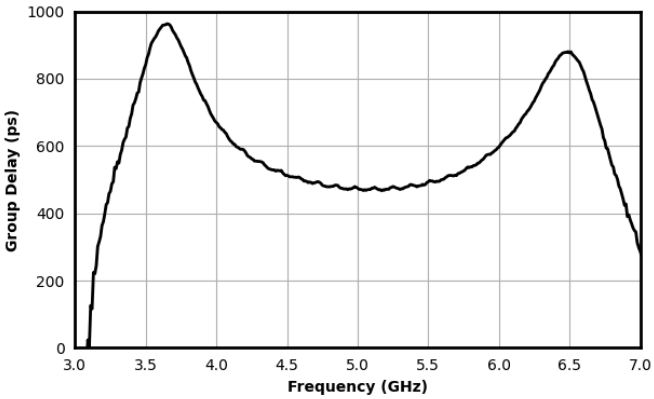
Typical Performance Plot











All measurements are de-embedded from the fixture with Automatic Fixture Removal (AFR).

Mechanical Data

Outline Drawing

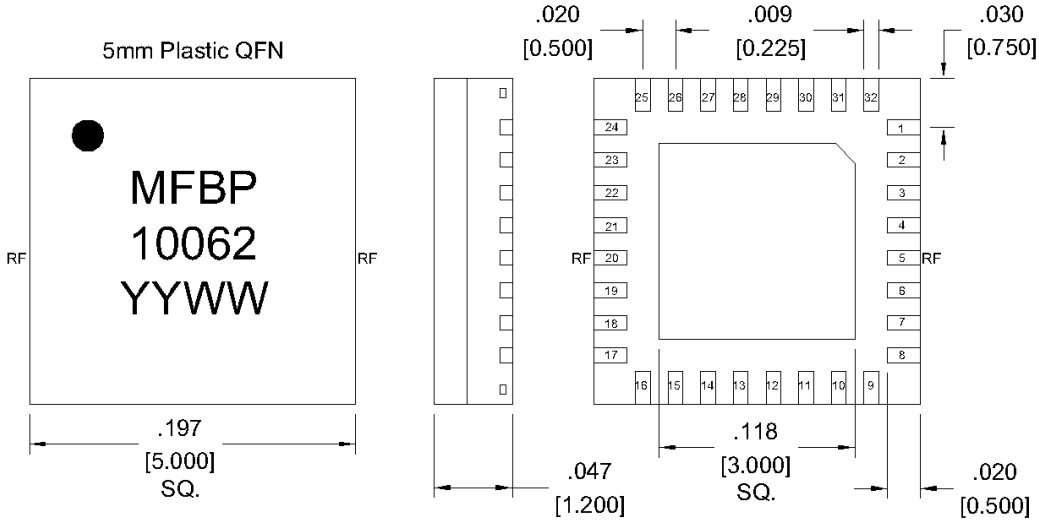
Download : Outline 2D Drawing | Outline 3D Drawing | Outline 3D STP

All measurement are typical

PROJECTION INCH [MM]

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVALS
A	Initial Release	1/27/25	AT

Bottom-up View:



Pin #	Config A
1	N/C
2	N/C
3	N/C
4	N/C
5	RF
6	N/C
7	N/C
8	N/C
9	N/C
10	N/C
11	N/C
12	N/C
13	N/C
14	N/C
15	N/C
16	N/C
17	N/C
18	N/C
19	N/C
20	RF
21	N/C
22	N/C
23	N/C
24	N/C
25	N/C
26	N/C
27	N/C
28	N/C
29	N/C
30	N/C
31	N/C
32	N/C

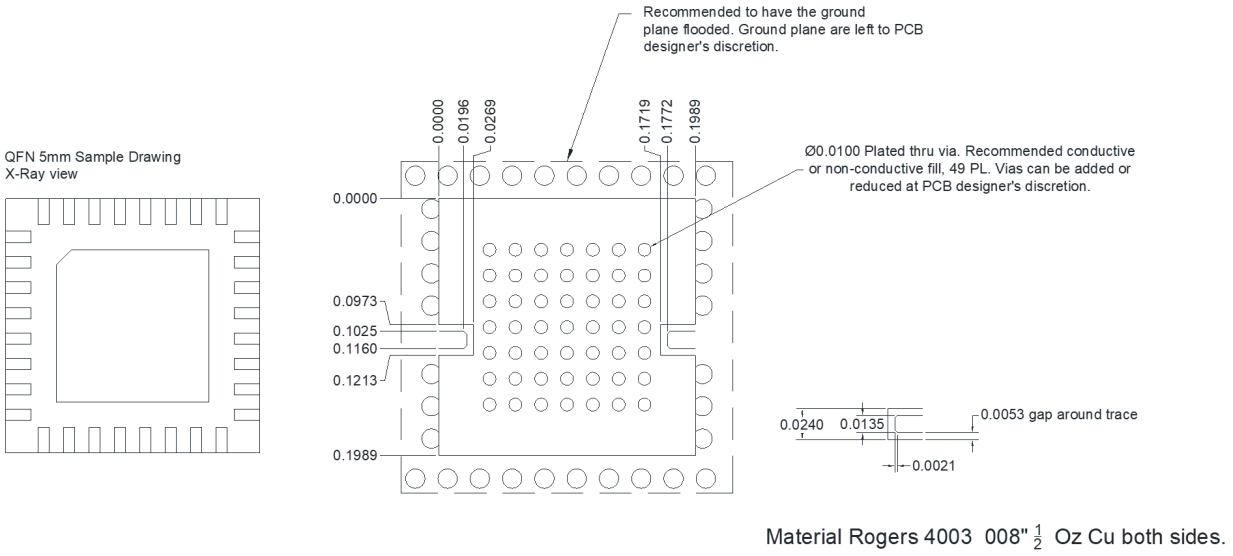
Notes (unless otherwise specified):

1. Substrate material is LCP.
2. I/O Leads and Die Paddle is (from base to finish):
   Ni: 0.5um MIN
   Pd: 0.02um MIN
   Au: 0.05um MAX
3. All unconnected pins should be connected to PCB RF ground.

NOTES:		Marki microwave www.markimicrowave.com
DRAWN BY	DATE	Outline, 5mm QFN MFBP
TNN	07-19-2024	
MATERIAL:		SIZE A | CAGE CODE 0UC32 | DWG. NO. MFBP-00095PSM
FINISH:		SCALE None | SHEET 1 OF 1
DO NOT SCALE DRAWING		

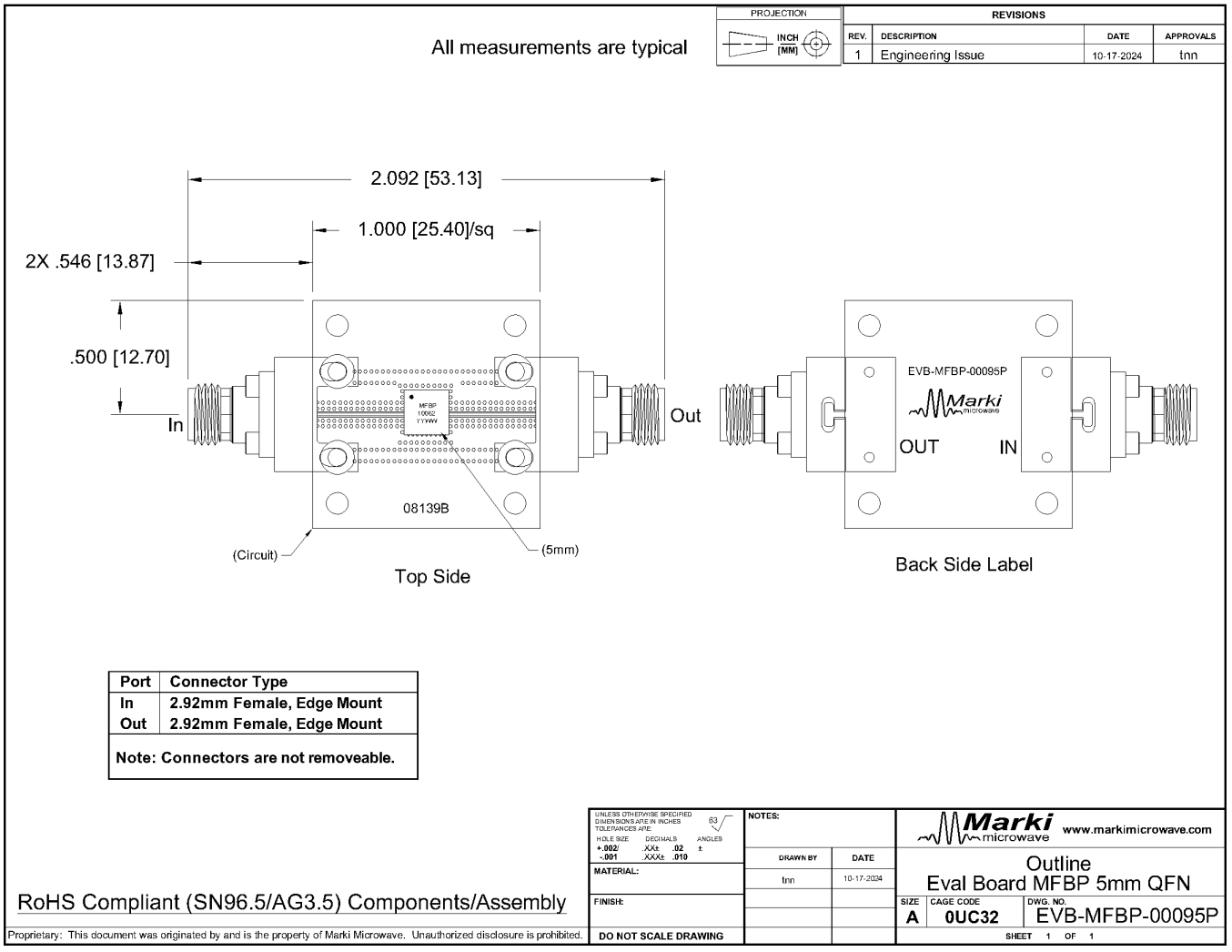
Footprint Image

Download : Footprint Drawing



Material Rogers 4003 008" $\frac{1}{2}$ Oz Cu both sides.

Evaluation Board - Outline Drawing



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