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

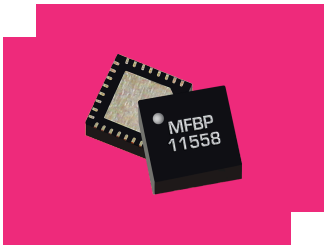
MFBP-00210PSM

Passive GaAs MMIC 3.2 - 7.1 GHz Bandpass Filter

DEVICE OVERVIEW

General Description

The MFBP-00210PSM passive MMIC surface mount bandpass filter is an ideal solution for small form factor, high rejection filtering. The MFBP-00210PSM features a 3.2 - 7.1 GHz 1 dBc passband and 1.5 dB center frequency insertion loss. 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-00210PSM 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

- Return Loss, 30 dB Typical
- Insertion Loss @ Fc, 1.5 dB Typical
- 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-00210PSM	Passive GaAs MMIC 3.2 - 7.1 GHz Bandpass Filter	PSM	RoHS REACH	Released	EAR99
EVB-MFBP-00210P	Evaluation Board, Passive GaAs 3.2 - 7.1 GHz MMIC Bandpass Filter	EVB	RoHS REACH	Released	EAR99

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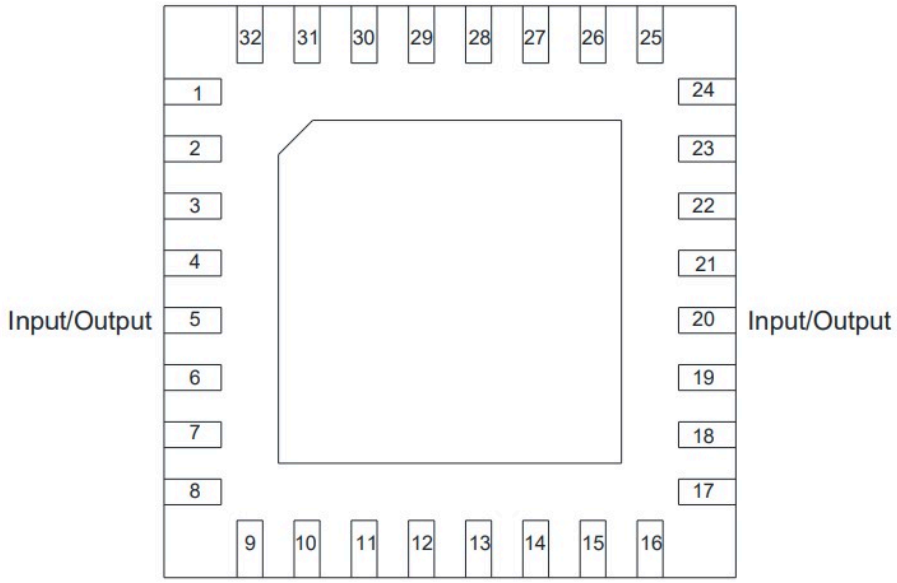
Revision History

Revision Code	Revision Date	Comment
-	2026-10-07	Initial Release

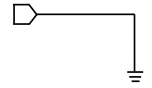
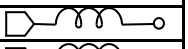
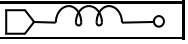
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Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Description	DC Equivalent Circuit
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 to ground and Pin 5.	
Pin 5	Input/Output	Pin 5 is DC open to ground and Pin 20.	

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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
Pin 5 DC Current	400	mA
Pin 20 DC Current	400	mA

Package Information

Parameter	Details	Rating
ESD	250 to < 500 Volts	HBM Class 1A
Dimensions	-	5 x 5 mm

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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.

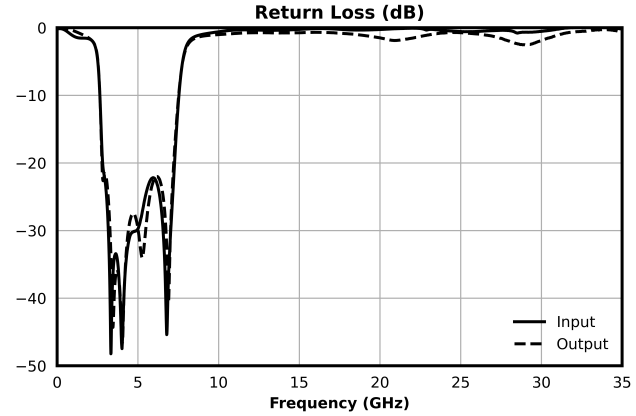
Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
1 dBc Passband	Temp = 25°C	3.23	7.13	-	-	-	GHz
3 dBc Passband	Temp = 25°C	2.78	7.52	-	-	-	GHz
30 dBc Rejection Point	Temp = 25°C	2.24	8.62	-	-	-	GHz
Center Freq	Temp = 25°C	-	-	-	4.80	-	GHz
Insertion Loss @ fc	Temp = 25°C	-	-	-	1.5	-	dB
Passband Return Loss	Temp = 25°C	-	-	-	30	-	dB
Group Delay	Temp = 25°C	-	-	-	343	-	ps

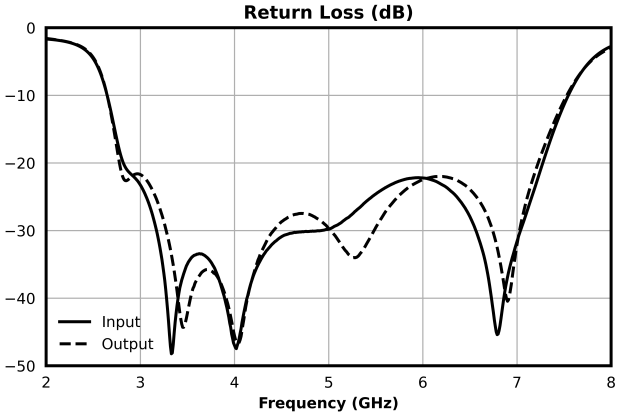
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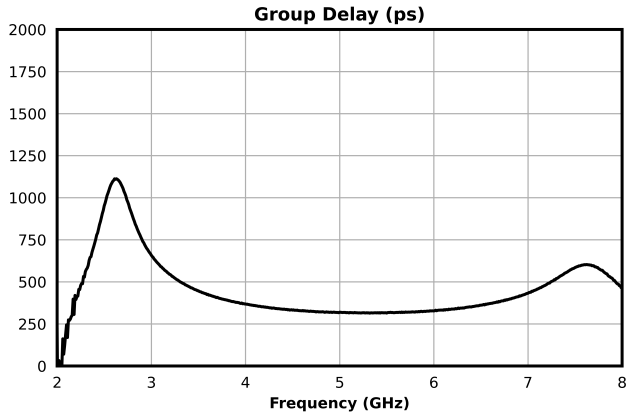
Typical Performance Plot











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

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MFBP-00210PSM

Passive GaAs MMIC 3.2 - 7.1 GHz Bandpass Filter

Mechanical Data

Outline Drawing

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

All measurement are typical

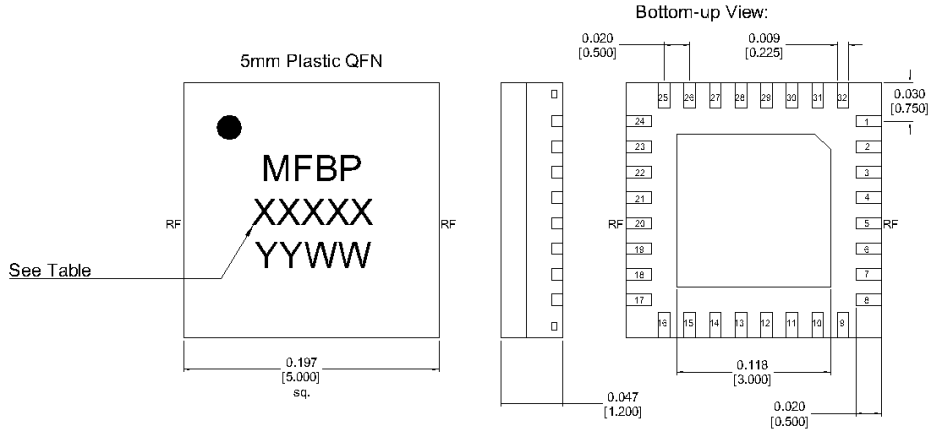
PROJECTION INCH [MM]

REVISIONS

REV.	DESCRIPTION	DATE	APPROVALS
A	Initial Release	8/19/26	KM

XXXXX	MFBP-002##PSM
11525	MFBP-00208PSM
11528	MFBP-00205PSM
11529	MFBP-00206PSM
11558	MFBP-00210PSM

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 are:
   0.008 - 0.05 µm Gold, over
   0.02 - 0.15 µm Palladium, over
   0.5 - 2.0 µm Nickel.
3. All unconnected pins should be connected to PCB RF ground.

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NOTES:

DRAWN BY	DATE
GM	5/29/26
OS, WV	8/18/26

MATERIAL:

FINISH: Note 2

DO NOT SCALE DRAWING

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Outline
5mm QFN Filter

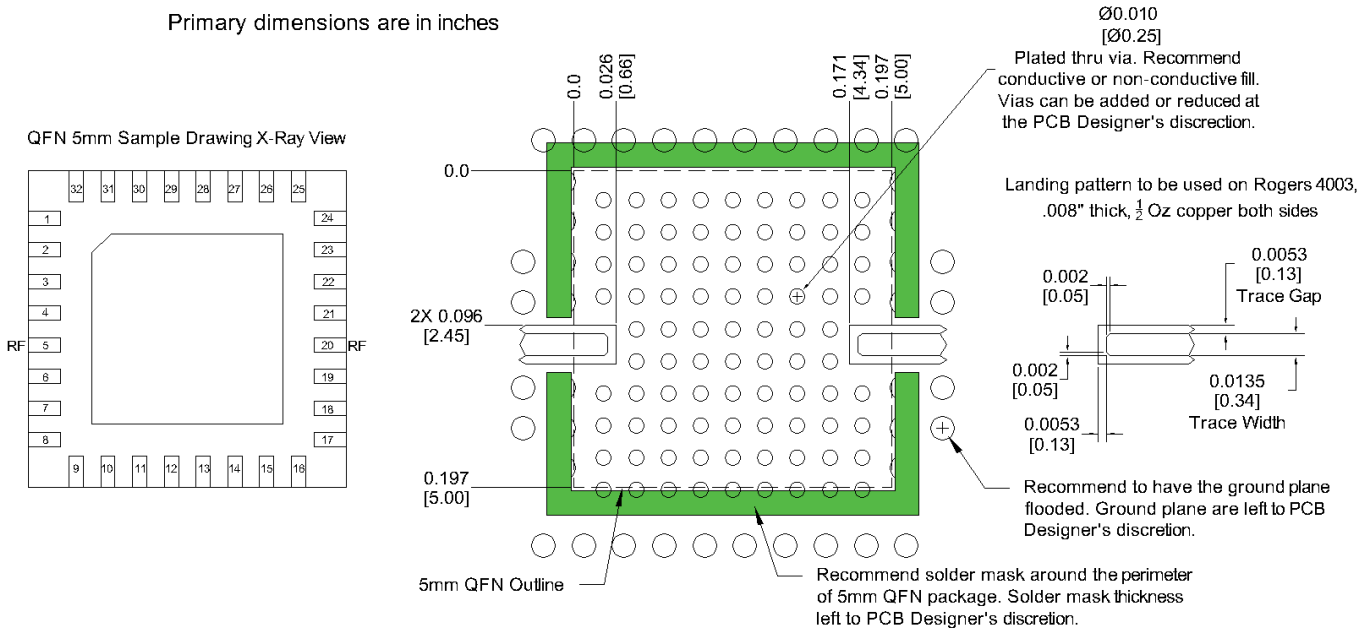
SIZE	CAGE CODE	DWG. NO.
A	0UC32	MFBP-002##PSM

SCALE 15/1 SHEET 1 OF 1

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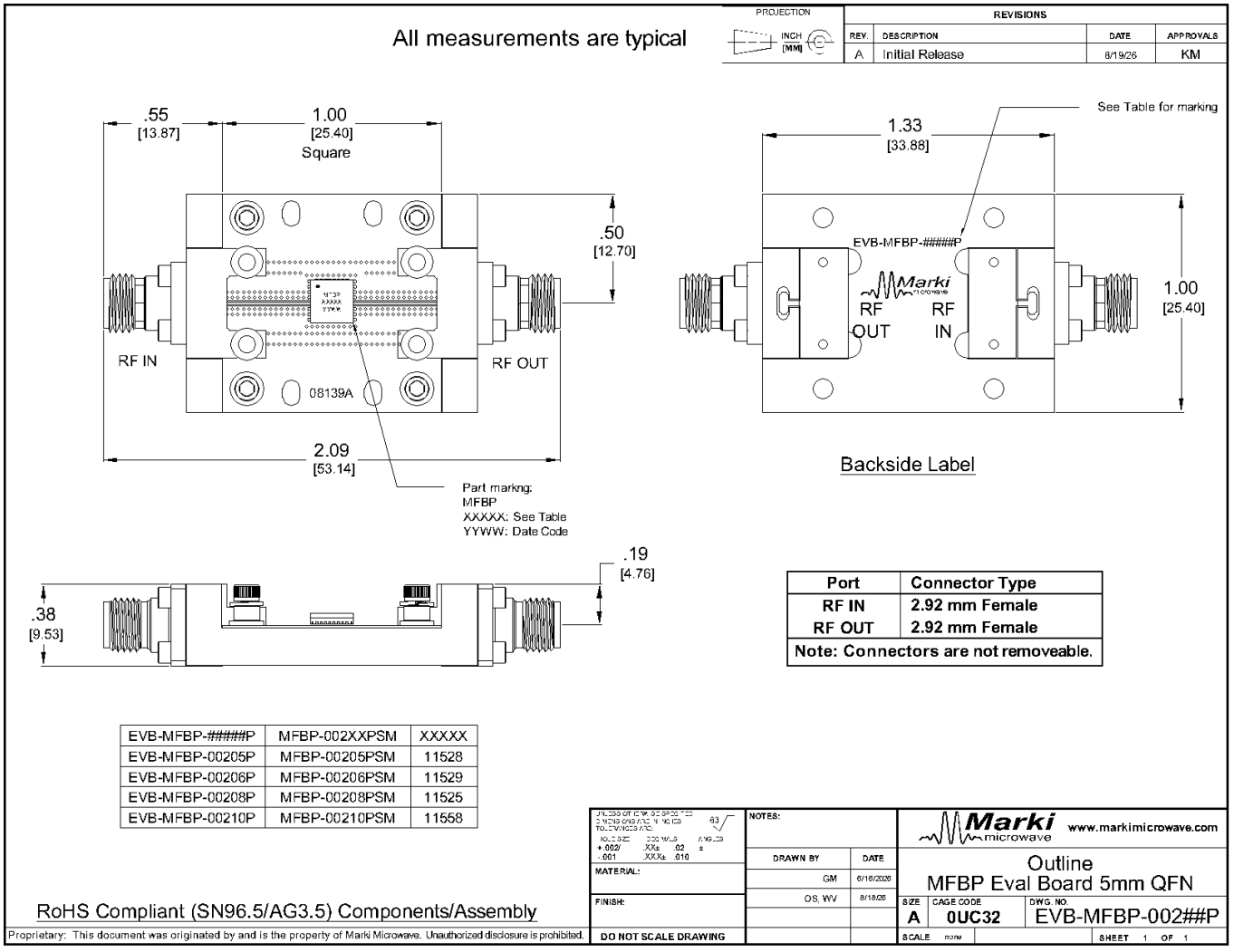
Footprint Image

Download : Footprint Drawing



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Evaluation Board - Outline Drawing



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