Sales: 408-778-9952 | General: 408-778-4200 | Fax: 408-778-4300
Sales & Customer Support: sales@markimicrowave.com
Tech Support: support@markimicrowave.com

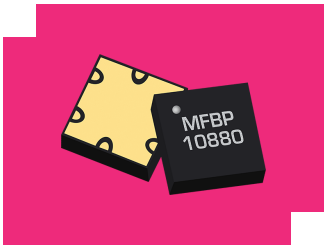
MFBP-00155CSP3

Passive GaAs MMIC 2.1 - 10.2 GHz Bandpass Filter

DEVICE OVERVIEW

General Description

The MFBP-00155CSP3 passive MMIC surface mount bandpass filter is an ideal solution for small form factor, high rejection filtering. The MFBP-00155CSP3 features a 2.1-10.2GHz 1dBc passband and 1.0dB 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-00155CSP3 is available in our 3.5 x 3.5mm CSP3 chip scale package. Low unit to unit variation allows for accurate simulations using the provided S2P file taken from measured production units.



Download s-parameters here

Features

- 22 dB Return Loss
- 1.0 dB Insertion Loss @ Fc
- High Stop Band Suppression
- Wide Stop Band with Fast Roll-Off
- This product embodies Marki Microwave's U.S. Pat. 11,869,858.

Applications

N/A

Functional Block Diagram

Part Ordering Options

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
MFBP-00155CSP3	Passive GaAs MMIC 2.1 - 10.2 GHz Bandpass Filter	CSP3	RoHS REACH	Released	EAR99
EVB-MFBP-00155	Evaluation Board, Passive GaAs 2.1 - 10.2 GHz MMIC Bandpass Filter	EVB	RoHS REACH	Released	EAR99

MFBP-00155CSP3

Passive GaAs MMIC 2.1 - 10.2 GHz Bandpass Filter

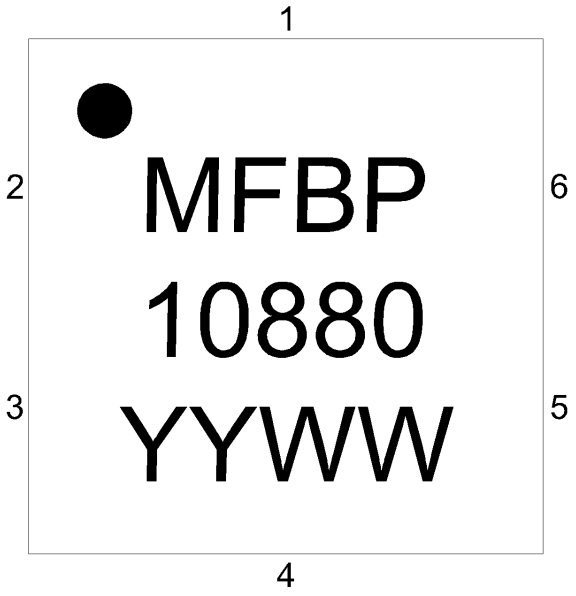
Table Of Contents

Revision History

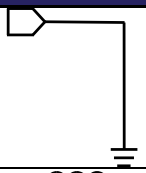
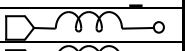
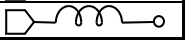
Revision Code	Revision Date	Comment
-	2025-10-27	Initial Release

Port Configuration and Functions

Port Diagram



Port Functions

Port	Function	Description	DC Equivalent Circuit
Ground Paddle	Ground	CSP3 package ground path is provided through the ground paddle and should be connected to RF ground.	
Pin 1	Input/Output	Pin 1 is DC open to ground for the CSP3 package.	
Pin 4	Input/Output	Pin 4 is DC open to ground for the CSP3 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
ESD	250 to < 500 Volts	HBM Class 1A
Dimensions	-	3.50 x 3.50 mm
Moisture Sensitivity Level	-	MSL 1

Electrical Specifications

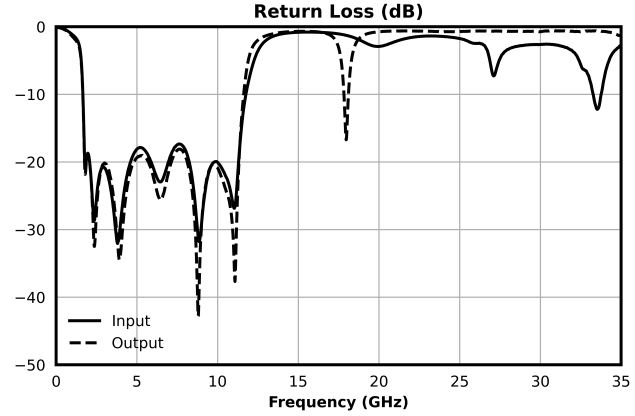
The electrical specifications apply at TA=+25°C in a 50Ω system. Typical data shown is for the filter in a CSP3 package with a sine wave input applied to Pin 1. Min and Max limits are guaranteed at TA=+25°C.

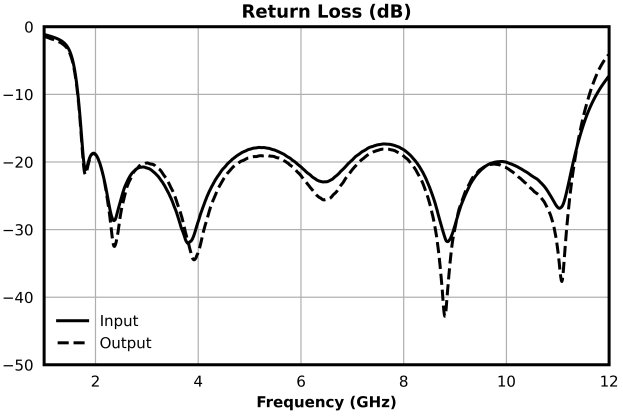
Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
1 dBc Passband	Configuration A, Temp = 25°C	2.11	10.22	-	-	-	GHz
3 dBc Passband	Configuration A, Temp = 25°C	1.73	11.38	-	-	-	GHz
30 dBc Rejection Point	Configuration A, Temp = 25°C	1.25	12.49	-	-	-	GHz
Center Freq	Configuration A, Temp = 25°C	-	-	-	4.64	-	GHz
Insertion Loss @ fc	Configuration A, Temp = 25°C	-	-	-	1.0	-	dB
Passband Return Loss	Configuration A, Temp = 25°C	-	-	-	22	-	dB
Group Delay	Configuration A, Temp = 25°C	-	-	-	222	-	ps
Impedance	Configuration A, Temp = 25°C	-	-	-	50	-	Ω

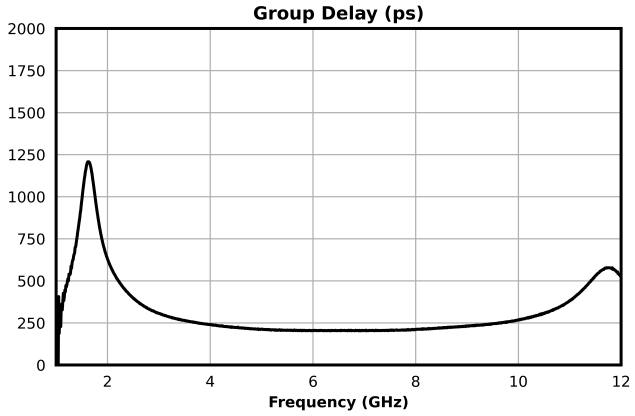
MFBP-00155CSP3

Passive GaAs MMIC 2.1 - 10.2 GHz Bandpass Filter

Typical Performance Plot







MFBP-00155CSP3

Passive GaAs MMIC 2.1 - 10.2 GHz Bandpass Filter

Mechanical Data

Outline Drawing

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

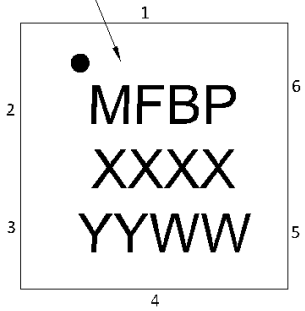
Units in inch +/-.004" [millimeter +/-0.1]

PROJECTION: INCH [MM]

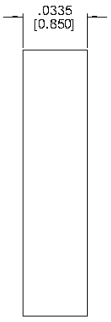
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVALS
A	Initial Release	8/28/25	AT

Part marking:
YYWW - Date code
XXXX - See table

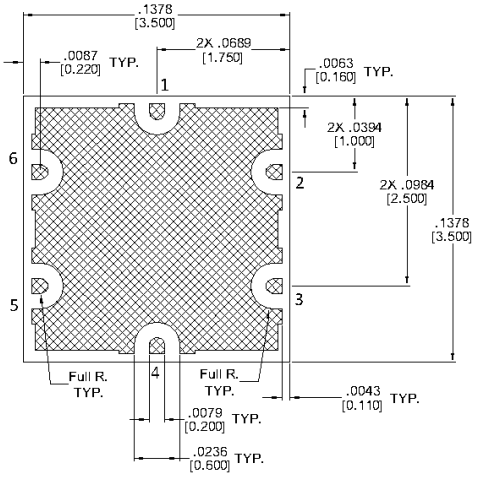
Pin #	Function
1	RF
2	N/C
3	N/C
4	RF
5	N/C
6	N/C



Top Down View



Side View



Bottom Up View

XXXX	MFBP-#####CSP3
10876	MFBP-00151CSP3
10877	MFBP-00152CSP3
10880	MFBP-00155CSP3

Notes: (Unless otherwise specified)

1. Front to back registration to be 50.8µm max.
2. Circuits to be shipped individually.
3. Shaded areas are metalized.
4. Finish: Ni: 0.5 - 2.5 µm
   Pd: 0.02 - 0.15 µm
   Au: 0.003 - 0.015 µm

MATERIAL:

FINISH: Note 2

DO NOT SCALE DRAWING

NOTES:

DRAWN BY	DATE
LCG	6/10/25
OAS	8/27/25
AJN	8/27/25

Marki microwave www.markimicrowave.com

Outline
CSP3 Bandpass Filter

SIZE	CAGE CODE	DWG. NO.
A	0UC32	MFBP-#####CSP3

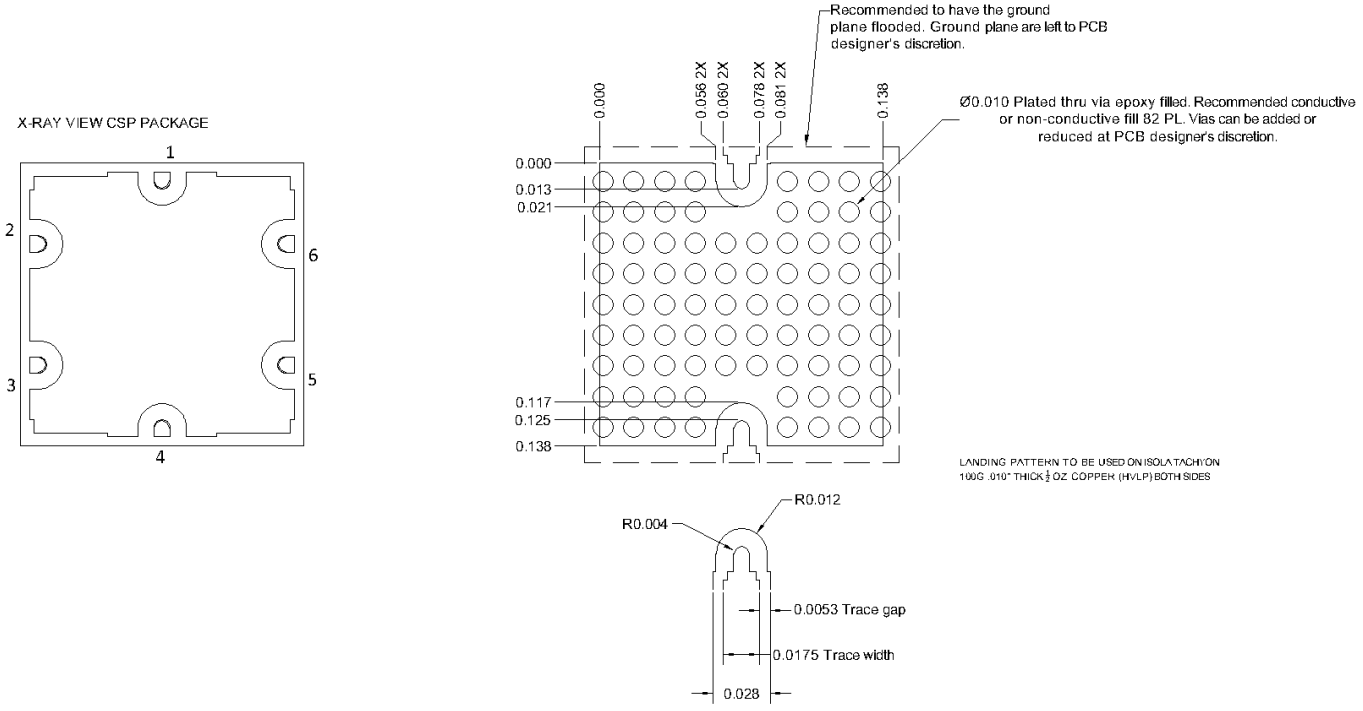
SHEET 1 OF 1

MFBP-00155CSP3

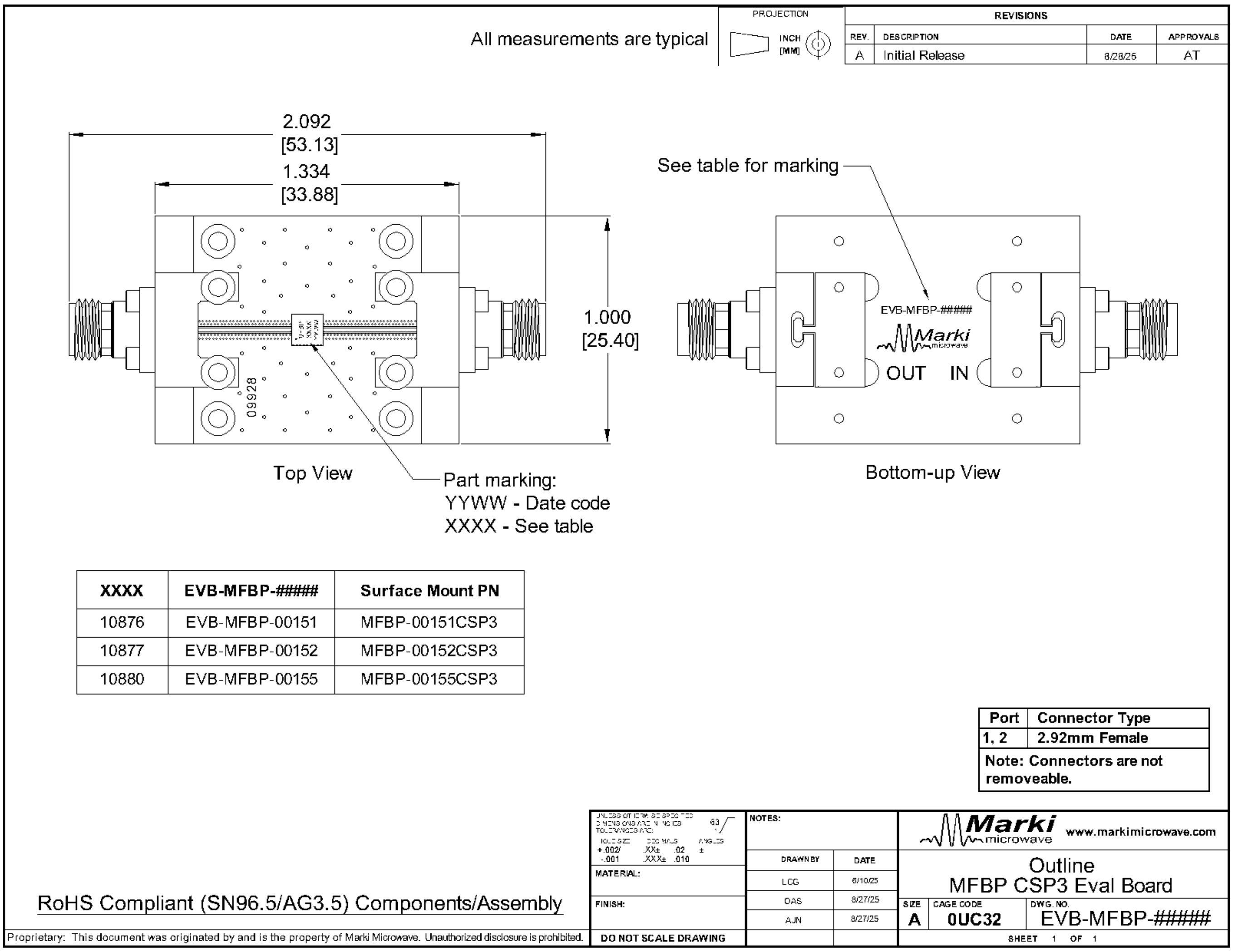
Passive GaAs MMIC 2.1 - 10.2 GHz Bandpass Filter

Footprint Image

Download : Footprint Drawing



Evaluation Board - Outline Drawing



XXXX	EVB-MFBP-#####	Surface Mount PN
10876	EVB-MFBP-00151	MFBP-00151CSP3
10877	EVB-MFBP-00152	MFBP-00152CSP3
10880	EVB-MFBP-00155	MFBP-00155CSP3

Port	Connector Type
1, 2	2.92mm Female

Note: Connectors are not removeable.

DISCLAIMER

MARKI MICROWAVE, INC., (“MARKI”) PROVIDES TECHNICAL SPECIFICATIONS AND DATA (INCLUDING DATASHEETS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, AND OTHER INFORMATION AND RESOURCES “AS IS” AND WITH ALL FAULTS. MARKI DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

These resources are intended for developers skilled in the art designing with Marki products. You are solely responsible for (1) selecting the appropriate products for your application, (2) designing, validating, and testing your application, and (3) ensuring your application meets applicable standards and other requirements. Marki makes no guarantee regarding the suitability of its products for any particular purpose, nor does Marki assume any liability whatsoever arising out of your use or application of any Marki product.

Marki grants you permission to use these resources only for development of an application that uses Marki products. Other reproduction or use of these resources is strictly prohibited. No license is granted to any other Marki intellectual property or to any third-party intellectual property. Marki reserves the right to make changes to the product(s) or information contained herein without notice.