

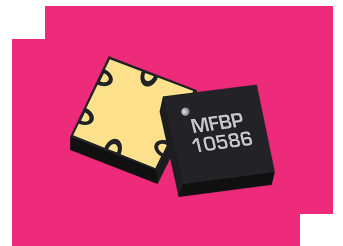
MFBP-00085CSP3

Passive GaAs MMIC 9 - 14.4 GHz Bandpass Filter

DEVICE OVERVIEW

General Description

The MFBP-00085CSP3 passive MMIC surface mount bandpass filter is an ideal solution for small form factor, high rejection filtering. The MFBP-00085CSP3 features a 9-14.4GHz 1dBc passband and 1.8dB 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-00085CSP3 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

- 20 dB Return Loss
- 1.8 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-00085CSP3	Passive GaAs MMIC 9 - 14.4 GHz Bandpass Filter	CSP3	RoHS REACH	Released	EAR99
<u>EVB-MFBP-00085</u>	Evaluation Board, Passive GaAs 9 - 14.4 GHz MMIC Bandpass Filter	EVB	RoHS REACH	Released	EAR99

Table Of Contents

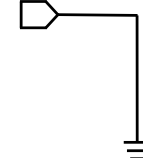
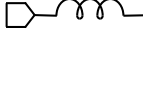
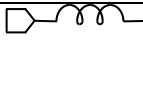
■ Device Overview - General Description - Features - Applications - Functional Block Diagram ■ Port Configuration and Functions - Port Functions ■ Revision History	■ Specifications - Absolute Maximum Ratings - Package Information - Electrical Specifications - Typical Performance Plot ■ Mechanical Data - Outline Drawing ■ Footprint Image ■ Evaluation Board - Evaluation Board Outline Drawing
---	---

Revision History

Revision Code	Revision Date	Comment
-	2025-05-29	Initial Release

Port Configuration and Functions

Port Functions

Port	Function	Description	Equivalent Circuit for Package
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 short to ground for the CSP3 package.	
Pin 4	Input/Output	Pin 4 is DC short 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

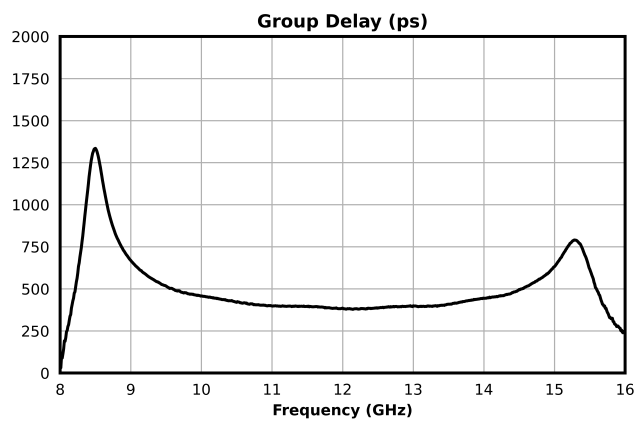
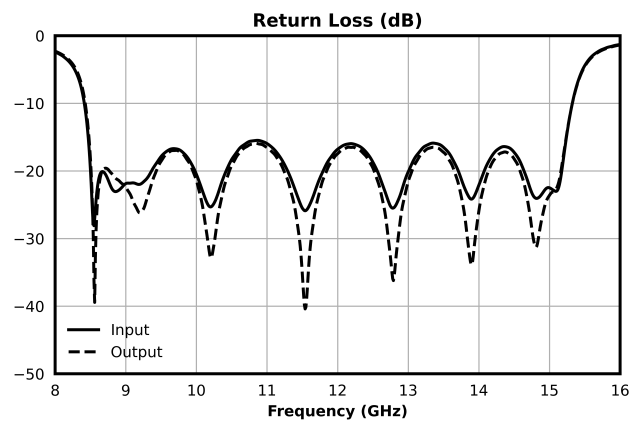
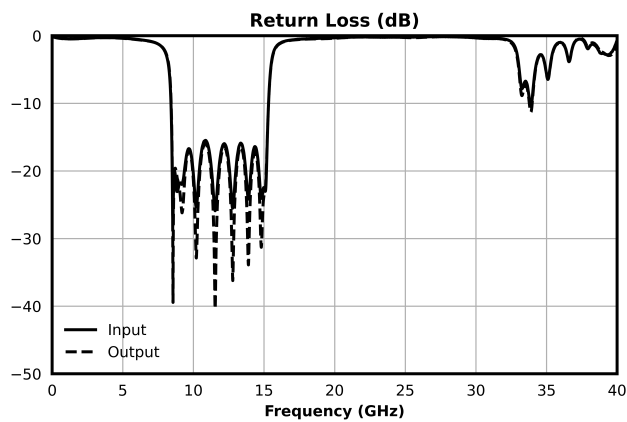
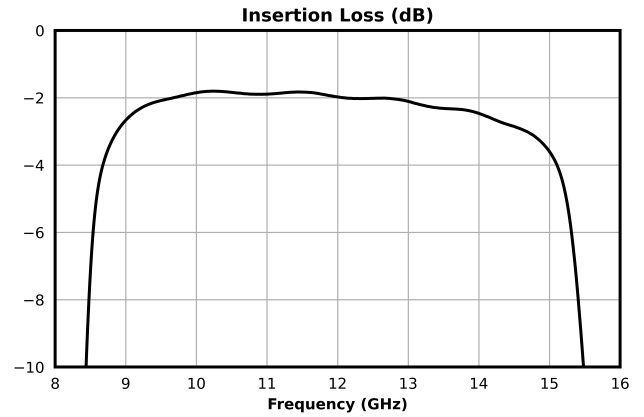
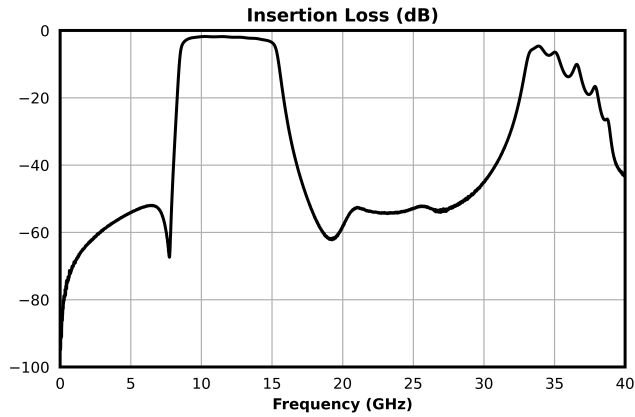
Parameter	Details	Rating
ESD	< 250 Volts	HBM Class 0
Dimensions	-	3.50 x 3.50 mm
Moisture Sensitivity Level	-	MSL 1

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	8.95	14.42	-	-	-	GHz
30 dBc Rejection Point	Configuration A, Temp = 25°C	8.14	16.3	-	-	-	GHz
3 dBc Passband	Configuration A, Temp = 25°C	8.6	15.22	-	-	-	GHz
Center Freq	Configuration A, Temp = 25°C	-	-	-	11.36	-	GHz
Group Delay	Configuration A, Temp = 25°C	-	-	-	407	-	ps
Impedance	Configuration A, Temp = 25°C	-	-	-	50	-	Ω
Insertion Loss @ fc	Configuration A, Temp = 25°C	-	-	-	1.8	-	dB
Passband Return Loss	Configuration A, Temp = 25°C	-	-	-	20	-	dB

Typical Performance Plot

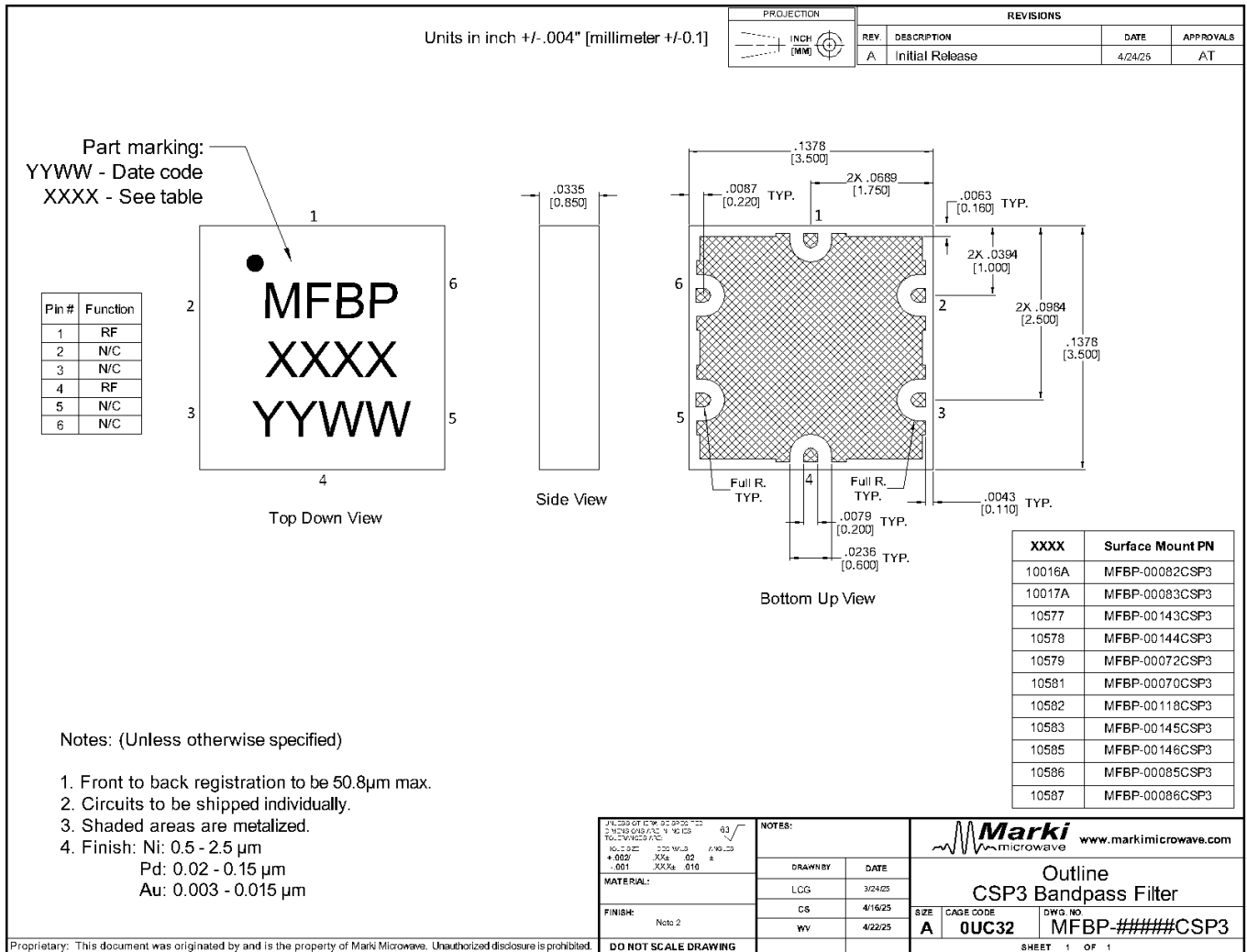


Measured data is de-embedded from fixture using automatic fixture removal (AFR).

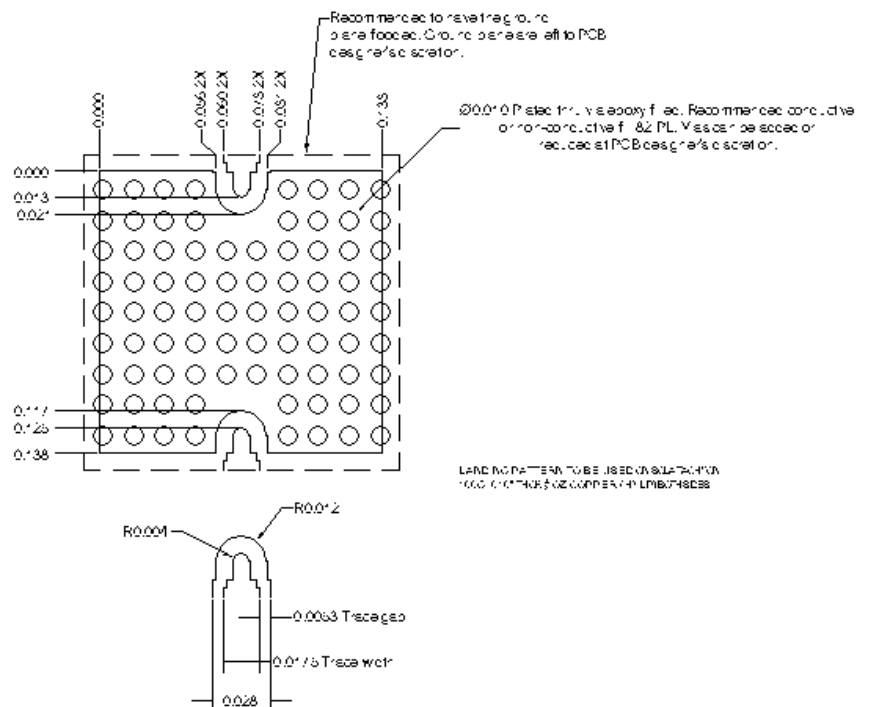
Mechanical Data

Outline Drawing

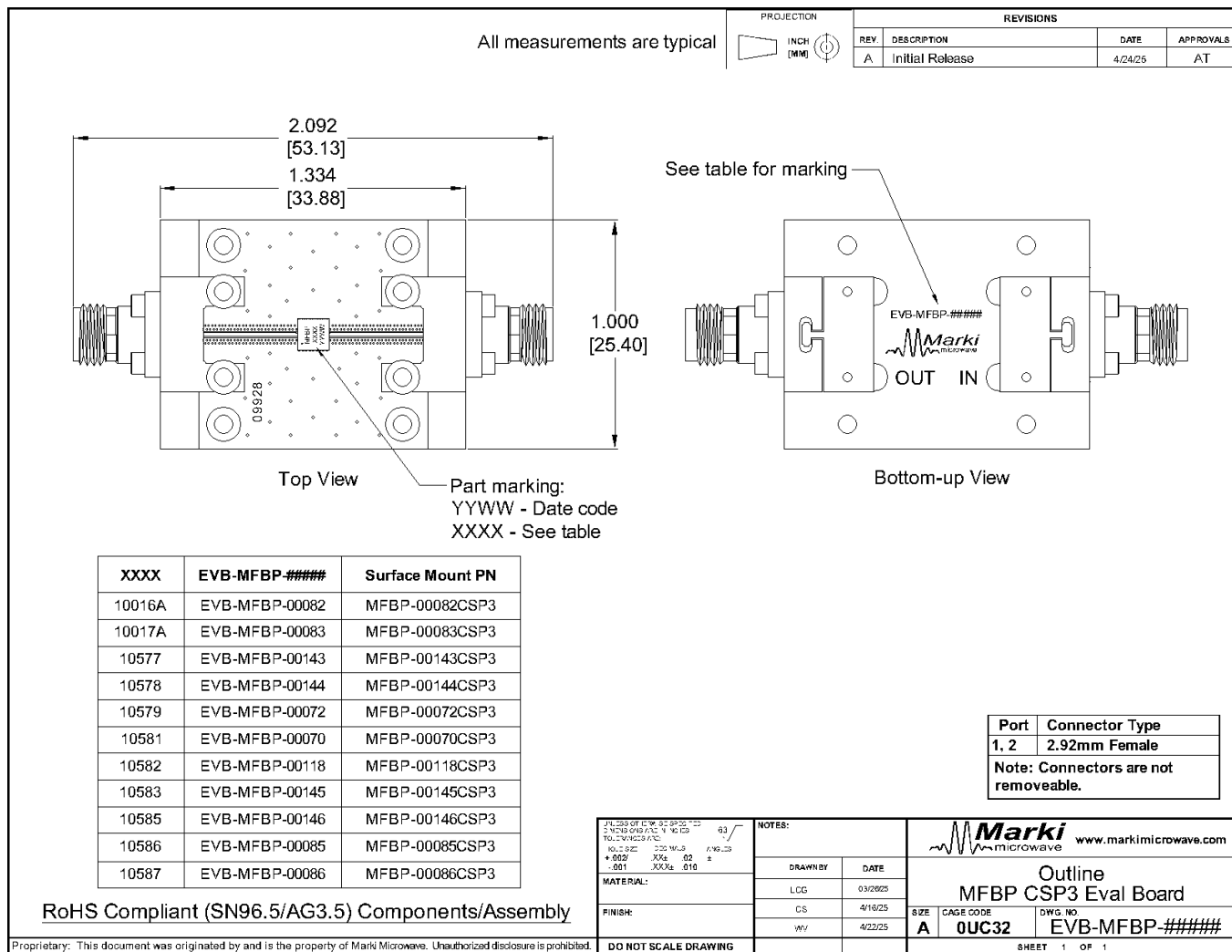
Download : [Outline 2D Drawing](#) | [Outline 3D Drawing](#) | [Outline 3D STP](#)



Download : [Footprint Drawing](#)



Evaluation Board - Outline Drawing



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.

MARKI MICROWAVE and T3 MIXER are trademarks or registered trademarks of Marki Microwave, Inc. All other trademarks used are the property of their respective owners.

© 2025, Marki Microwave, Inc