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

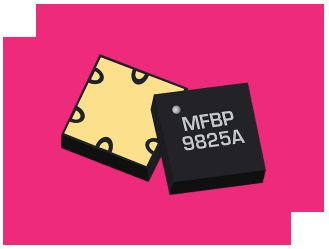
MFBP-00062CSP3

Passive GaAs MMIC 27.5 - 29.9 GHz Bandpass Filter

DEVICE OVERVIEW

General Description

The MFBP-00062CSP3 passive MMIC surface mount bandpass filter is an ideal solution for small form factor, high rejection filtering. The MFBP-00062CSP3 features a 27.5-29.9GHz 1dBc passband and 2.8dB 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-00062CSP3 is available as a 3.5 mm CSP3. Low unit to unit variation allows for accurate simulations using the provided S2P file taken from measured production units. For a wider bandwidth option, please see MFBP-00128CSP3. If higher rejection is required, see MFBP-00129CSP3.



Download s-parameters here

Features

- 17 dB Return Loss
- 2.8 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-00062CSP3	Passive GaAs MMIC 27.5 - 29.9 GHz Bandpass Filter	CSP3	RoHS REACH	Released	EAR99
EVB-MFBP-00062	Evaluation Board, Passive GaAs 27.5-29.9 GHz MMIC Bandpass Filter	EVB	RoHS REACH	Released	EAR99

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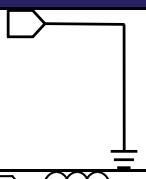
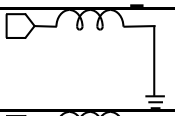
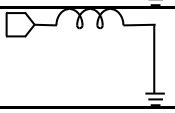
Revision History

Revision Code	Revision Date	Comment
-	2025-05-28	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
Dimensions	-	3.50 x 3.50 mm
Moisture Sensitivity Level	-	MSL 1

Electrical Specifications

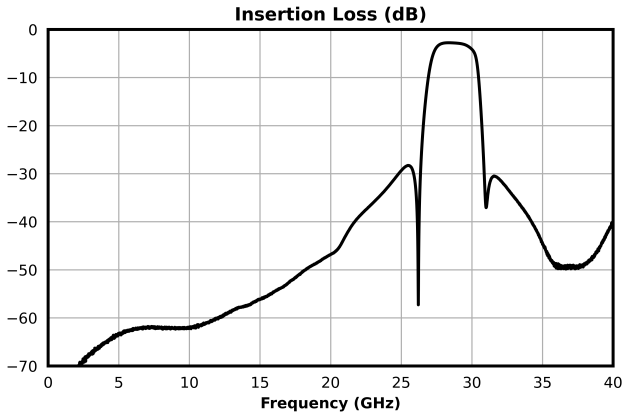
The electrical specifications apply at TA=+25°C in a 50Ω system. Typical data shown is for the filter in a CSP3 package with a sine wave input applied to Pin 1. Min and Max limits are guaranteed at TA=+25°C.

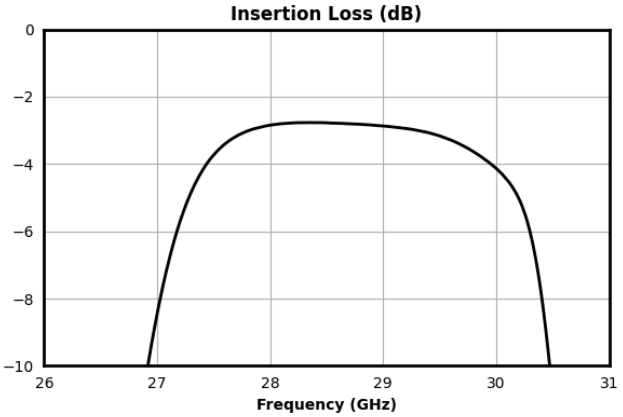
Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
1 dBc Passband	Configuration A, Temp = 25°C	27.5	29.86	-	-	-	GHz
3 dBc Passband	Configuration A, Temp = 25°C	27.2	30.28	-	-	-	GHz
30 dBc Rejection Point	Configuration A, Temp = 25°C	26.33	30.91	-	-	-	GHz
Center Freq	Configuration A, Temp = 25°C	-	-	-	28.66	-	GHz
Insertion Loss @ fc	Configuration A, Temp = 25°C	-	-	-	2.8	-	dB
Passband Return Loss	Configuration A, Temp = 25°C	-	-	-	17	-	dB
Group Delay	Configuration A, Temp = 25°C	-	-	-	385	-	ps
Impedance	Configuration A, Temp = 25°C	-	-	-	50	-	Ω

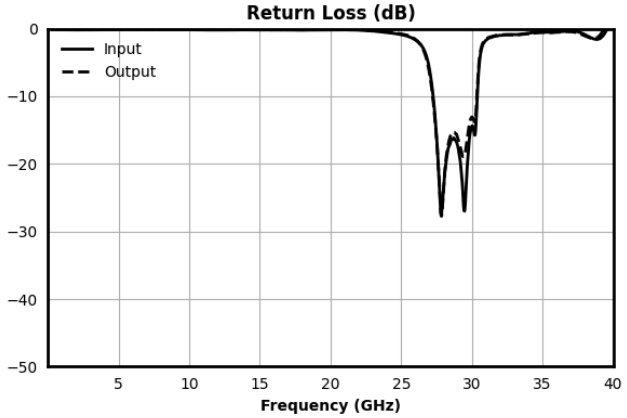
MFBP-00062CSP3

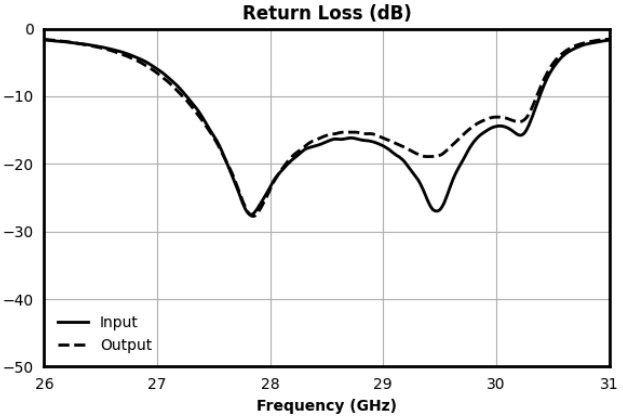
Passive GaAs MMIC 27.5 - 29.9 GHz Bandpass Filter

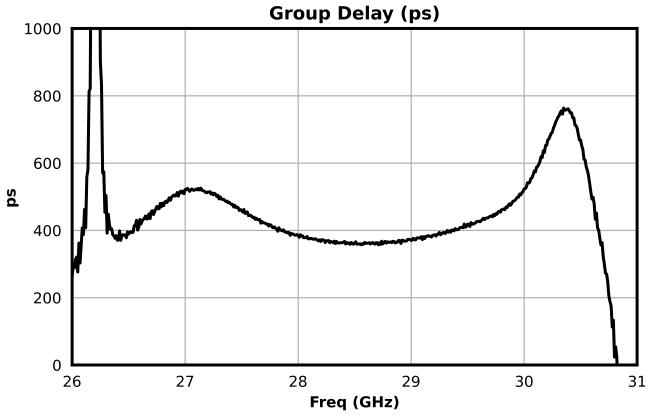
Typical Performance Plot











All measurements are de-embedded from the fixture with AFR.

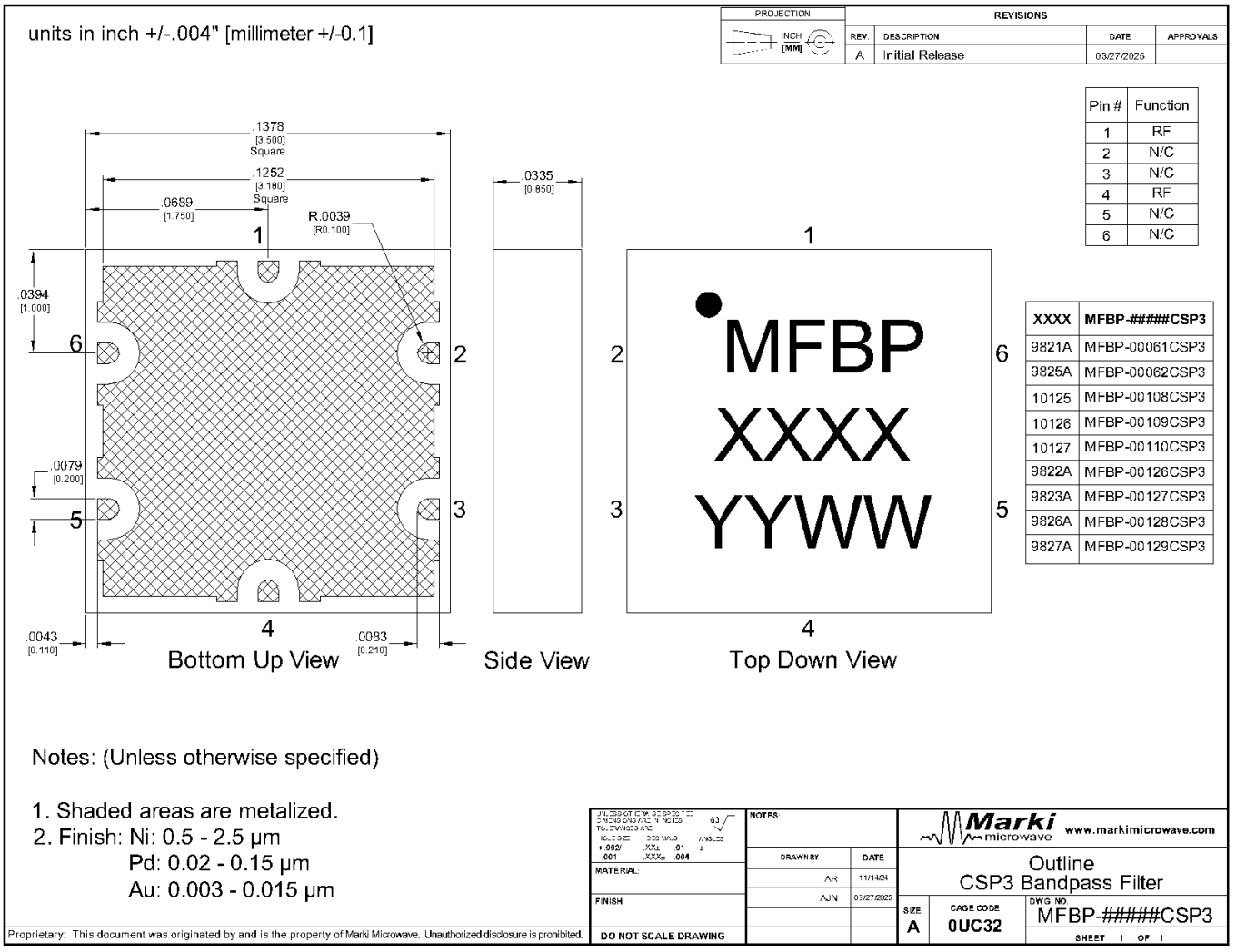
MFBP-00062CSP3

Passive GaAs MMIC 27.5 - 29.9 GHz Bandpass Filter

Mechanical Data

Outline Drawing

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

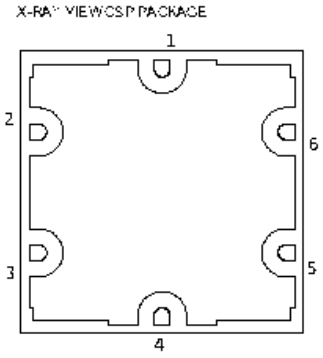


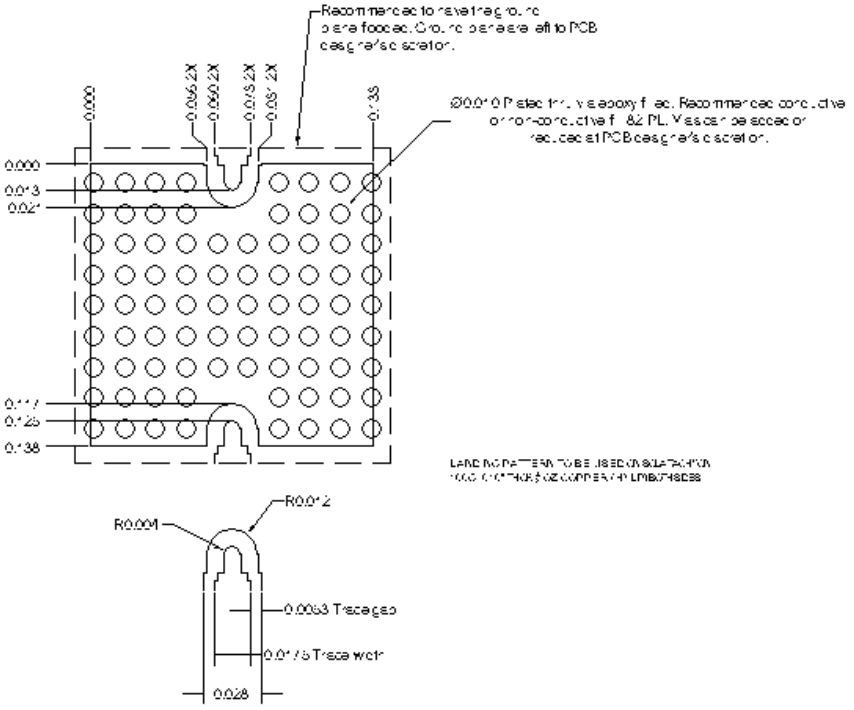
MFBP-00062CSP3

Passive GaAs MMIC 27.5 - 29.9 GHz Bandpass Filter

Footprint Image

Download : Footprint Drawing





MFBP-00062CSP3

Passive GaAs MMIC 27.5 - 29.9 GHz Bandpass Filter

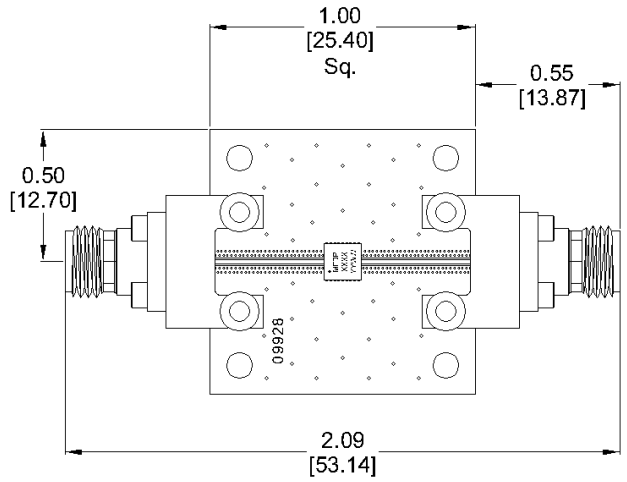
Evaluation Board - Outline Drawing

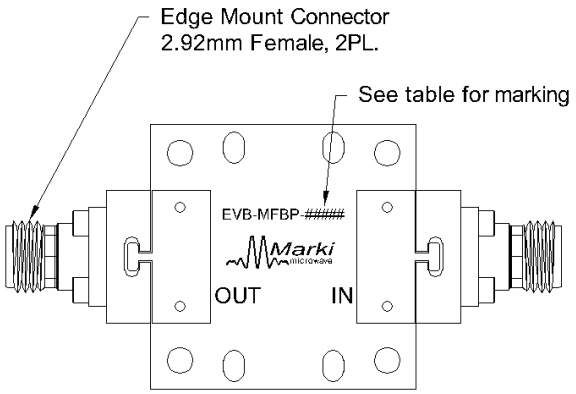
All measurements are typical

PROJECTION

INCH [MM]

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVALS
A	Initial Release	03/27/2025	





Backside Label

XXXX	EVB-MFBP-#####	Surface Mount PN
9821A	EVB-MFBP-00061	MFBP-00061CSP3
9825A	EVB-MFBP-00062	MFBP-00062CSP3
10125	EVB-MFBP-00108	MFBP-00108CSP3
10126	EVB-MFBP-00109	MFBP-00109CSP3
10127	EVB-MFBP-00110	MFBP-00110CSP3
9822A	EVB-MFBP-00126	MFBP-00126CSP3
9823A	EVB-MFBP-00127	MFBP-00127CSP3
9826A	EVB-MFBP-00128	MFBP-00128CSP3
9827A	EVB-MFBP-00129	MFBP-00129CSP3

RoHS Compliant (SN96.5/AG3.5) Components/Assembly

NOTES:

DRAWN BY	DATE
AR	11/13/24
AJN	03/27/2025

MATERIAL:

FINISH:

DO NOT SCALE DRAWING

Marki microwave www.markimicrowave.com

Outline
Eval Board MFBP

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

SCALE none SHEET 1 OF 1

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