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

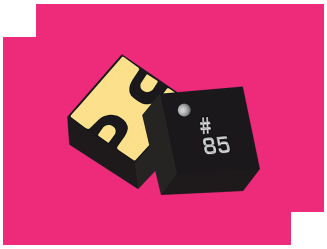
MFHP-00035CSP1

Passive GaAs MMIC 19.6 GHz Highpass Filter

DEVICE OVERVIEW

General Description

The MFHP-00035CSP1 MMIC surface mount highpass filter is an ideal solution for extremely small form factor, high rejection filtering. The MFHP-00035CSP1 features a 19.6 GHz 3 dBc cutoff and 25 dB passband return 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 MFHP-00035CSP1 is available as a 1.5x1.5 mm CSP. Low unit to unit variation allows for accurate simulations using the provided S2P file.



Download s-parameters here

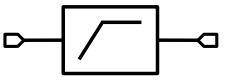
Features

- Low Passband Insertion Loss with Fast Roll-off
- 25 dB Return Loss
- High Stop Band Suppression
- 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
MFHP-00035CSP1	Passive GaAs MMIC 19.6 GHz Highpass Filter	CSP1	RoHS REACH	Released	EAR99
EVB-MFHP-00035	Evaluation Board, Passive GaAs MMIC 19.6 GHz Highpass Filter	EVB	RoHS REACH	Released	EAR99

Rev: - | Copyright © 2026 Marki Microwave LLC.

Table Of Contents

- **Device Overview**
  - General Description
  - Features
  - Applications
  - Functional Block Diagram
- **Port Configuration and Functions**
  - Port Diagram
  - 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

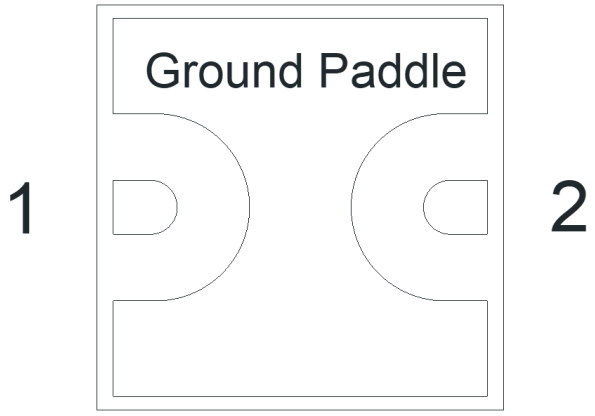
Revision Code	Revision Date	Comment
-	2026-08-14	Initial Release

Rev: - | Copyright © 2026 Marki Microwave LLC.

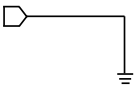
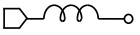
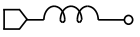
Port Configuration and Functions

Port Diagram

A top-down x-ray view of the MFHP-00035CSP1 package outline drawing is shown below.



Port Functions

Port	Function	Description	DC Equivalent Circuit
Ground Paddle	Ground	CSP 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.	
Pin 2	Input/Output	Pin 2 is DC open to ground.	

Rev: - | Copyright © 2026 Marki Microwave LLC.

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
Weight	Package name: CSP1	0.04g
Dimensions	-	1.50 x 1.50 mm
Moisture Sensitivity Level	-	MSL 3

Rev: - | Copyright © 2026 Marki Microwave LLC.

Electrical Specifications

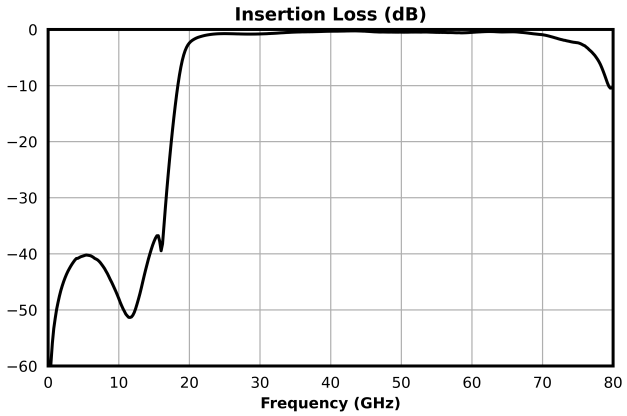
The electrical specifications apply at TA=+25°C in a 50Ω system. Min and Max limits are guaranteed at TA=+25°C.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
1 dBc Passband	Temp = 25°C	21.8	-	-	-	-	GHz
3 dBc Passband	Temp = 25°C	19.6	-	-	-	-	GHz
30 dBc Rejection Point	Temp = 25°C	16.8	-	-	-	-	GHz
Insertion Loss @ fc	Temp = 25°C	-	-	-	0.5	-	dB
Passband Return Loss	Temp = 25°C	-	-	-	25	-	dB
Group Delay	Temp = 25°C	-	-	-	27	-	ps

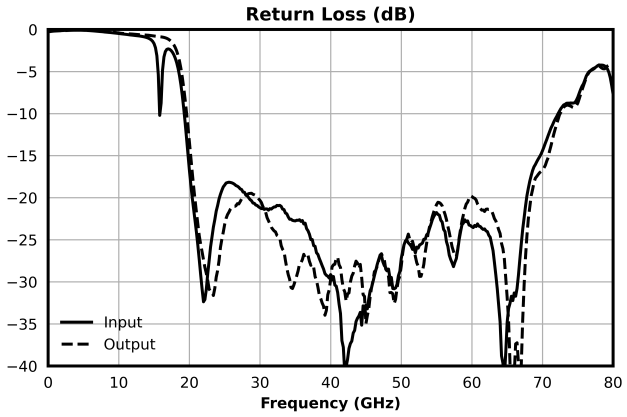
Rev: - | Copyright © 2026 Marki Microwave LLC.

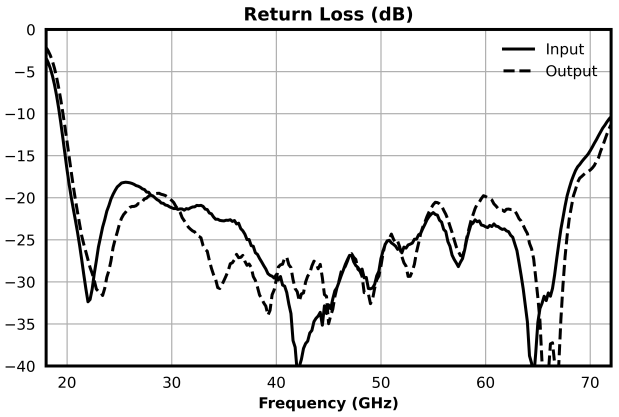
Typical performance is de-embedded from evaluation board using automatic fixture removal.

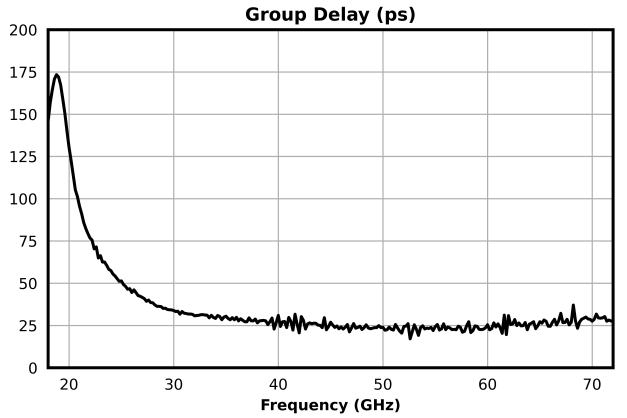
Typical Performance Plot











Rev: - | Copyright © 2026 Marki Microwave LLC.

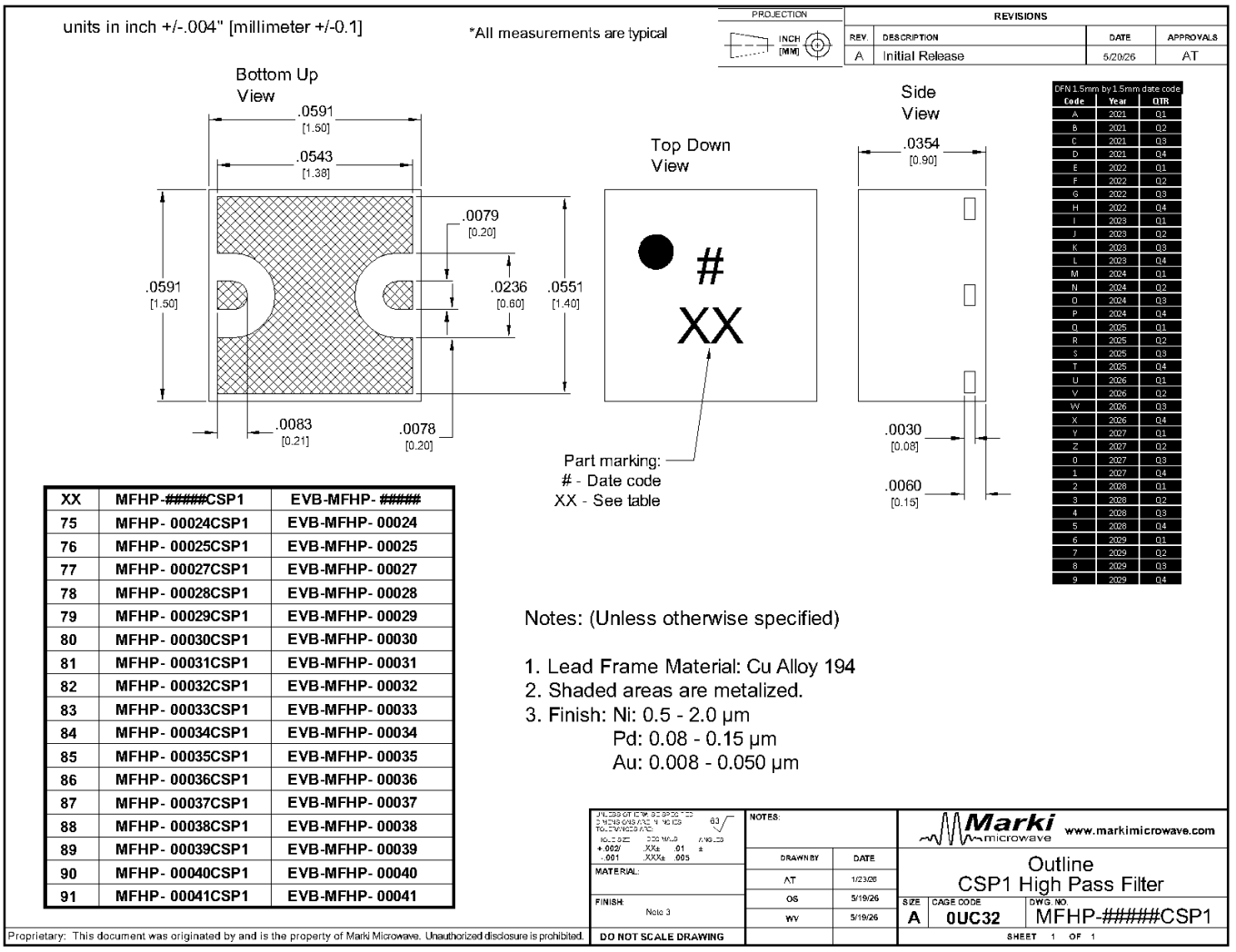
MFHP-00035CSP1

Passive GaAs MMIC 19.6 GHz Highpass Filter

Mechanical Data

Outline Drawing

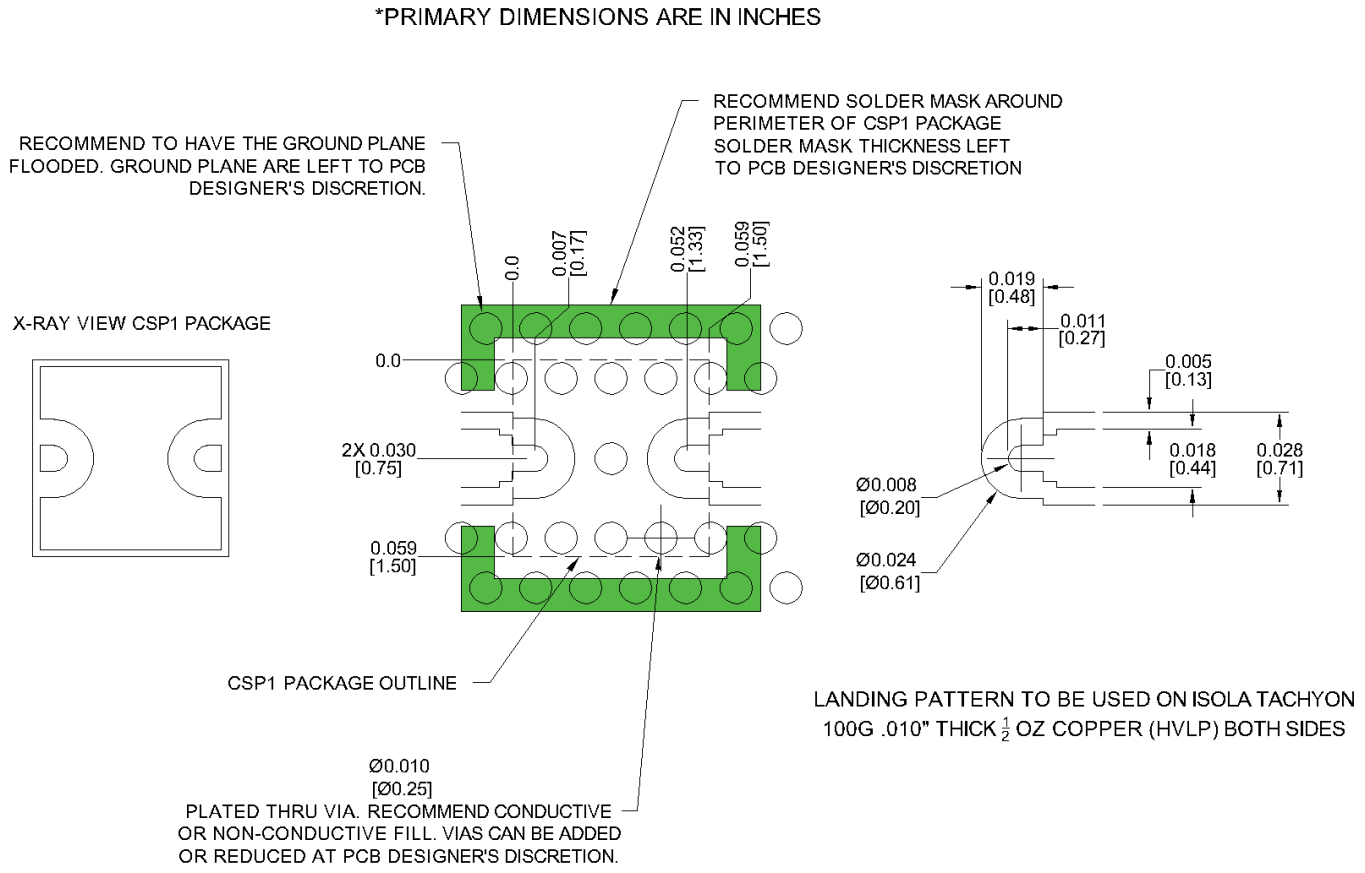
Download : Outline 2D Drawing | Outline 3D Drawing | Outline 3D STP



Rev: - | Copyright © 2026 Marki Microwave LLC.

Footprint Image

Download : Footprint Drawing

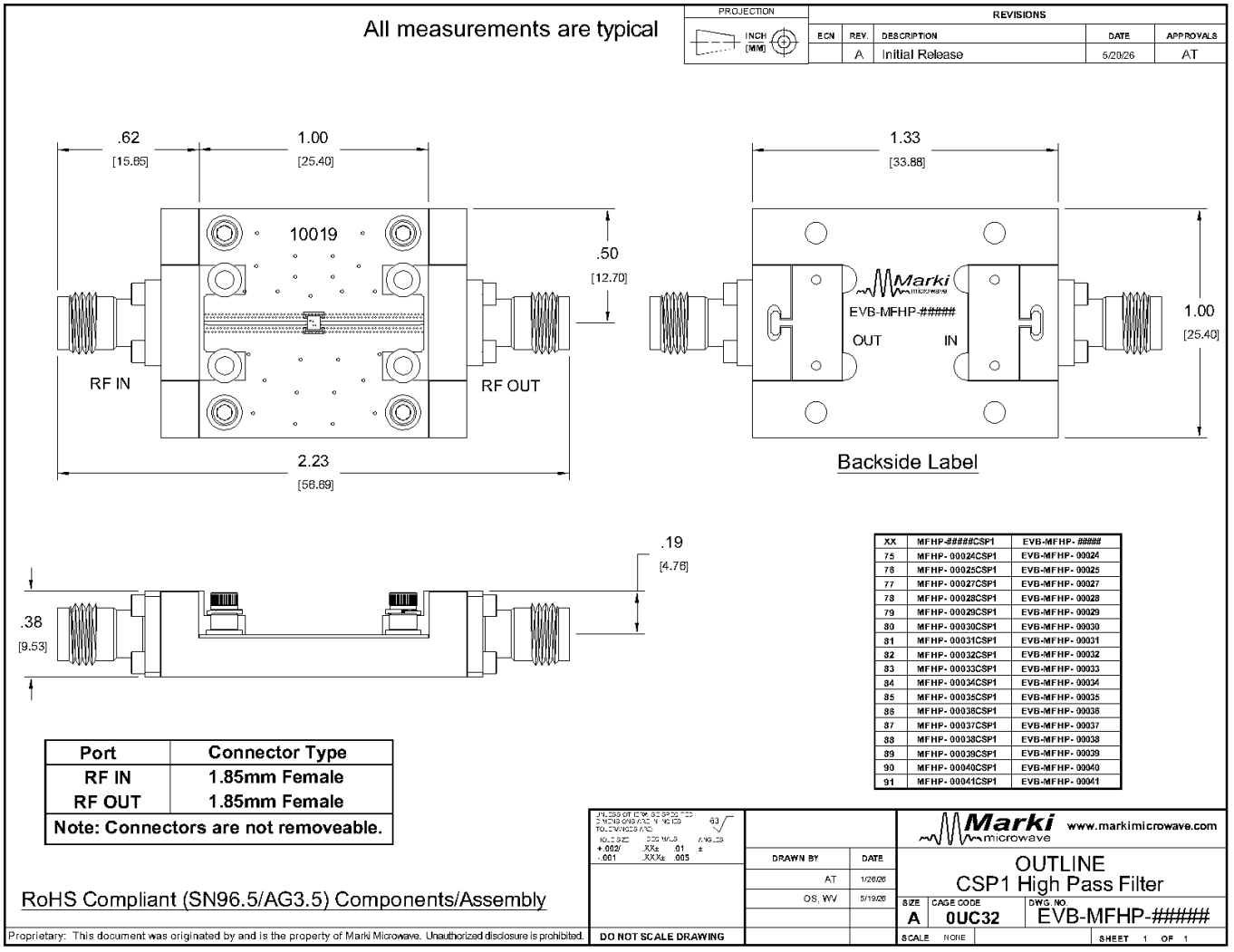


Rev: - | Copyright © 2026 Marki Microwave LLC.

MFHP-00035CSP1

Passive GaAs MMIC 19.6 GHz Highpass Filter

Evaluation Board - Outline Drawing



Rev: - | Copyright © 2026 Marki Microwave LLC.

DISCLAIMER

MARKI MICROWAVE, LLC., (“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, M wave logo, FastSwitch, and T3 MIXER are trademarks or registered trademarks of Marki Microwave, LLC. All other trademarks used are the property of their respective owners.

© 2026, Marki Microwave, LLC