

MFLP-00010PSM

Passive GaAs MMIC 4.2 GHz Lowpass Filter

DEVICE OVERVIEW

General Description

The MFLP-00010PSM is a passive MMIC surface mount 4 GHz lowpass filter that is an ideal solution for small form factor, high rejection filtering. 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 MFLP-00010PSM is available as a 5x5mm 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

- Low Passband Insertion Loss with Fast Roll-off
- Excellent Return Loss
- High Stop Band Suppression

Applications

- Test and Measurement Equipment
- SATCOM
- Radar
- RF Transceivers

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
MFLP-00010PSM	Passive GaAs MMIC 4.2 GHz Lowpass Filter	QFN	RoHS REACH	Pre-release	EAR99

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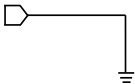
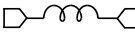
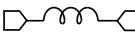
Evaluation Board Outline Drawing

Revision History

Revision Code	Revision Date	Comment
G0	2024-09-26	Pre-Release

Port Configuration and Functions

Port Functions

Port	Function	Description	Equivalent Circuit for Package
Ground Paddle	Ground	PSM package ground path is provided through the ground paddle and should be connected to RF ground.	
Pin 13	Output	Pin 13 is DC short to Pin 3.	
Pin 3	Input	Pin 3 is DC short to Pin 13.	

PRE-RELEASE

MFLP-00010PSM**Passive GaAs MMIC 4.2 GHz Lowpass
Filter****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	-	5 x 5 mm
Moisture Sensitivity Level	-	MSL 1

PRE-RELEASE

MFLP-00010PSM

Passive GaAs MMIC 4.2 GHz Lowpass Filter

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.

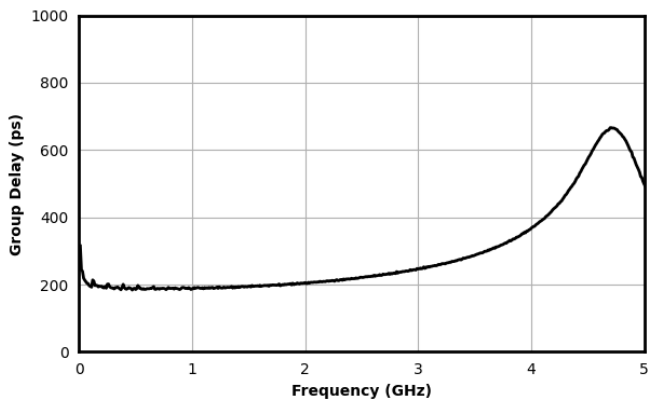
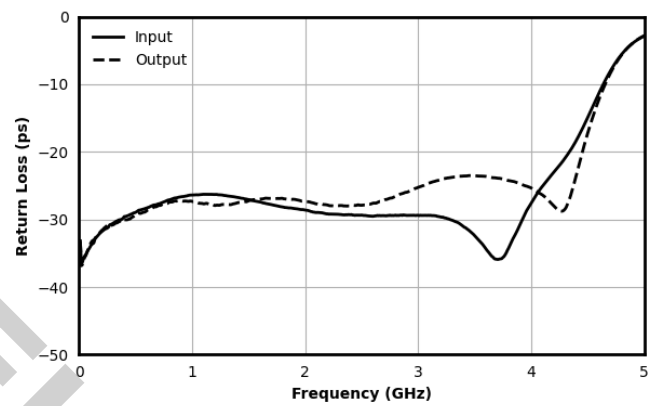
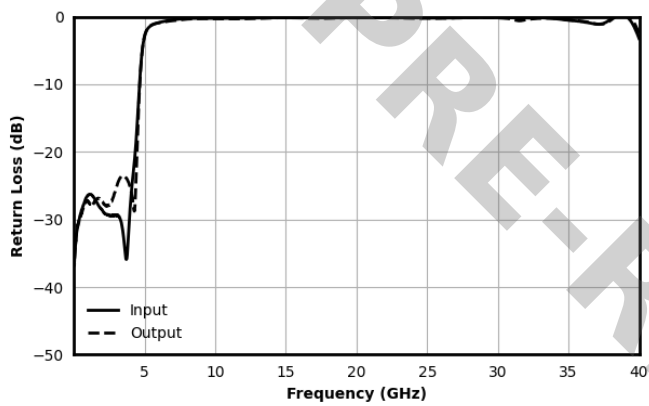
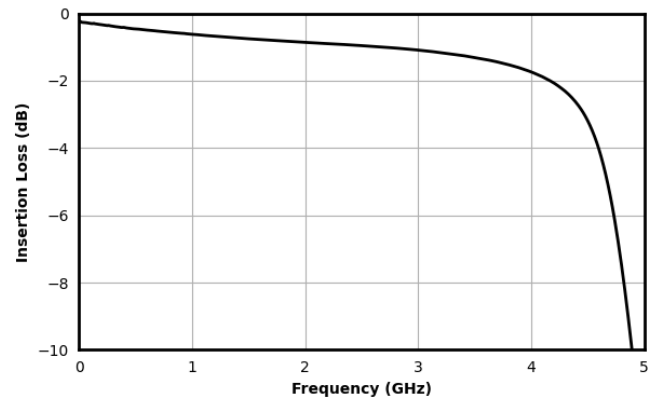
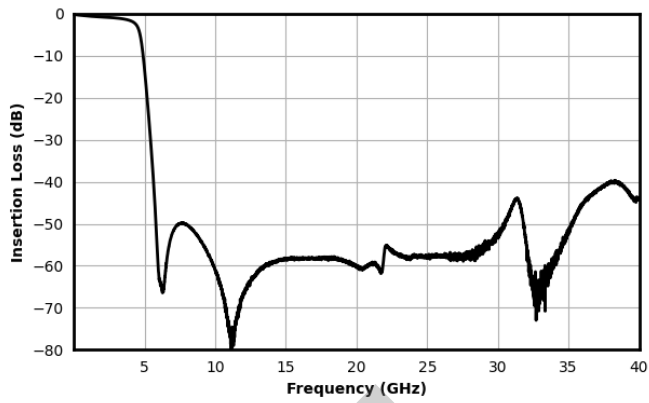
Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
1 dBc Passband	Configuration A, 25°C	-	3.36	-	-	-	GHz
30 dBc Rejection Point	Configuration A, 25°C	-	5.42	-	-	-	GHz
3 dBc Passband	Configuration A, 25°C	-	4.5	-	-	-	GHz
Group Delay	Configuration A, 25°C	-	-	-	200.05	-	ps
Impedance	Configuration A, 25°C	-	-	-	50	-	Ω
Passband Return Loss	Configuration A, 25°C	-	-	-	27.57	-	dB

PRE-RELEASE

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Typical Performance Plot



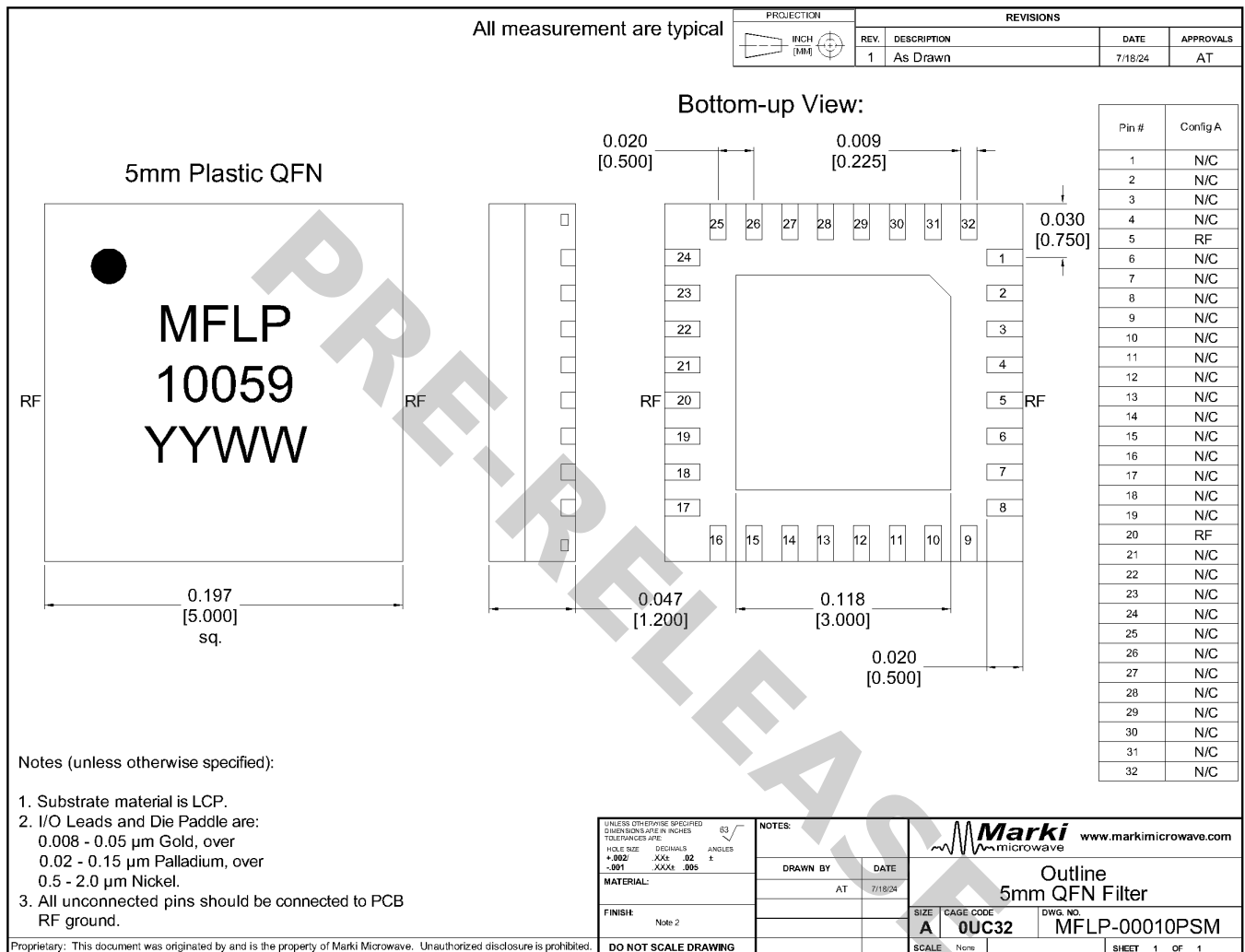
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Passive GaAs MMIC 4.2 GHz Lowpass Filter

Mechanical Data

Outline Drawing

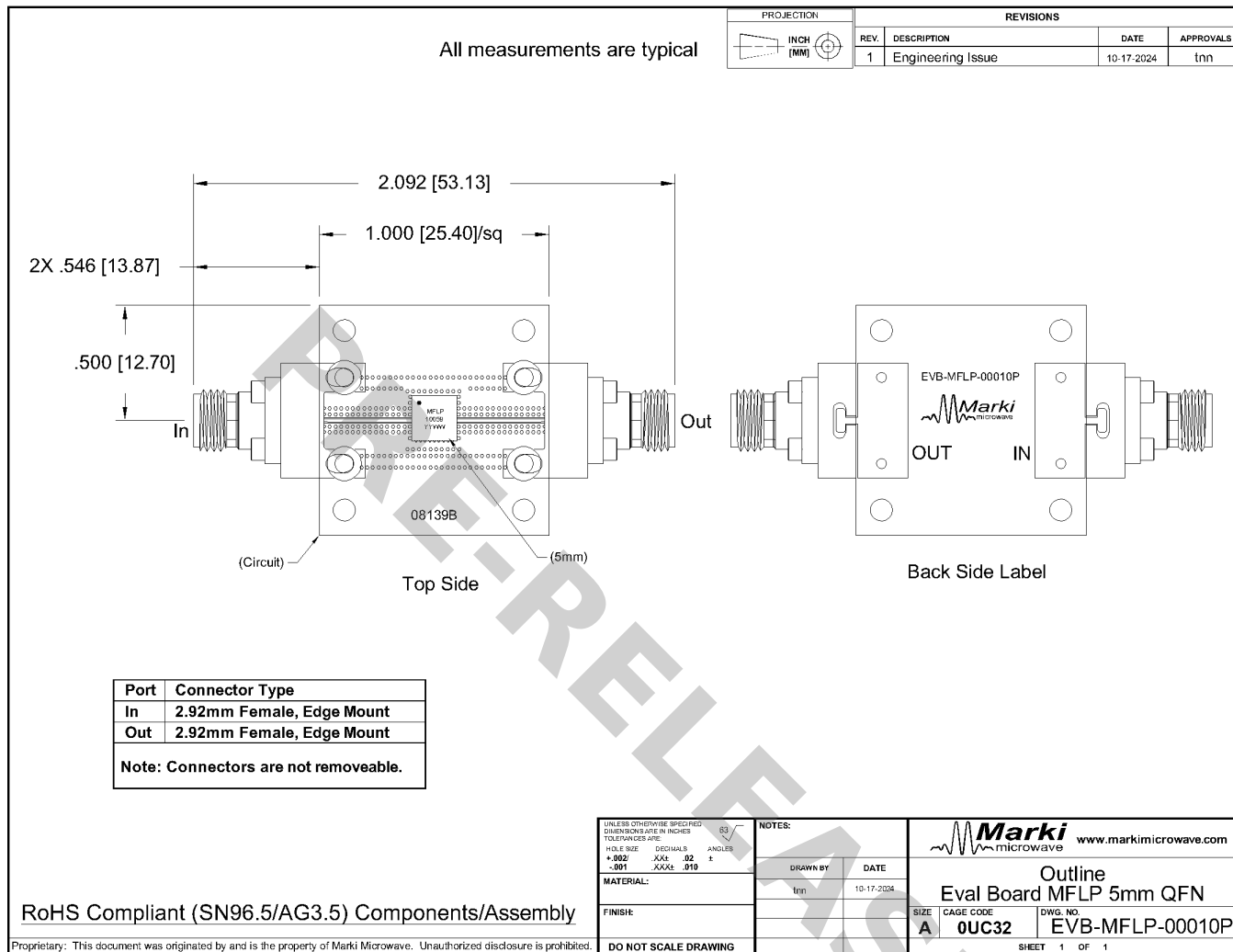
Download : [Outline 2D Drawing](#)



MFLP-00010PSM

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Evaluation Board - Outline Drawing



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Passive GaAs MMIC 4.2 GHz Lowpass Filter

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