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Sales & Customer Support: sales@markimicrowave.com
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MFHP-00023GSM2

Passive Glass 2.9 GHz Surface Mount Highpass Filter

DEVICE OVERVIEW

General Description

The MFHP-00023GSM2 surface-mount highpass filter is an ideal solution for extremely small form factor, high rejection filtering. The MFHP-00023GSM2 features a 2.9GHz 3dBc passband and 17dB passband return loss. Its advanced glass substrate technology allows production of smaller filter constructions that replace larger form factor circuit board constructions. Tight fabrication ensures tighter unit-to-unit consistency than legacy filter technologies, supporting accurate simulation with the provided S2P data. The MFHP-00023GSM2 is offered in a 4.00 x 4.25 mm package.

Download s-parameters here

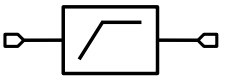
Features

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

Applications

N/A

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Green Status	Product Lifecycle	Export Classification
MFHP-00023GSM2	Passive Glass 2.9 GHz Surface Mount Highpass Filter	GSM2	REACH RoHS	Released	EAR99
EVB-MFHP-00023G	Evaluation Board, Passive Glass MMIC 2.9GHz Highpass Filter	EVB	REACH RoHS	Released	EAR99

MFHP-00023GSM2

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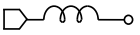
Table Of Contents

Revision History

Revision Code	Revision Date	Comment
-	2025-12-10	Initial Release

Port Configuration and Functions

Port Functions

Port	Function	Description	DC Equivalent Circuit
Pin 1	RF Input	Pin 1 is DC Open to GND	
Pin 2	RF Output	Pin 2 is DC Open to GND	

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Specifications

Absolute Maximum Ratings

Parameter	Maximum Rating	Unit
DC Current	2	A
Maximum Operating Temperature	100	°C
Maximum Storage Temperature	125	°C
Minimum Operating Temperature	-55	°C
Minimum Storage Temperature	-65	°C
RF Power Handling	5	W

Package Information

Parameter	Details	Rating
ESD	250 to < 500 Volts	HBM Class 1A
Dimensions	-	4.25 x 4.00 mm
Moisture Sensitivity Level	-	MSL 1

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Electrical Specifications

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
1 dBc Passband	Configuration A, Temp = 25°C	3.11	-	-	-	-	GHz
3 dBc Passband	Configuration A, Temp = 25°C	2.89	-	-	-	-	GHz
30 dBc Rejection Point	Configuration A, Temp = 25°C	2.33	-	-	-	-	GHz
Center Freq	Configuration A, Temp = 25°C	-	-	-	16.56	-	GHz
Insertion Loss @ fc	Configuration A, Temp = 25°C	-	-	-	1.6	-	dB
Passband Return Loss	Configuration A, Temp = 25°C	-	-	-	17	-	dB
Group Delay	Configuration A, Temp = 25°C	-	-	-	63	-	ps

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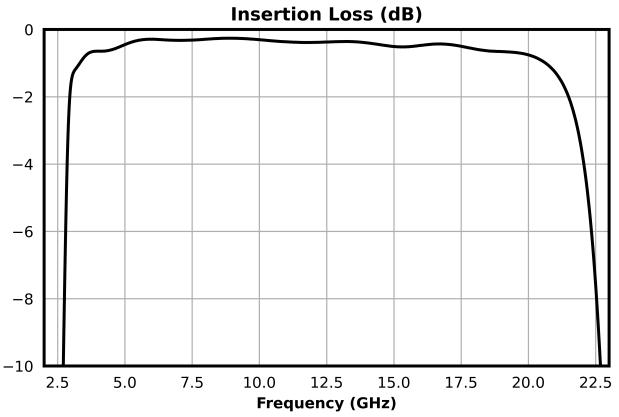
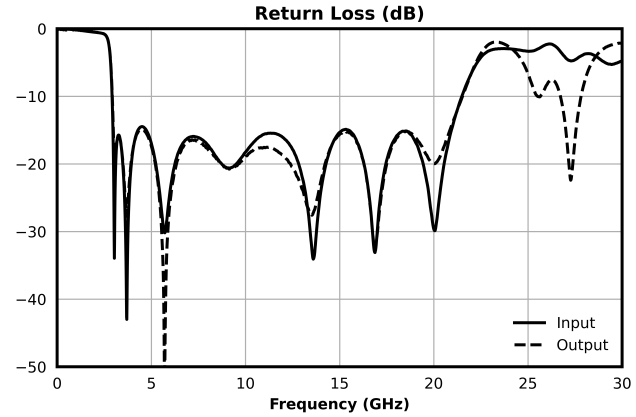
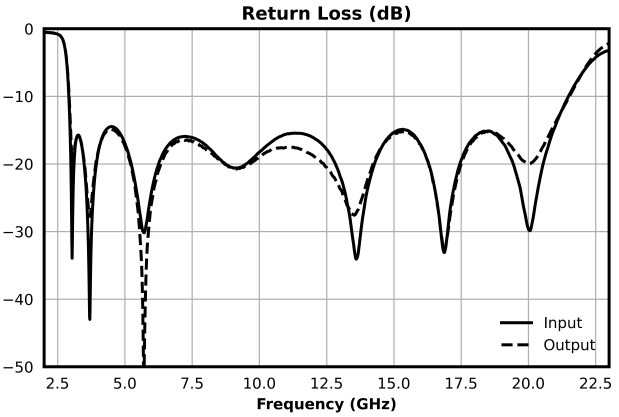
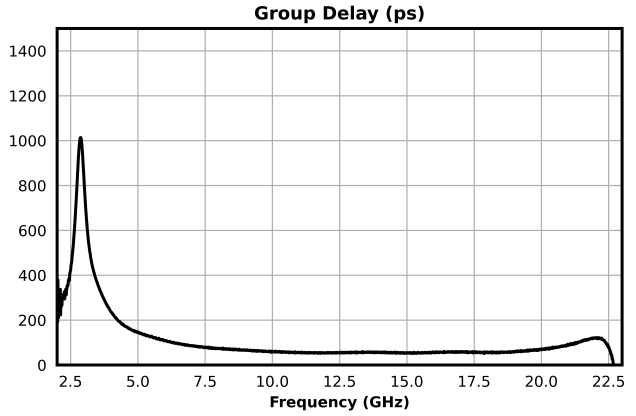
Typical Performance Plot









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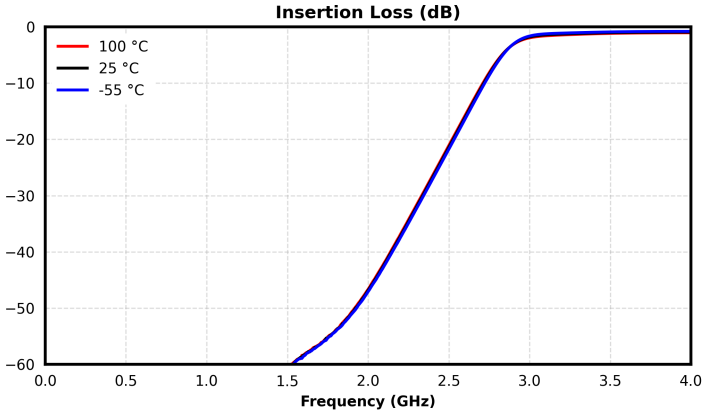
Performance Over Temperature



MFHP-00023GSM2

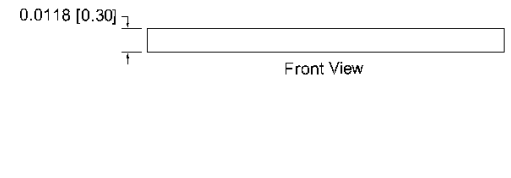
Passive Glass 2.9 GHz Surface Mount Highpass Filter

Mechanical Data

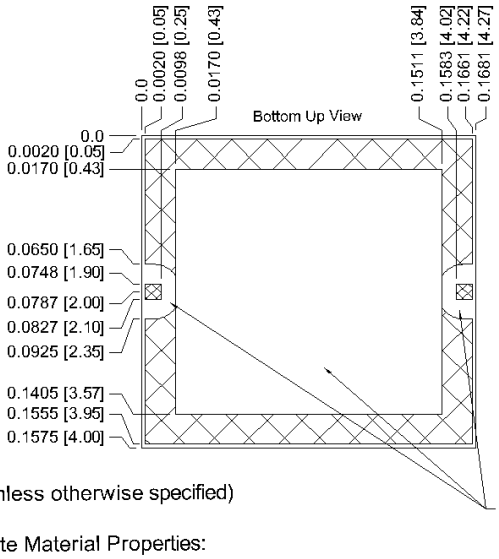
Outline Drawing

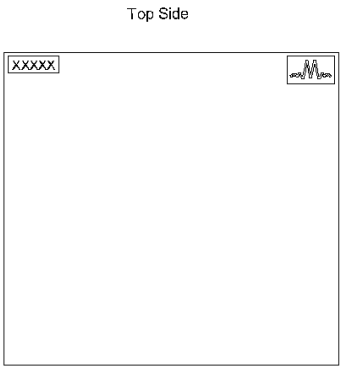
Download : Outline 2D Drawing

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVALS
A	Initial Release	11/17/25	AT



XXXXX	MFHP-#####GSM2
10931	MFHP-00021GSM2
10932	MFHP-00022GSM2
10933	MFHP-00023GSM2





Notes: (Unless otherwise specified)

1. Substrate Material Properties:
   CTE = 10 ppm/K
   Thermal Conductivity = 1.5 W/mK
   Thickness = 300um +/- 10um
2. Front to back registration to be ±10µm max.
3. Package length and width tolerance = +/- 20um
3. Finish: ENEPIG, 2.5µm Ni, 0.3µm Pd, 0.25µm Au.
4. Top and Bottom side metal thickness = 20um +/-4um
5. Top Side Solder Mask thickness = 5um
6. Shaded areas in this drawing are metalized

NOTES:		
	DRAWN BY	DATE
MATERIAL:	WV	3/27/25
FINISH:	MB	11/3/25
DO NOT SCALE DRAWING		

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Circuit
Glass HPF

SIZE	CAGE CODE	DWG. NO.
A	0UC32	MFHP #####GSM2

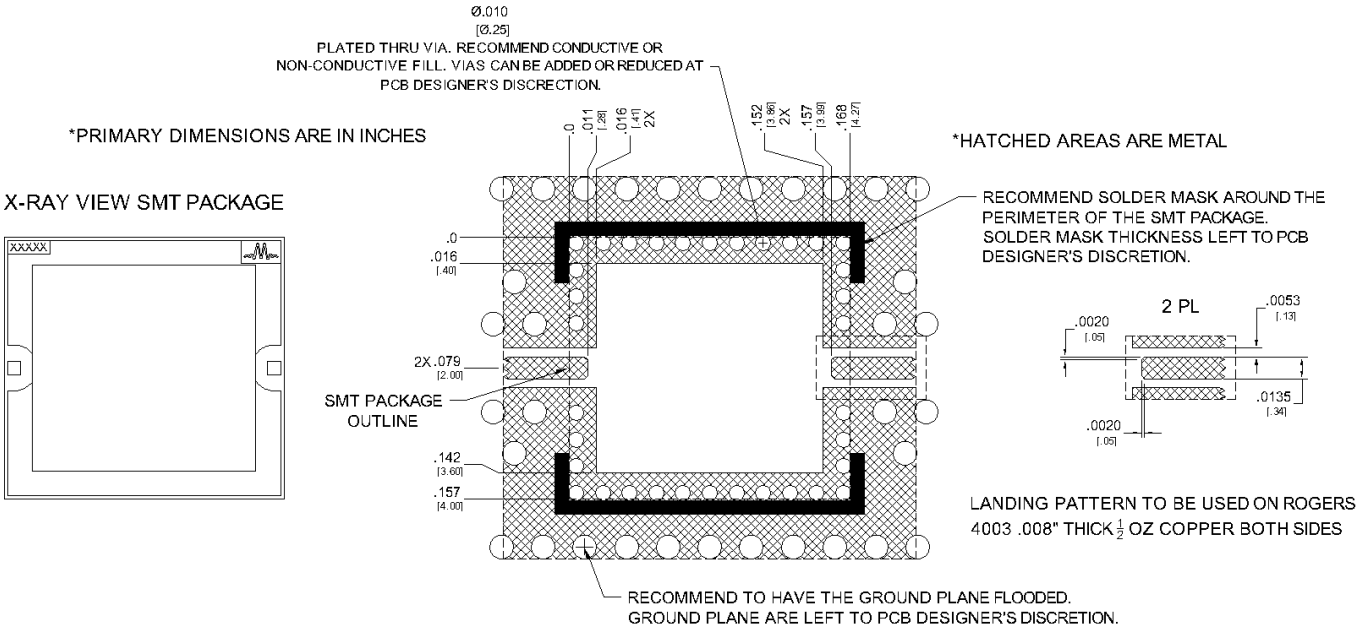
SCALE 15/1 SHEET 1 OF 1

MFHP-00023GSM2

Passive Glass 2.9 GHz Surface Mount Highpass Filter

Footprint Image

Download : Footprint Drawing



MFHP-00023GSM2

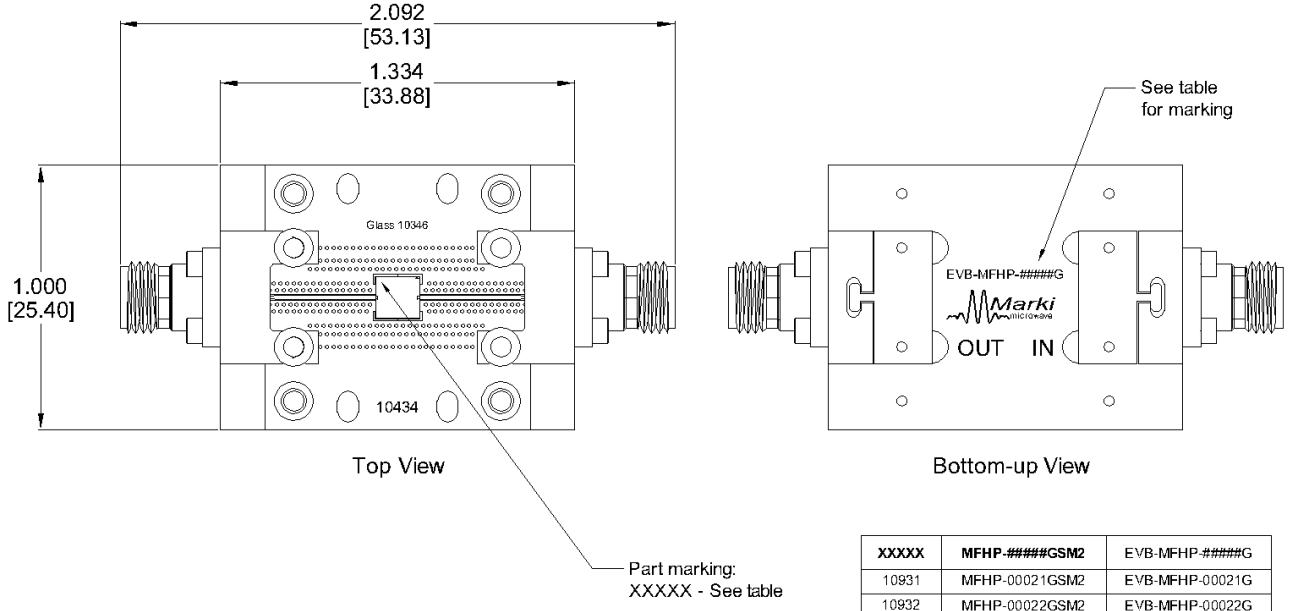
Passive Glass 2.9 GHz Surface Mount Highpass Filter

Evaluation Board - Outline Drawing

All measurements are typical

PROJECTION: INCH [MM]

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVALS
A	Initial Release	11/14/25	AT



XXXXX	MFHP-#####GSM2	EVB-MFHP-#####G
10931	MFHP-00021GSM2	EVB-MFHP-00021G
10932	MFHP-00022GSM2	EVB-MFHP-00022G
10933	MFHP-00023GSM2	EVB-MFHP-00023G

Port	Connector Type
1, 2	2.92mm Female
Note: Connectors are not removeable.	

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

MATERIAL:

FINISH:

DO NOT SCALE DRAWING

NOTES:

DRAWN BY	DATE
WV	9/26/25
DS	11/5/25
MB	11/5/25

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Outline
Eval Board Glass HPF

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

SHEET 1 OF 1

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