

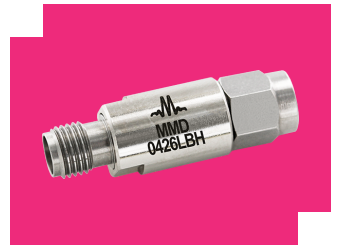
MMD-0426LBH

GaAs MMIC Doubler 4 to 26 GHz Output Frequency

DEVICE OVERVIEW

General Description

The MMD-0426L is a MMIC doubler fabricated with GaAs Schottky diodes. This part operates from a 2 to 13 GHz input frequency range or a doubled output frequency range of 4 to 26 GHz. It features excellent 12 dB typical conversion loss, high 50 dB 1F and 62 dB 3F isolations, and great harmonic suppressions across a broad bandwidth. It is available as a SMA connectorized inline bullet housing package and as a 2.29 x 3.86 mm DFN package.



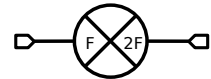
Features

- Low Input Power Requirement, +6 dBm Minimum
- Low 2F Conversion Loss, 12 dB Typical
- High 1F and 3F Isolations, 50 dB and 62 dB Typical

Applications

- Test and Measurement Equipment
- High frequency synthesis
- LO signal chain

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Connectors	Green Status	Product Lifecycle	Export Classification
MMD-0426LBH	GaAs MMIC Doubler 4 to 26 GHz Output Frequency	BH	-	REACH RoHS	Released	EAR99

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Revision History

Revision Code	Revision Date	Comment
-	2026-03-27	Initial Release

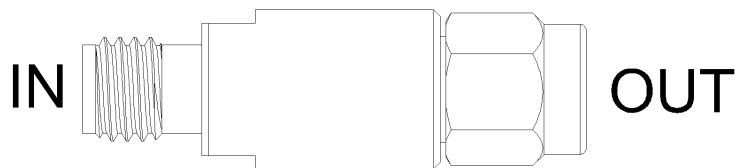
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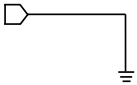
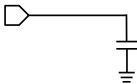
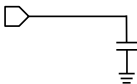
Port Configuration and Functions

Port Diagram

A top-down view of the MMD-0426LBH's package outline drawing is shown below. The MMD-0426LBH should only be used in the forward direction, with the input and output ports given in Port Functions.



Port Functions

Port	Function	Connector Type	Description	DC Equivalent Circuit
GND	Ground	-	BH package ground provided through metal housing and outer coax conductor	
Input	1F Input	SMAF	Input 1x Frequency input port. This pin is DC open for the BH package.	
Output	2F Output	SMAM	Output 2x Frequency output port. This pin is DC open for the BH package.	

Specifications

Absolute Maximum Ratings

The Absolute Maximum Ratings indicate limits beyond which damage may occur to the device. All Absolute Maximum Ratings are individual and should not be met in parallel. If these limits are exceeded or multiple are met in parallel 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
Power Handling, at any Port (25°C)	27	dBm

Package Information

Parameter	Details	Rating
ESD	250 to < 500 Volts	HBM Class 1A
Dimensions	-	30.1 x 9.5 mm

Recommended Operating Conditions

The Recommended Operating Conditions indicate the limits, inside which the device should be operated, to guarantee the performance given in Electrical Specifications. Operating outside these limits may not necessarily cause damage to the device, but the performance may degrade outside the limits of the electrical specifications. For limits, above which damage may occur, see Absolute Maximum Ratings.

Parameter	Min	Nominal	Max	Unit
Ambient Temperature	-55	25	100	°C
Input Power	6	10	14	dBm

Electrical Specifications

The electrical specifications apply at TA=+25°C in a 50Ω system. Typical data shown is for the connectorized BH package doubler used in the forward direction with a +10 dBm sine wave input. Min and Max limits apply only to our connectorized units and are guaranteed at TA=+25°C.

Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Conversion Loss ¹	Second Harmonic Output	4	26	-	12	-	dB
Input Frequency Range	-	-	-	2	-	13	GHz
Input Power	-	-	-	6	10	14	dBm
Isolation, 1F ²	Input = 2 – 13 GHz Output = 2-13 GHz	2	13	-	50	-	dB
Isolation, 3F ³	Input = 2 – 8.66 GHz Output = 6 - 26 GHz	6	26	-	62	-	dB
Isolation, 4F ⁴	Input = 2 – 6.5 GHz Output = 8 - 26 GHz	8	26	-	27	-	dB
Isolation, 5F ⁵	Input = 2 – 5.2 GHz Output = 10 - 26 GHz	10	26	-	70	-	dB
Output Frequency Range	-	-	-	4	-	26	GHz
Suppression, 1F ⁶	Input = 2 – 13 GHz Output = 2 – 13 GHz	2	13	-	37	-	dBc
Suppression, 3F ⁷	Input = 2 – 8.66 GHz Output = 6 - 26 GHz	6	26	-	50	-	dBc
Suppression, 4F ⁸	Input = 2 – 6.5 GHz Output = 8 - 26 GHz	8	26	-	14	-	dBc
Suppression, 5F ⁹	Input = 2 – 5.2 GHz Output = 10 - 26 GHz	10	26	-	55	-	dBc

[1] with +10 dBm RF Input

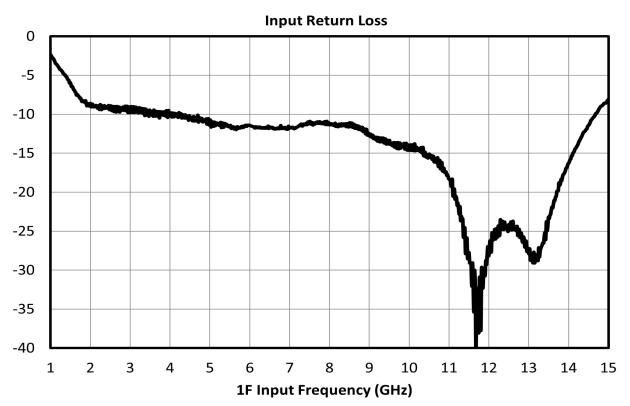
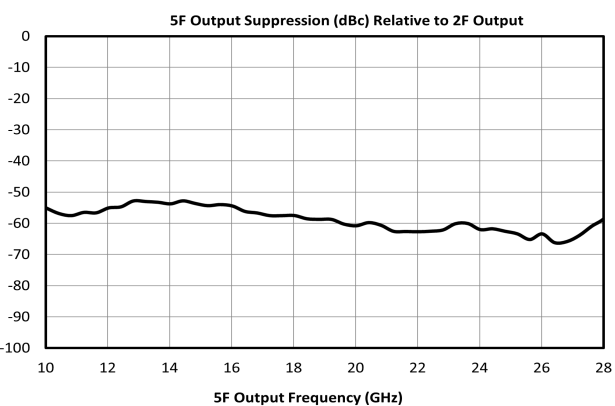
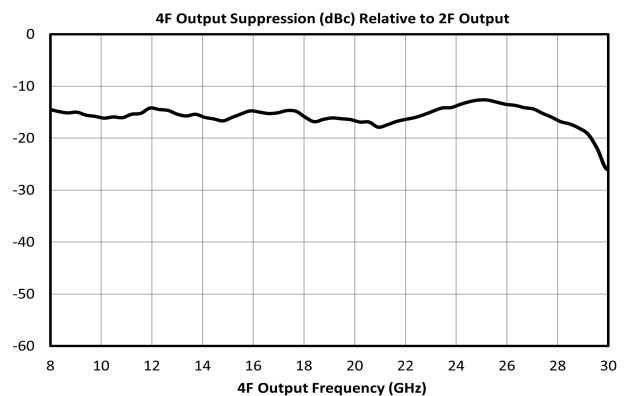
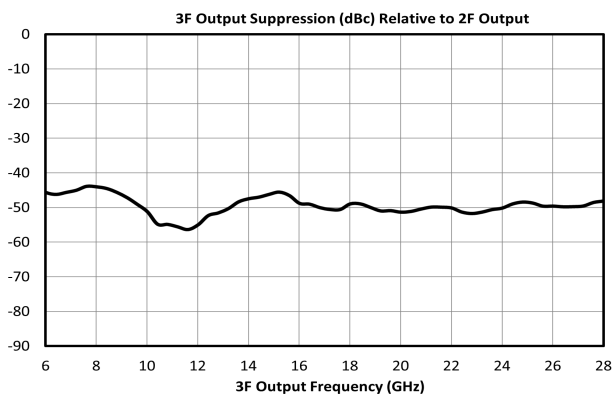
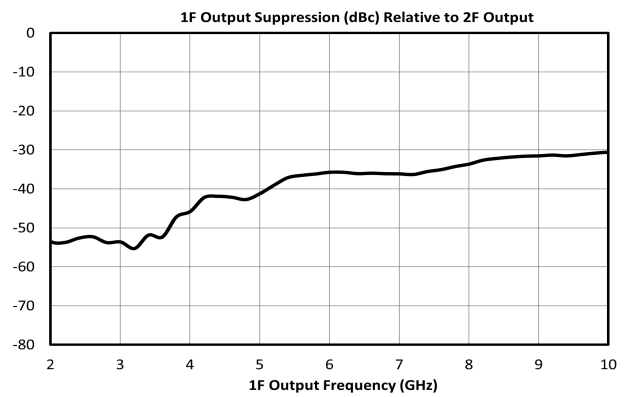
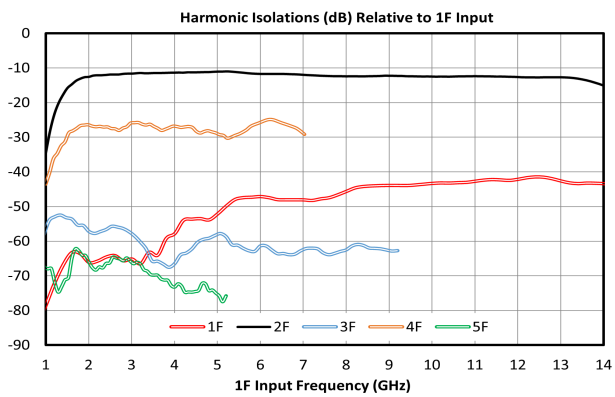
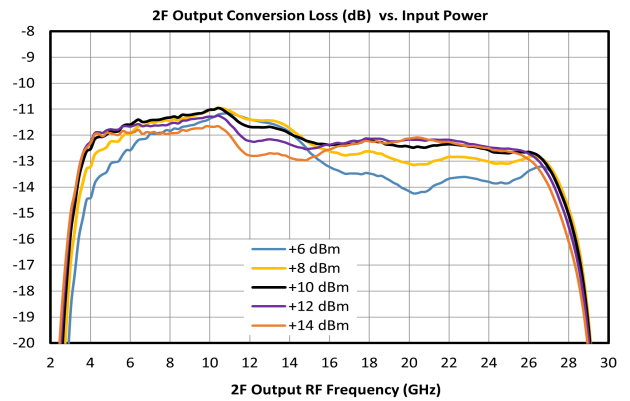
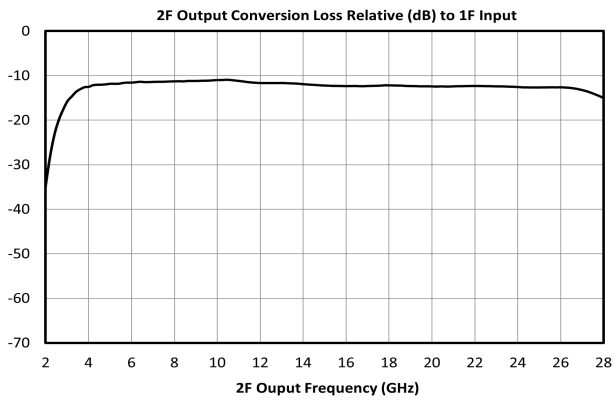
[2][3][4][5] Isolation is defined as the harmonic power relative to the 1F fundamental input power.

[6][7][8][9] Suppressions and isolations measured with an input source with >60dBc (relative to fundamental input) harmonic suppression. Suppression is defined as the harmonic power relative to the 2F doubled output power.

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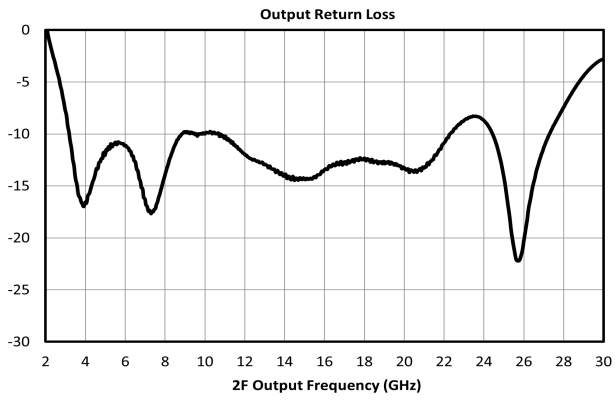
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Typical Performance Plots



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Frequency



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
Mechanical Data

Outline Drawing

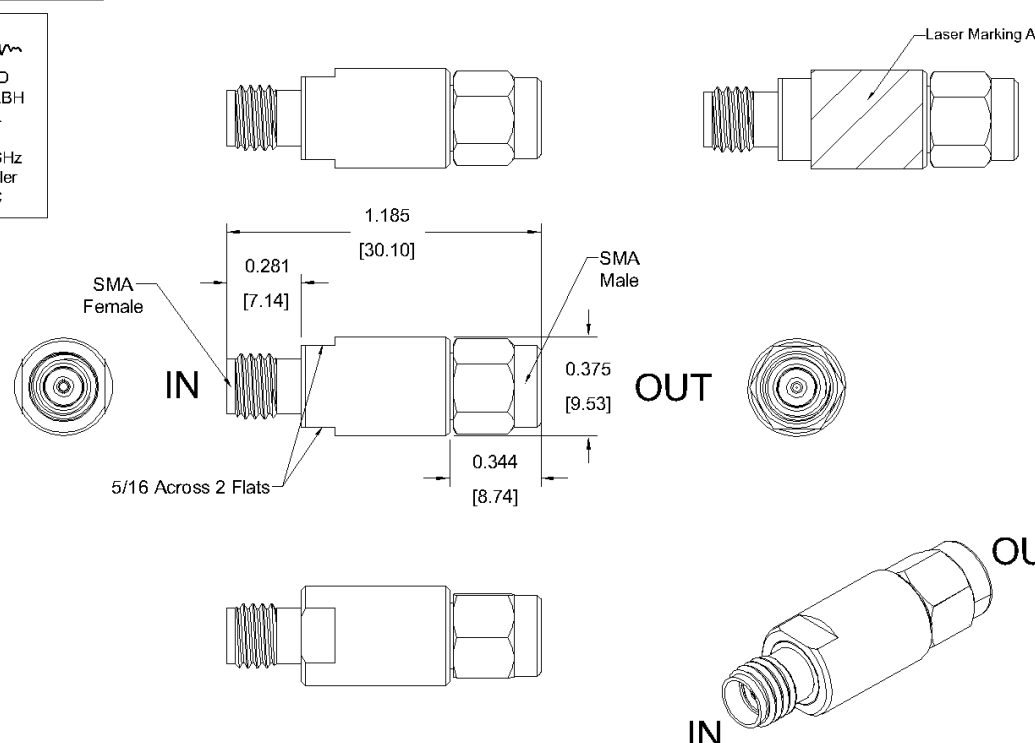
Download : [Outline 2D Drawing](#)

***All Dimensions are typical!**

Laser Marking on Part:




MMD
0426LBH
4-26GHz
Doubler
D/C



Port #	Setup	Ω	Connector Type
In	In to Gnd	1 M Ω	SMA Female
Out	Out to Gnd	1 M Ω	SMA Male
I to O	In to Out	2 M Ω	SMA F-M

PROJECTION		REVISIONS			
INCH	[MM]	REV.	DESCRIPTION	DATE	APPROVALS
		A	Initial Release	1/27/26	AT

<small> JUN 23 09 17 AM '25 3 1/2" DIA 1/2" V-16 IS TOLERANCES/FINISHES FRACTIONS DECIMALS ANGLES XXX .02 # XXXX .010 # </small>		NOTES: DRAWN BY: [] DATE: 11/12/2025 OG: [] AJN: 12/01/2025 LG: 12/01/2025	 www.markimicrowave.com Outline MMD-0426LBH SIZE: A CAGE CODE: 0UC32 DWG NO.: MMD-0426LBH
RoHS Compliant (SN96.5/AG3.5) Components/Assembly <small>Proprietary: This document was originated by and is the property of Marki Microwave. Unauthorized disclosure is prohibited.</small>		DO NOT SCALE DRAWING	SHEET 1 OF 1

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