

ATN03-0040BH **Passive GaAs MMIC DC - 40 GHz 3dB Attenuator**

DEVICE OVERVIEW

General Description

The ATN03-0040BH is a GaAs MMIC in an in-line connectorized bullet housing package. The ATN03-0040BH provides a nominal 3dB attenuation over a DC-40GHz operating range. This attenuator is an ideal solution for attenuating a signal and can be used in a wide range of applications. GaAs MMIC technology provides consistent unit-to-unit performance in a small, low-cost form factor. A 50-ohm match is maintained over the entire operating frequency range.



[Download s-parameters here](#)

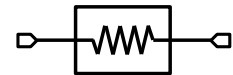
Features

- 3.5 dB attenuation from DC to 40 GHz
- 29 dB typical return loss over operating band
- Inline Bullet Housing

Applications

- 5G
- Test Equipment
- Precision Characterization
- Airborne Applications
- Amplitude Matching

Functional Block Diagram



Part Ordering Options

Part Number	Description	Package	Connectors	Green Status	Product Lifecycle	Export Classification
ATN03-0040BH	Passive GaAs MMIC DC - 40 GHz 3dB Attenuator	BH	-	RoHS REACH	Released	EAR99

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

Revision History

Revision Code	Revision Date	Comment
-	2025-06-04	Initial Release

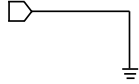
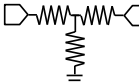
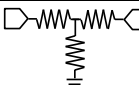
Port Configuration and Functions

Port Diagram

The package outline drawing is shown below.



Port Functions

Port	Function	Connector Type	Description	Equivalent Circuit for Package
GND	Ground	-	Ground for the BH package is provided through the metal housing and outer coax conductor.	
IN	Input/Output	2.92F	IN and OUT are DC connected to each other and ground through a T-network of resistors.	
OUT	Input/Output	2.92M	IN and OUT are DC connected to each other and ground through a T-network of resistors.	

ATN03-0040BH

Passive GaAs MMIC DC - 40 GHz 3dB Attenuator

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
DC Current	100	mA
Maximum Operating Temperature	100	°C
Maximum Storage Temperature	125	°C
Minimum Operating Temperature	-55	°C
Minimum Storage Temperature	-65	°C
RF Power Handling	4	W

Power Handling measured with instantaneous CW of 2 GHz.

Package Information

Parameter	Details	Rating
Weight	Package name: BH	9.2g
Dimensions	-	30.1 x 9.5 mm

ATN03-0040BH

Passive GaAs MMIC DC - 40 GHz 3dB Attenuator

Electrical Specifications

The electrical specifications apply at TA=+25°C in a 50Ω system. Typical data shown is for the attenuator in a BH connectorized package with a sine wave input applied to the input port.

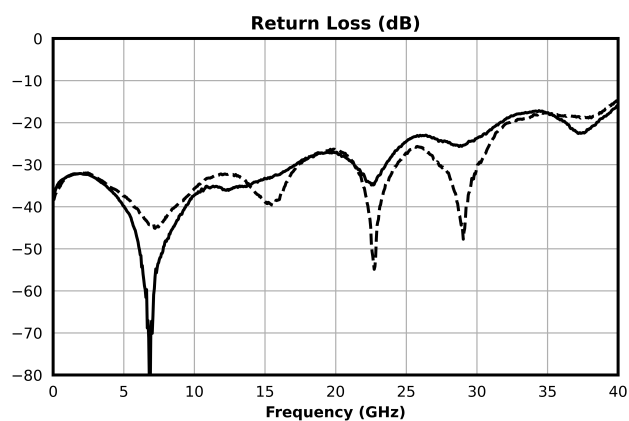
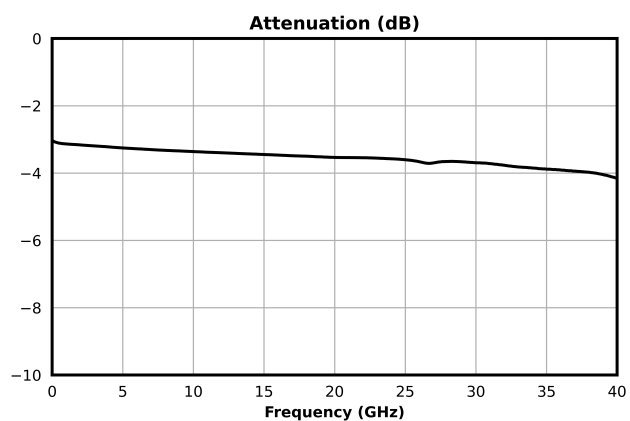
Parameter	Test Conditions	Minimum Frequency (GHz)	Maximum Frequency (GHz)	Min	Typ	Max	Unit
Attenuation	Configuration A, Temp = 25°C	0	40	-	3.54	-	dB
Attenuation Accuracy ¹	Configuration A, Temp = 25°C	0	40	-	0.54	-	dB
Impedance	Configuration A, Temp = 25°C	-	-	-	50	-	Ω
Return Loss	Configuration A, Temp = 25°C	0	40	-	29	-	dB

^[1] Attenuation Accuracy = Median Value of ABS(Measured Attenuation - Nominal Attenuation)

ATN03-0040BH

Passive GaAs MMIC DC - 40 GHz 3dB Attenuator

Typical Performance Plot



ATN03-0040BH

Passive GaAs MMIC DC - 40 GHz 3dB
Attenuator

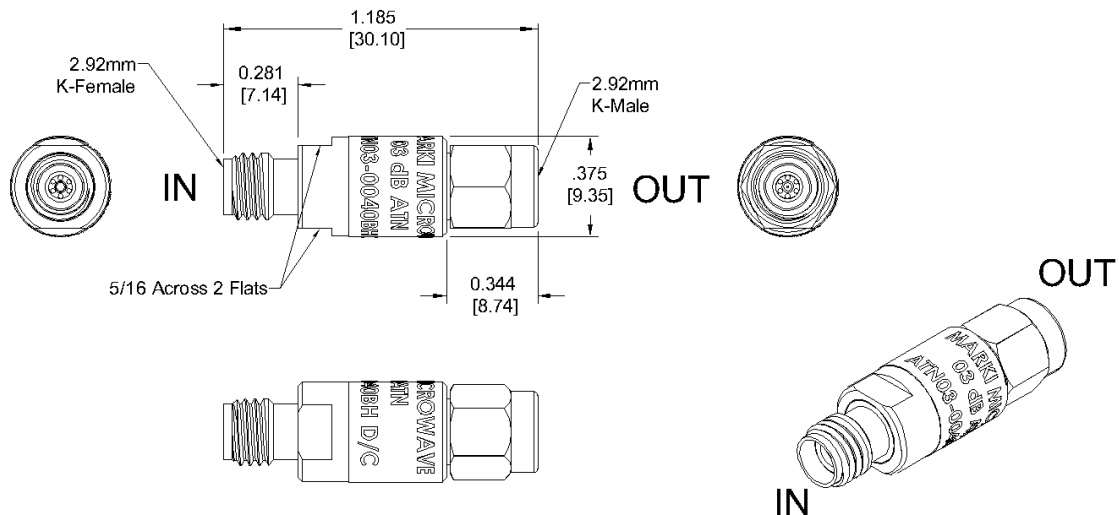
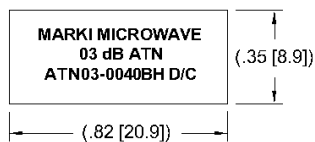
Mechanical Data

Outline Drawing

Download : [Outline 2D Drawing](#)

*All Dimensions are typical!

Label Design:



Port #	Setup	DCR	Connector Type
In	In to Gnd	Typ. 156 Ω	2.92mm Female
Out	Out to Gnd	Typ. 156 Ω	2.92mm Male
I to O	In to Out	Typ. 18 Ω	2.92mm F-M

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

Proprietary: This document was originated by and is the property of Marki Microwave. Unauthorized disclosure is prohibited.

1.185 OF 1.185 ± 0.005
0.281 OF 0.281 ± 0.005
0.344 OF 0.344 ± 0.005
0.375 OF 0.375 ± 0.005
10.2 OF 10.2 ± 0.005
+0.005 / -0.001
MATERIAL:
FINISH:
DO NOT SCALE DRAWING

NOTES:

DRAWN BY	DATE
Tnn	1/15/05
LCG	4/14/25
OG	4/22/25

Marki
microwave
www.markimicrowave.com

Outline
Bullet Housing 3dB Attenuator

SIZE: A CAGE CODE: 0UC32 DWG. NO.: ATN03-0040BH

SHEET 1 OF 1

ATN03-0040BH

Passive GaAs MMIC DC - 40 GHz 3dB Attenuator

DISCLAIMER

MARKI MICROWAVE, INC., ("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 and T3 MIXER are trademarks or registered trademarks of Marki Microwave, Inc. All other trademarks used are the property of their respective owners.

© 2025, Marki Microwave, Inc