

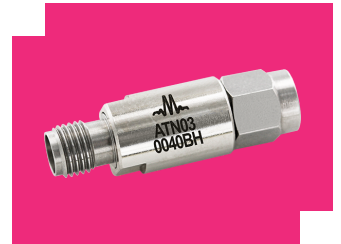
ATN03-0040BH

Passive GaAs MMIC DC - 40 GHz 3 dB Attenuator

DEVICE OVERVIEW

General Description

The ATN03-0040BH is a GaAs MMIC attenuator in an inline connectorized bullet housing package. The ATN03-0040BH provides a nominal 3.5 dB attenuation over a DC to 40 GHz operating range. The attenuator delivers accurate, repeatable performance with an excellent 29 dB return loss for test and measurement, and system level applications. GaAs MMIC technology provides consistent unit-to-unit performance. A 50-ohm match is maintained over the entire operating frequency range.



[Download s-parameters here](#)

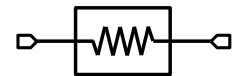
Features

- Operating Range, DC to 40 GHz
- Attenuation, 3.5 dB Typical
- Return Loss, 29 dB Typical
- 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 3 dB Attenuator | BH | - | RoHS REACH | Released | EAR99 |

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Revision History

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

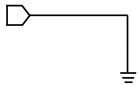
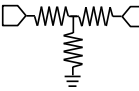
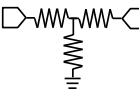
Port Configuration and Functions

Port Diagram

The package outline drawing is shown below.



Port Functions

| Port | Function | Connector Type | Description | DC Equivalent Circuit |
|------|--------------|----------------|---|---|
| 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. |  |

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 |

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.

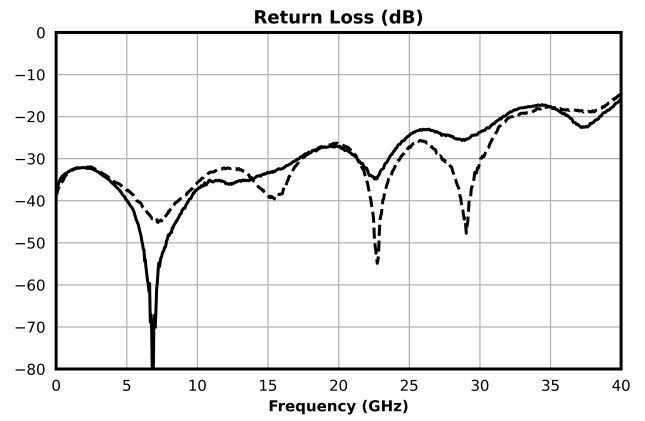
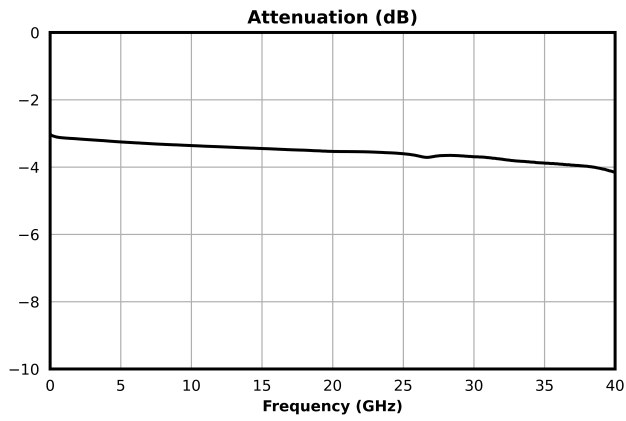
| Parameter | Test Conditions | Minimum Frequency (GHz) | Maximum Frequency (GHz) | Min | Typ | Max | Unit |
|-----------------------------------|------------------------------|-------------------------|-------------------------|-----|-----|-----|------|
| Attenuation | Configuration A, Temp = 25°C | 0 | 40 | - | 3.5 | - | dB |
| Return Loss | Configuration A, Temp = 25°C | 0 | 40 | - | 32 | - | dB |
| Attenuation Flatness ¹ | Configuration A, Temp = 25°C | 0 | 40 | - | 1.1 | - | dB |
| Impedance | Configuration A, Temp = 25°C | - | - | - | 50 | - | Ω |

^[1] Attenuation Flatness = Max(Insertion Loss) - Min(Insertion Loss)

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Typical Performance Plot



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