

AM3236 – Passive Filter

2.75 GHz to 4.75 GHz Bandpass

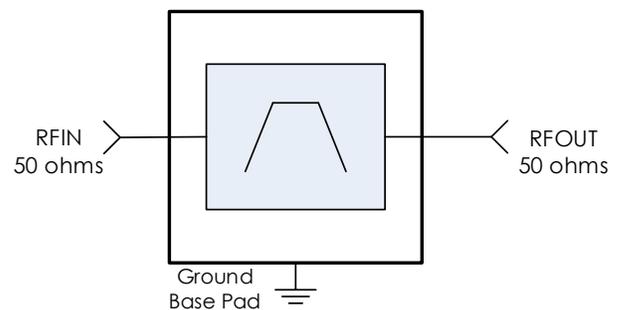
Description

AM3236 is a broadband bandpass filter covering the 2.75 GHz to 4.75 GHz frequency range. The AM3236 provides high rejection, suboctave filtering. It excels at providing 2 GHz of bandwidth and anti-alias filtering for applications targeting 5 GSPS. With internal 50Ω matching and packaged in a 4mm QFN, the AM3236 represents a compact total PCB footprint.

Features

- Broadband, 2.75 to 4.75 GHz
- Rejections, 2.25 GHz and 5.25 GHz
- 3 dB Insertion Loss
- 31 dB Return Loss
- <3 dB Passband Flatness typ.
- 22.5 dB Stopband Rejection
- 4mm QFN Package
- -40C to +85C Operation

Functional Diagram



Characteristic Performance

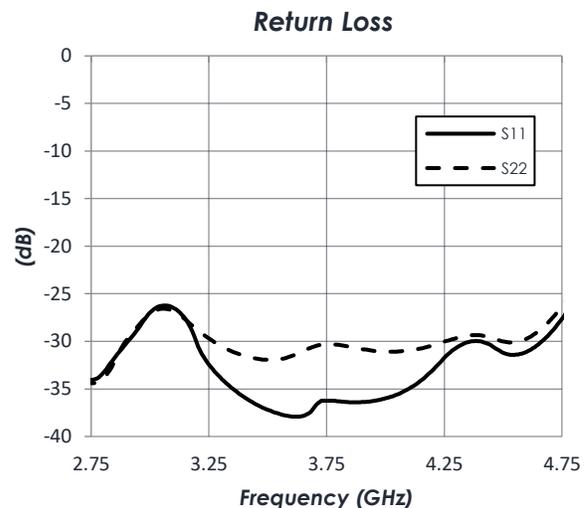
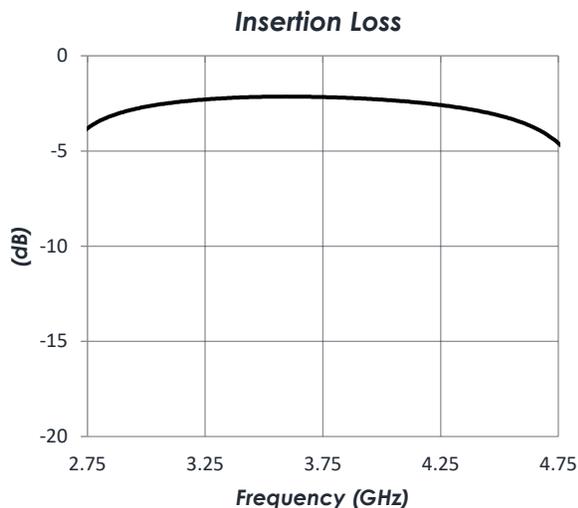


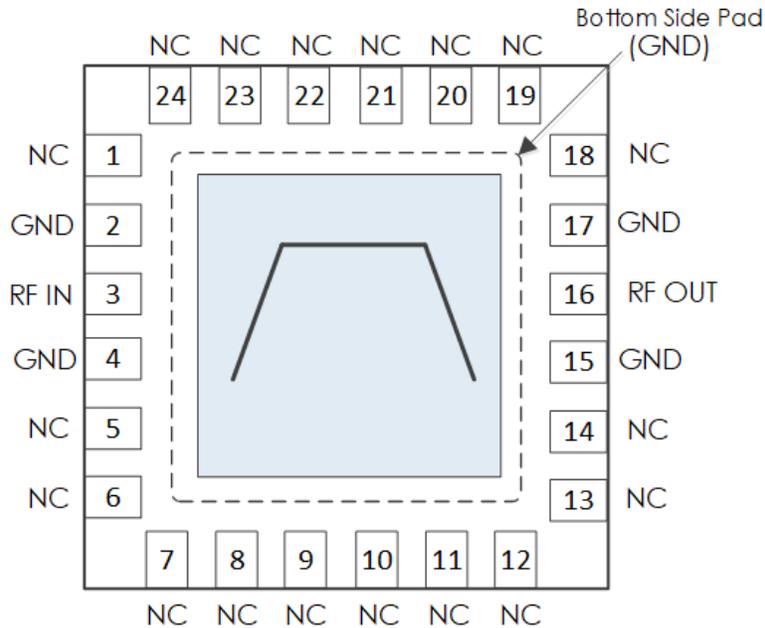
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Revision History

Date	Revision Number	Notes
August 31, 2023	0	Initial Release
January 4, 2024	1	Updated graphs

Pin Layout and Definitions



Pin Number	Pin Name	Pin Function
1	NC	No Connect
2	GND	Ground – Common
3	RF IN	RF Input – 50 Ohms – DC Blocked
4	GND	Ground – Common
5 - 14	NC	No Connect
15	GND	Ground – Common
16	RF OUT	RF Input – 50 Ohms – DC Blocked
17	GND	Ground – Common
18 - 24	NC	No Connect

Note: NC pins may be grounded or left open

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Specifications

Absolute Maximum Ratings

	Minimum	Maximum
RF Input Power		+27 dBm
Operating Junction Temperature	-40 C	+150 C
Storage Temperature Range	-50 C	+150 C

Note: Any device operation beyond the Absolute Maximum Ratings may result in permanent damage to the device. The values listed in this table are extremes and do not imply functional operation of the device at these or any other conditions beyond what is listed under Recommended Operating Conditions. Any part subjected to conditions outside of what is recommended for an extended amount of time may suffer from reliability concerns.

Handling Information

	Minimum	Maximum
Storage Temperature Range (Recommended)	-50 C	+125 C
Moisture Sensitivity Level	MSL 3	



Atlanta Micro products are electrostatic sensitive.
Follow safe handling practices to avoid damage

Recommended Operating Conditions

	Minimum	Typical	Maximum
Operating Case Temperature	-40 C		+85 C
Operating Junction Temperature	-40 C		+125 C

RF Performance

(T = 25 °C unless otherwise specified)

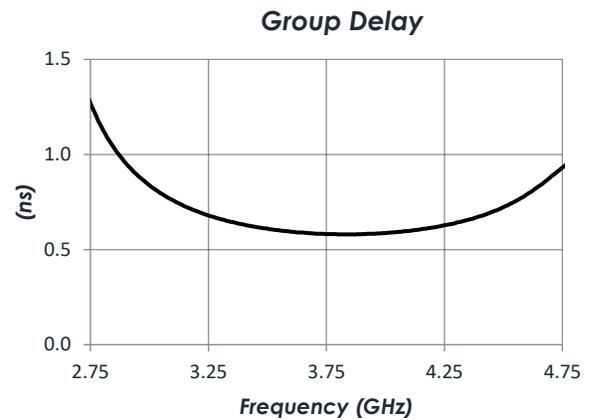
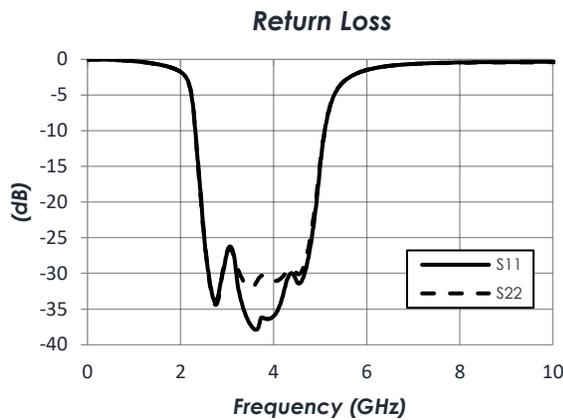
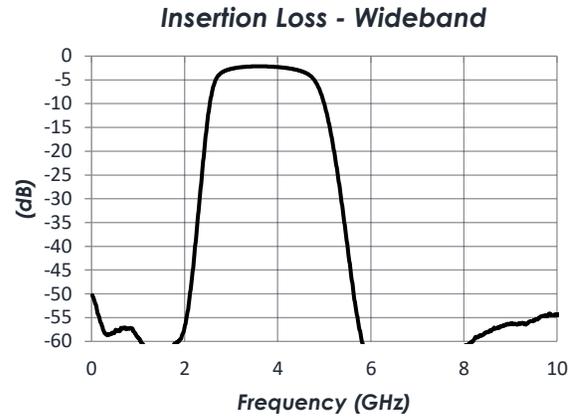
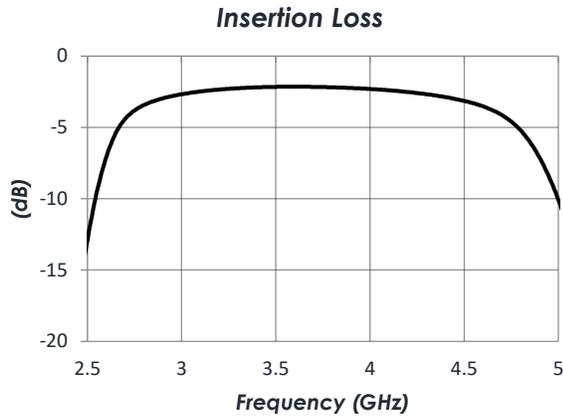
Parameter	Testing Conditions	Minimum	Typical	Maximum
Frequency Range		2.75 GHz		4.75 GHz
Passband Flatness			3 dB	
Stopband Rejection	f < 2.00 GHz	45 dB	50 dB	
	f = 2.25 GHz		37.5 dB	
	f = 5.25 GHz		22.5 dB	
	6.0 GHz < f < 20 GHz	40 dB	50 dB	
Insertion Loss	20 GHz < f < 50 GHz	25 dB	40 dB	
	f = 2.75 GHz		3.6 dB	
	f = 3.75 GHz		2.2 dB	
Return Loss	f = 4.75 GHz		4.6 dB	
	f = 2.75 GHz		34.3 dB	
	f = 3.75 GHz		31.0 dB	
	f = 4.75 GHz		27.2 dB	

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Typical Performance

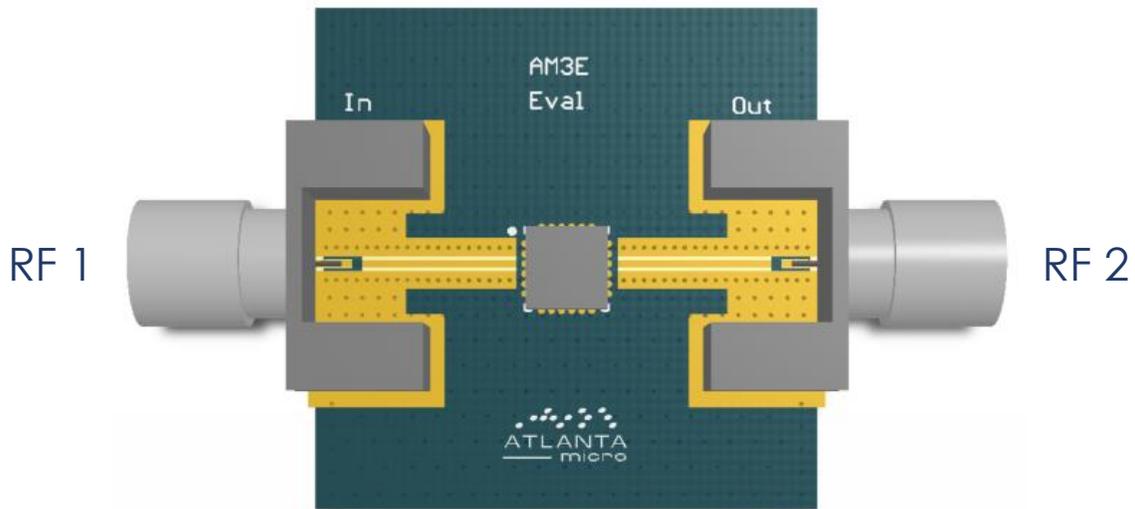
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Evaluation PC Board



Part Ordering Details

Description	Part Number
4mm x 4mm x 0.9mm QFN package	AM3236
AM3E Evaluation Board with Connectors	AM3236-EVAL

Related Parts

Part Number	Description
AM3187	3.25 GHz to 4.25 GHz IF Bandpass Filter
AM3188	2.5 GHz to 3.5 GHz IF Bandpass Filter
AM3230	8.5 GHz to 9.5 GHz IF Bandpass Filter
AM3231	1.5 GHz to 2.5 GHz IF Bandpass Filter
AM3232	0.75 GHz to 1.25 GHz IF Bandpass Filter

Component Compliance Information

RoHS: Atlanta Micro, Inc. hereby certifies that all products comply with the EC Directive 2011/65/EC on the Restriction of Hazardous Substances, commonly known as EU-RoHS 6 and 10. All products supplied by Atlanta Micro shall be compliant with the European Directive 2011/65/EC based on the following substance list.

Substance List	Allowable Maximum Concentration
Lead (Pb)	<1000 PPM (0.1% by weight)
Mercury (Hg)	<1000 PPM (0.1% by weight)
Cadmium (Cd)	<75 PPM (0.0075% by weight)
Hexavalent Chromium (CrVI)	<1000 PPM (0.1% by weight)
Polybrominated Biphenyls (PBB)	<1000 PPM (0.1% by weight)
Polybrominated Diphenyl ethers (PBDE)	<1000 PPM (0.1% by weight)
Decabromodiphenyl Deca BDE	<1000 PPM (0.1% by weight)
Bis (2-ethylhexyl) Phthalate (DEHP)	<1000 PPM (0.1% by weight)
Butyl Benzyl Phthalate (BBP)	<1000 PPM (0.1% by weight)
Dibutyl Phthalate (DBP)	<1000 PPM (0.1% by weight)
Diisobutyl Phthalate (DIBP)	<1000 PPM (0.1% by weight)

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