AM3236 – Passive Filter

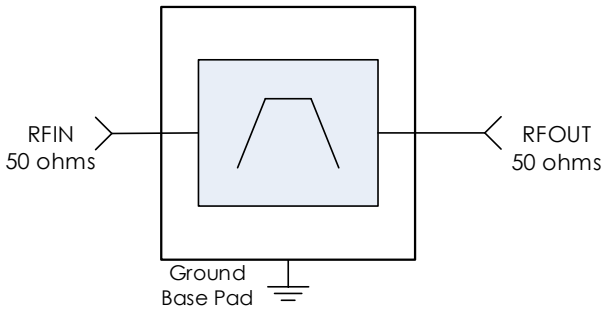
2.75 GHz to 4.75 GHz Bandpass

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 50 Ω matching and packaged in a 4mm QFN, the AM3236 represents a compact total PCB footprint.

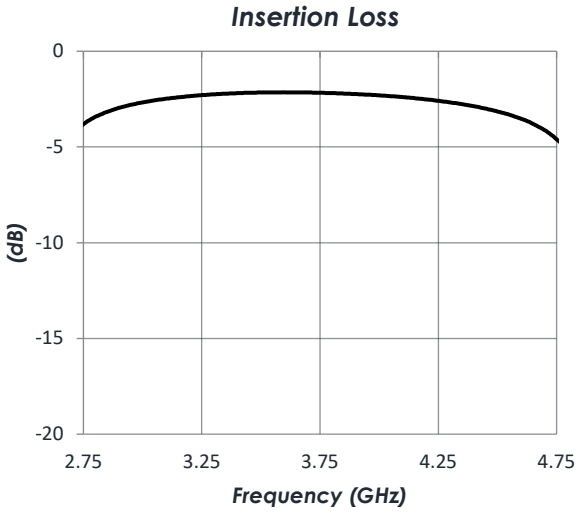
FEATURES

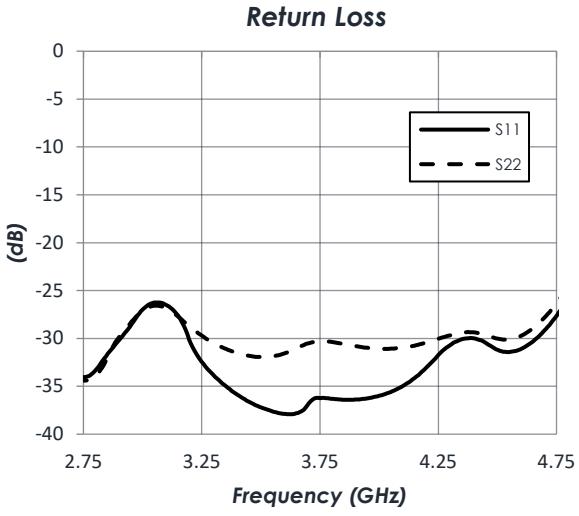
- Broadband, 2.75 to 4.75 GHz
- Rejections, 2.25 GHz and 5.25 GHz
- 3 dB Insertion Loss
- 31 dB Return Loss
- <3 dB Passband Flatness typ.
- 22.5 dB Stopband Rejection
- 4 mm QFN Package
- -40C to +85C Operation

FUNCTIONAL DIAGRAM



CHARACTERISTIC PERFORMANCE





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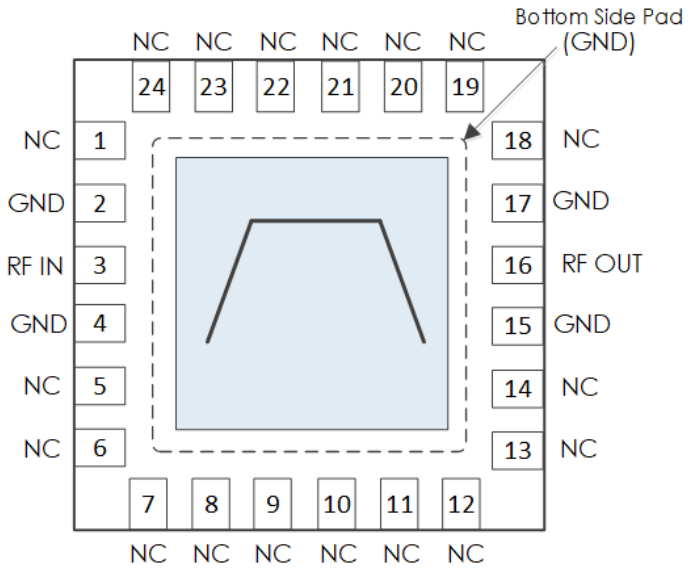
REVISION HISTORY

Date	Revision	Notes
October 12, 2023	0	Initial Release
January 4, 2024	1	Updated graphs
February 20, 2025	2	Changed to Mercury branding. No content changes.

PIN LAYOUT AND DEFINITIONS



Pin Number	Pin Name	Pin Function
1-3	NC	No Connect*
4	GND	Ground – Common
5	RF1	RF Port 1 – 50 ohms, AC coupled.
6	GND	Ground – Common
7-9	NC	No Connect*
10	GND	Ground – Common
11	RF2	RF Port 2 – 50 ohms, AC coupled.
12	GND	Ground – Common

* NC pins may be left open or connected to ground.

SPECIFICATIONS

Absolute Maximum Ratings

	Minimum	Maximum
RF Input Power		+27 dBm
Operating Case Temperature	-40 C	+150 C
Storage Temperature Range	-55C	+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. Devices subjected to conditions outside of what is recommended for extended periods may affect device reliability.

Handling Information

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

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

Recommended Operating Conditions

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

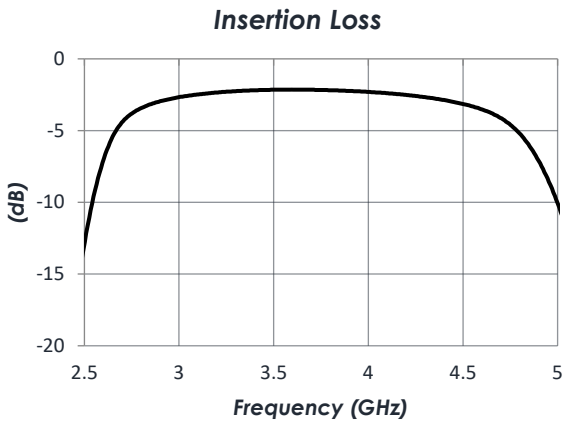
RF Performance

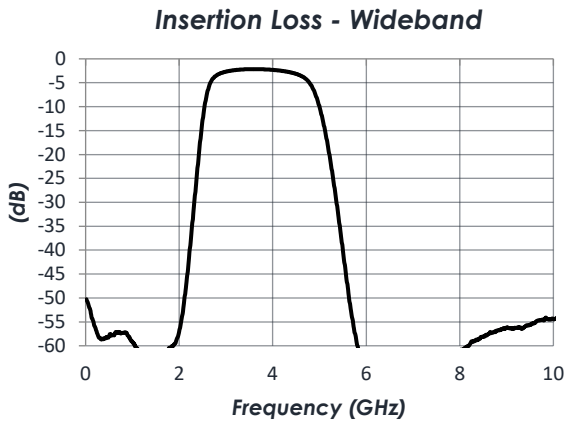
(T = 25 °C unless otherwise specified)

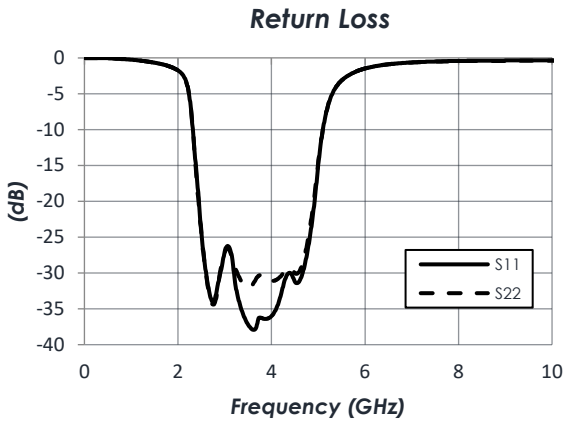
Param	Testing Conditions	Min	Typical	Max
Frequency Range		2.75 GHz		4.75 GHz
Passband Flatness			3 dB	
Stopband Rejection	f < 2.00 GHz	45 dB	50 dB	
	f = 2.25 GHz		37.5 dB	
	f = 5.25 GHz		22.5 dB	
	6.0 GHz < f < 20 GHz	40 dB	50 dB	
	20 GHz < f < 50 GHz	25 dB	40 dB	
Insertion Loss	f = 2.75 GHz		3.6 dB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

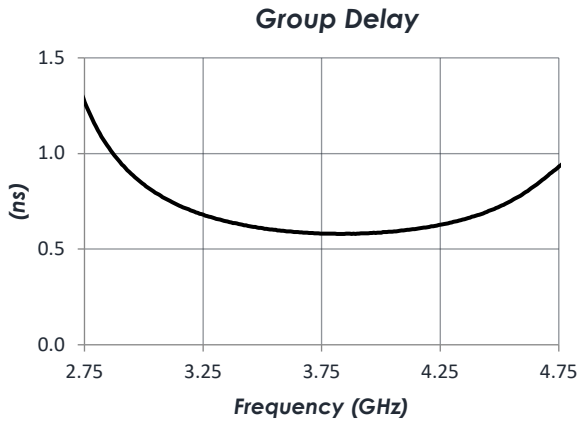
TYPICAL PERFORMANCE

(T = 25 °C unless otherwise specified.)

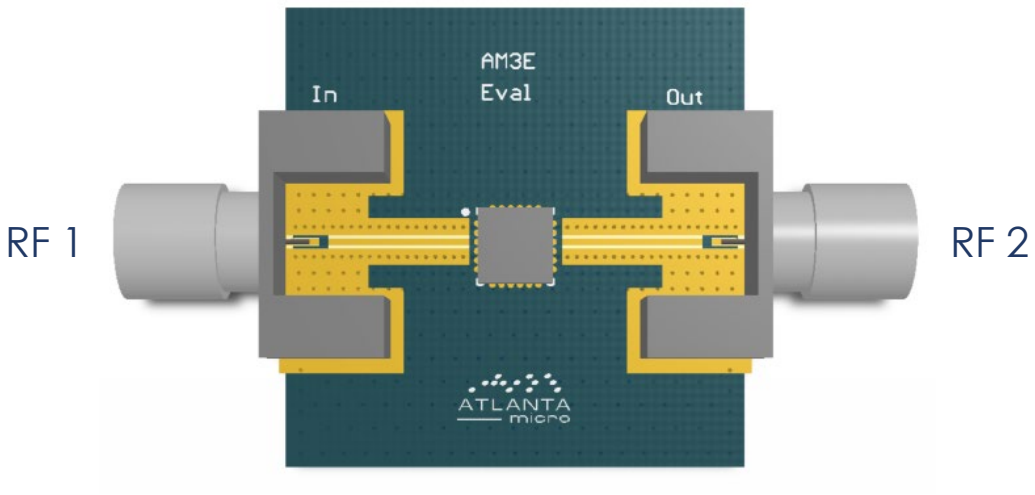








EVALUATION PC BOARD



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: Mercury Systems, 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 Mercury 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-ethylheyl) 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)

REACH: Mercury Systems, Inc. neither uses nor intentionally adds any of the substances considered to be a Substance of Very High Concern (SVHC) as defined by the EU Regulation (EC) No. 1907-2006 on Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH).

Conflict Materials: Mercury does not knowingly use materials that are sourced from the Democratic Republic of Congo (DRC) or any other known conflict regions. Mercury's supply chain is comprised of sources that are both environmentally and socially responsible. We periodically review this requirement with our vendors to ensure continued compliance.

Mercury takes its responsibility as a global partner seriously and will use due diligence within our supply chain to ensure all standards are met to the best of our knowledge.

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