

AM3235 – Filter

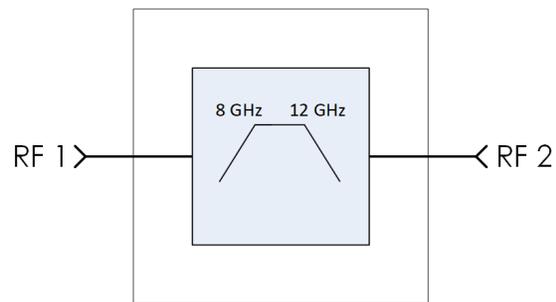
8 GHz to 12 GHz Bandpass Filter

AM3235 is a passive bandpass filter implemented on chip that provides low loss and high rejection in a small 3 mm package. With a center frequency of 10 GHz and 4 GHz of bandwidth, AM3235 is useful as an IF filter for reducing unwanted mixer products and LO feedthrough in X-band systems. AM3235 is AC coupled and matched to 50 ohms while operating over the -40C to +100C temperature range.

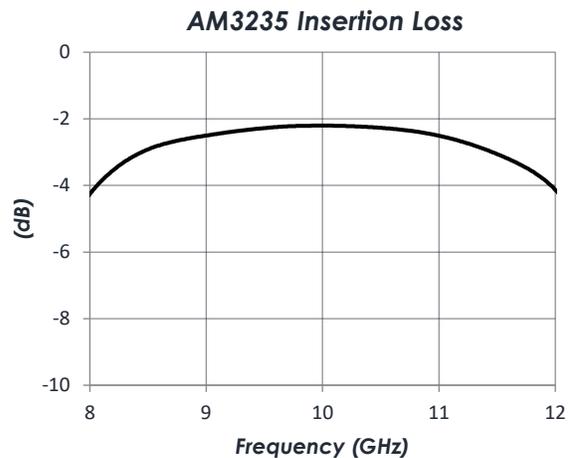
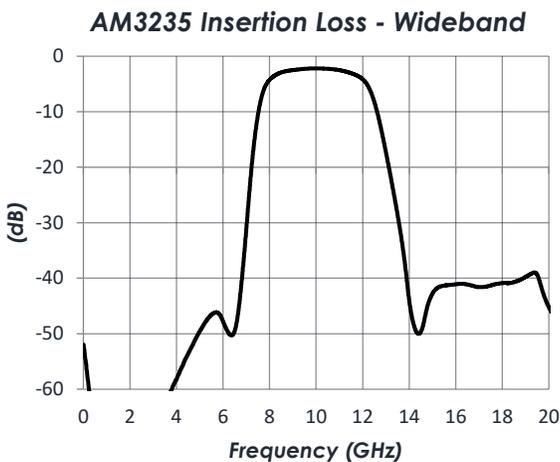
FEATURES

- 10 GHz Center Frequency
- 4 GHz Bandwidth
- 2dB Passband Flatness Typical
- 4>35 dB Stopband Rejection
- 0.5 W Power Handling
- 3 mm QFN Package
- -40C to +100C Operation

FUNCTIONAL DIAGRAM



CHARACTERISTIC PERFORMANCE



CONTENTS

FEATURES 1

FUNCTIONAL DIAGRAM 1

CHARACTERISTIC PERFORMANCE 1

REVISION HISTORY..... 2

PIN LAYOUT AND DEFINITIONS 3

TYPICAL APPLICATION..... 3

SPECIFICATIONS..... 4

TYPICAL PERFORMANCE 5

EVALUATION PC BOARD..... 6

RELATED PARTS 6

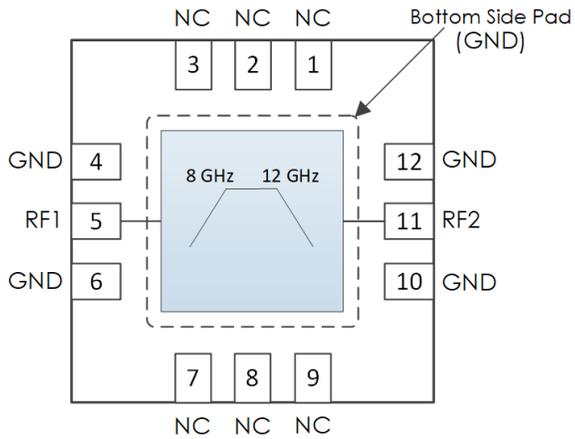
COMPONENT COMPLIANCE INFORMATION 7

REVISION HISTORY

Date	Revision	Notes
October 12, 2023	1	Initial Release
February 20, 2025	2	Changed to Mercury branding. No content changes.

AM3235 - Filter

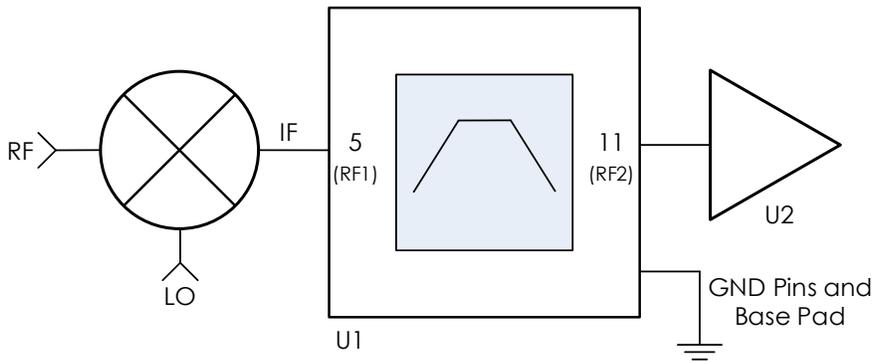
PIN LAYOUT AND DEFINITIONS



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.

TYPICAL APPLICATION



Part	Part Number	Manufacturer
U1	AM3235	Mercury
U2	AM1111	Mercury

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		+100 C
Operating Junction Temperature	-40 C		+125 C

RF Performance

(T = 25 °C unless otherwise specified)

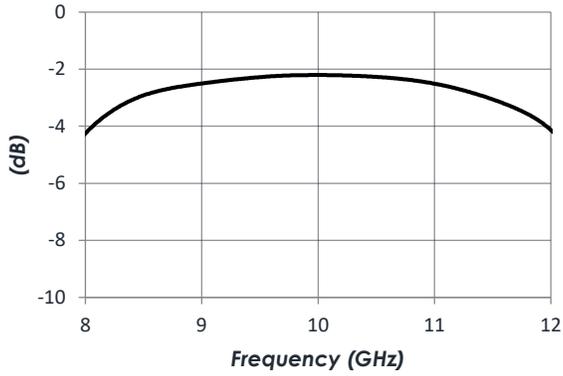
Param	Testing Conditions	Min	Typical	Max
Passband Range		8 GHz		12 GHz
Bandwidth			4 GHz	
Passband Flatness			2 dB	
Stopband Rejection		35 dB		
Insertion Loss	f = 8 GHz		4.3 dB	
	f = 10 GHz		2.2 dB	
	f = 12 GHz		4.1 dB	
Return Loss	f = 8 GHz		14.7 dB	
	f = 10 GHz		19.0 dB	
	f = 12 GHz		12.1 dB	

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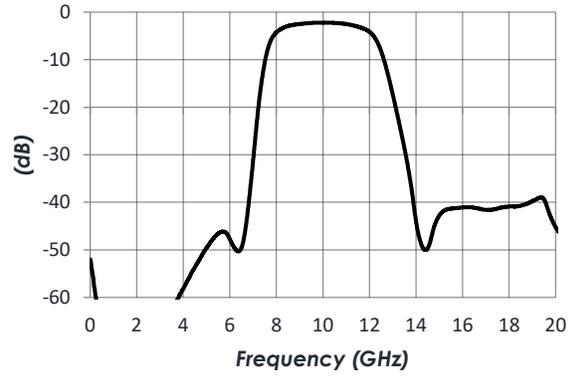
TYPICAL PERFORMANCE

(T = 25 °C unless otherwise specified.)

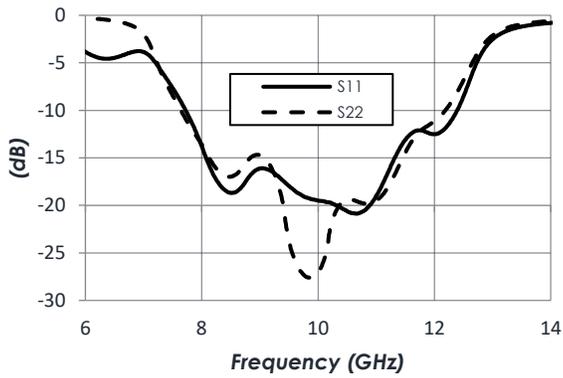
AM3235 Insertion Loss



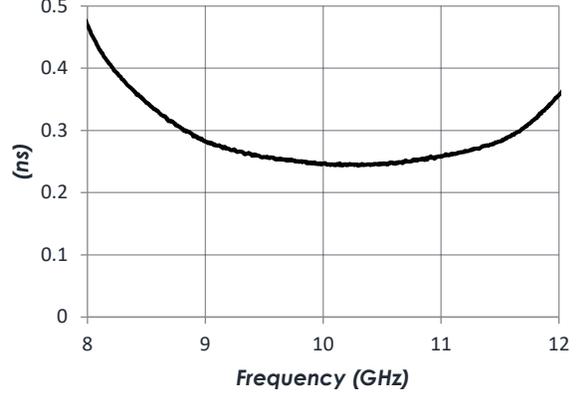
AM3235 Insertion Loss - Wideband



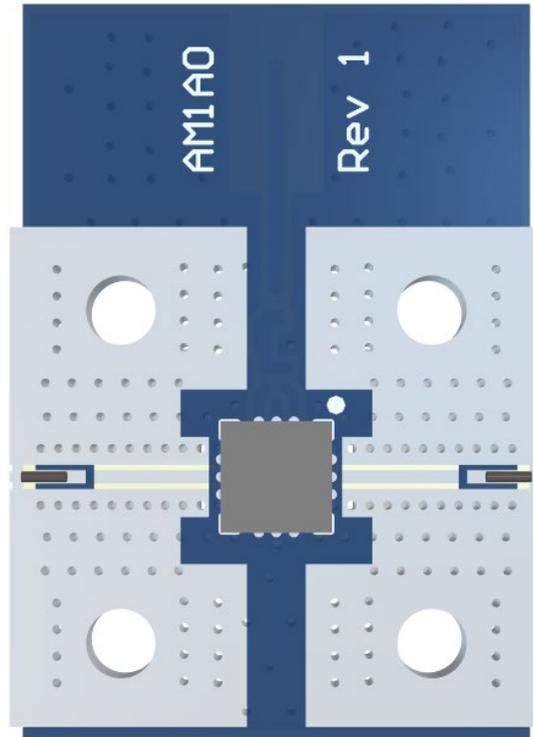
AM3235 Return Loss



AM3235 Group Delay



EVALUATION PC BOARD



PART ORDERING DETAILS

Description	Part Number
2.9 mm x 2.9 mm x 0.8 mm QFN package	AM3235
AM3235 with Connectorized Evaluation Board	AM3235 Eval

RELATED PARTS

Part Number	Description
AM1111	2 GHz to 18 GHz Driver Amplifier
AM3187	3.25 GHz to 4.25 GHz IF Bandpass Filter
AM3188	2.5 GHz to 3.5 GHz IF Bandpass Filter
AM3189	9 GHz to 10 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-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)

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).

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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.



Corporate Headquarters

50 Minuteman Road
 Andover, MA 01810 USA
 +1 978.967.1401 tel
 +1 866.627.6951 tel
 +1 978.256.3599 fax

International Headquarters

Mercury International

Avenue Eugène-Lance, 38
 PO Box 584
 CH-1212 Grand-Lancy 1
 Geneva, Switzerland
 +41 22 884 5100 tel

Learn more

Visit: mrcy.com

For pricing details, contact: MMICsales@mrcy.com

For technical details, contact: MMICsupport@mrcy.com



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