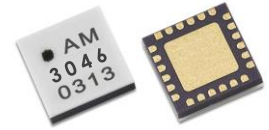


AM3046 – Filter

7 GHz Lowpass Filter

Description

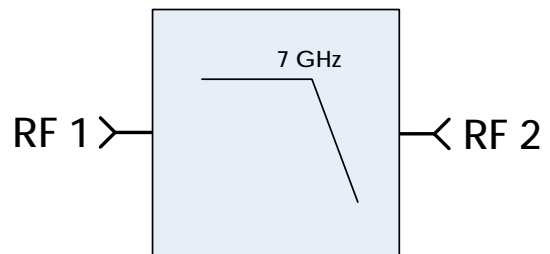
AM3046 is a passive lowpass filter implemented on chip that provides low loss and high rejection in a small 4mm package. With a cutoff frequency of 7 GHz, AM3046 is useful as an IF filter in any RF system for image, LO, and spur rejection. AM3046 is matched to 50 ohms and operates from -40C to +100C.



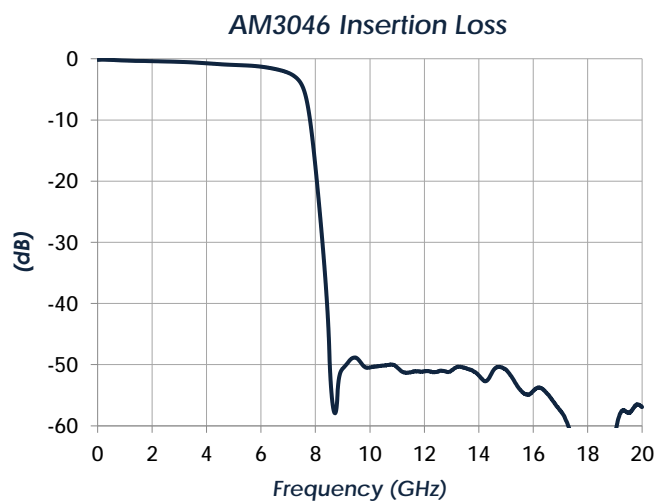
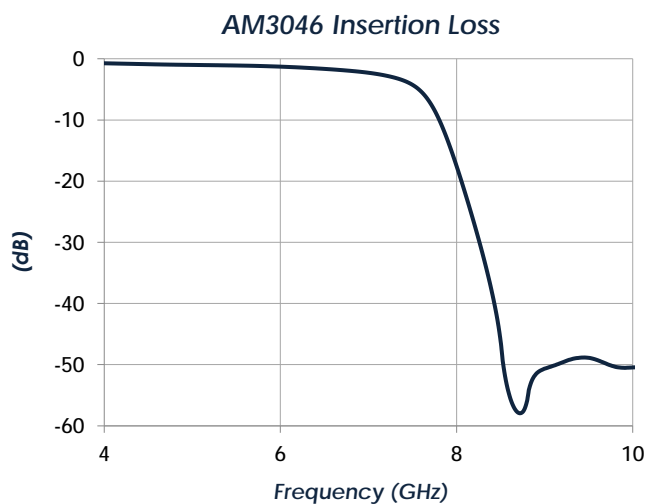
Features

- 7 GHz Cutoff Frequency
- >45 dB Rejection in Stopband Typical
- <2dB Loss in Passband Typical
- 0.5 W Power Handling
- 4mm QFN Package
- -40C to +100C Operation

Functional Diagram



Characteristic Performance



AM3046 – Filter

7 GHz Lowpass Filter

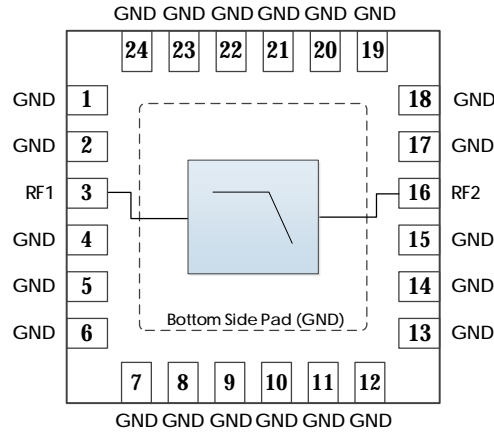
Table of Contents

Description	1	Recommended Operating Conditions ...	4
Features	1	RF Performance	4
Functional Diagram	1	Typical Performance	5
Characteristic Performance	1	Typical Application	3
Revision History	2	Evaluation PC Board	6
Pin Layout and Definitions	3	Part Ordering Details	6
Specifications	4	Related Parts	6
Absolute Maximum Ratings	4	Component Compliance Information	7
Handling Information	4		

Revision History

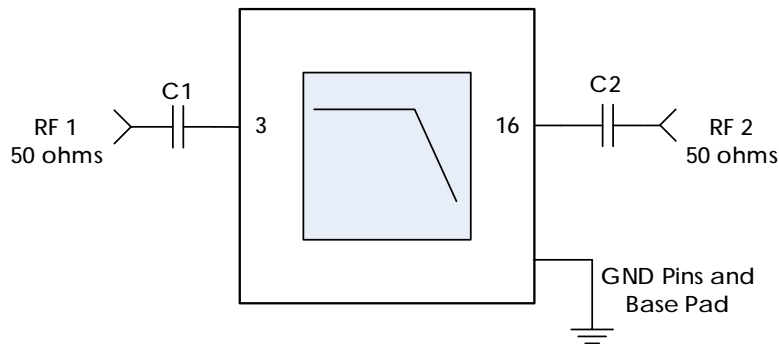
Date	Revision Number	Notes
June 22, 2021	1	Initial release

Pin Layout and Definitions



Pin Number	Pin Name	Pin Function
1 – 2	GND	Ground - Common
3	RF1	RF Port 1 – 50 ohms
4 – 15	GND	Ground – Common
16	RF2	RF Port 2 – 50 ohms
17 – 24	GND	Ground – Common

Typical Application



Recommended Component List (or equivalent):

Part	Value	Part Number	Manufacturer
C1, C2	0.1 uF	0402BB104KW160	Passives Plus

Note: AM3046 is not DC blocked therefore any voltage present on the input/output will feed through to the output/input. DC blocking capacitors are recommended if two different voltages are needed on either side and if used the capacitors should be high performance, low-loss, broadband capacitors for optimum performance. Otherwise, DC blocking capacitors can be omitted.

AM3046 – Filter

7 GHz Lowpass Filter

Specifications

Absolute Maximum Ratings

	Minimum	Maximum
RF Input Power		+27 dBm
Operating Junction Temperature	-40 C	+150 C
Storage Temperature Range	-55 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 1	



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

Recommended Operating Conditions

	Minimum	Typical	Maximum
Operating Case Temperature	-40 C		+100 C
Operating Junction Temperature	-40 C		+125 C

RF Performance

(T = 25 °C unless otherwise specified)

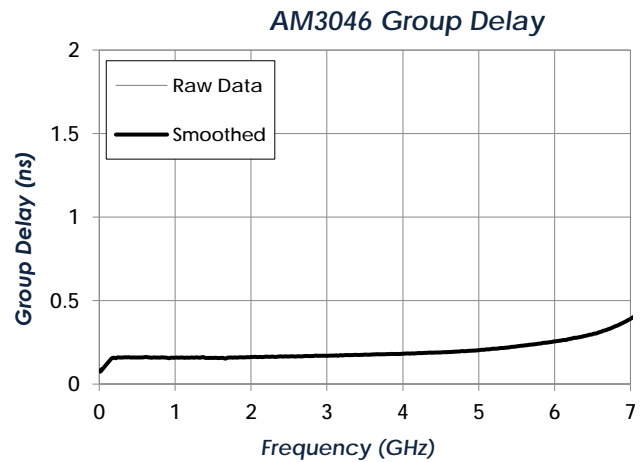
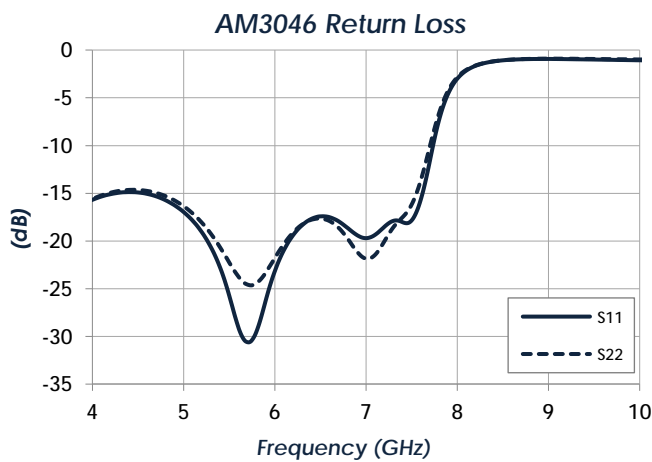
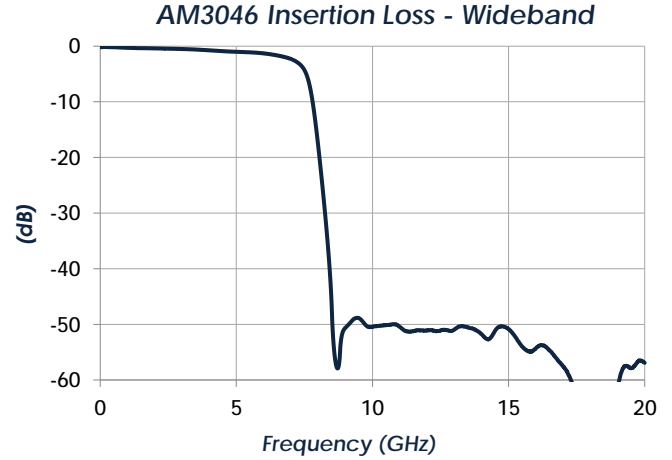
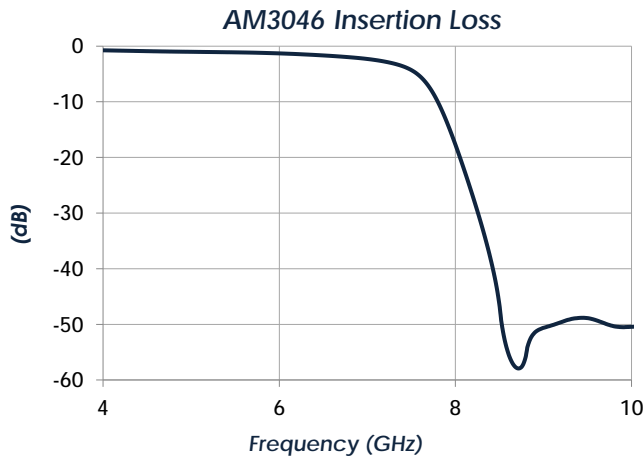
Parameter	Testing Conditions	Minimum	Typical	Maximum
Frequency Range		DC		7 GHz
Passband Flatness			2.1 dB	
Stopband Rejection		45 dB		
Insertion Loss	f = 3 GHz		0.5 dB	
	f = 5 GHz		1.0 dB	
	f = 7 GHz		2.3 dB	
Return Loss	f = 3 GHz		26 dB	
	f = 5 GHz		17 dB	
	f = 7 GHz		17 dB	

AM3046 – Filter

7 GHz Lowpass Filter

Typical Performance

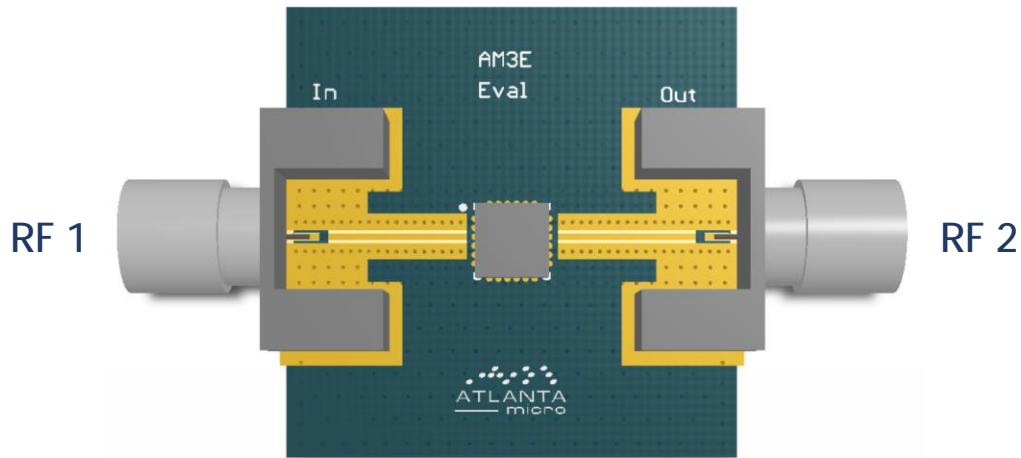
(T = 25 °C unless otherwise specified. Refer to s-parameters available for download on Atlanta Micro website for more information)



AM3046 – Filter

7 GHz Lowpass Filter

Evaluation PC Board



Part Ordering Details

Description	Part Number
4mm x 4mm x 0.9mm QFN package	AM3046
AM3046 Evaluation Board with Connectors	AM3046 Eval

Related Parts

Part Number	Description
AM3056	750 MHz to 1250 MHz Bandpass Filter
AM3055	1.5 GHz to 2.5 GHz Bandpass Filter
AM3188	2.5 GHz to 3.5 GHz Bandpass Filter
AM3187	3.25 GHz to 4.25 GHz Bandpass Filter
AM3089	9 GHz to 10 GHz Bandpass Filter
AM3029	1.5 GHz to 3.0 GHz Digitally Tunable Lowpass
AM3030	3.5 GHz to 6.5 GHz Digitally Tunable Lowpass
AM3107	6 GHz to 12 GHz Digitally Tunable Lowpass

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)

REACH: Atlanta Micro, 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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Atlanta Micro 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.