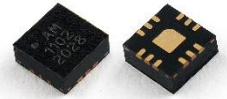


AM1134 – Amplifier

6 to 26.5 GHz Gain Block

Description

AM1134 is a wideband, cascadable amplifier servicing the 6 to 26.5 GHz frequency range. The device exhibits moderate gain and excellent noise figure over a wide frequency range which makes the AM1134 a useful component for many broadband applications. Packaged in a 3mm QFN with internal 50Ω matching, the AM1134 represents a compact total PCB footprint.

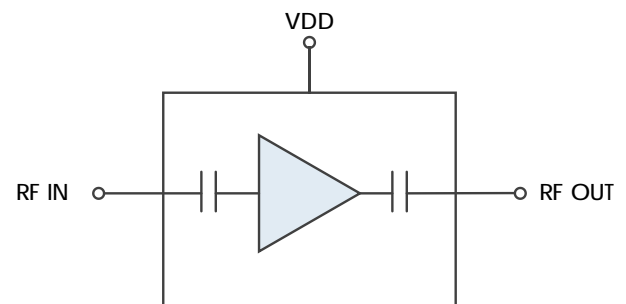


Note: Image is of similar part

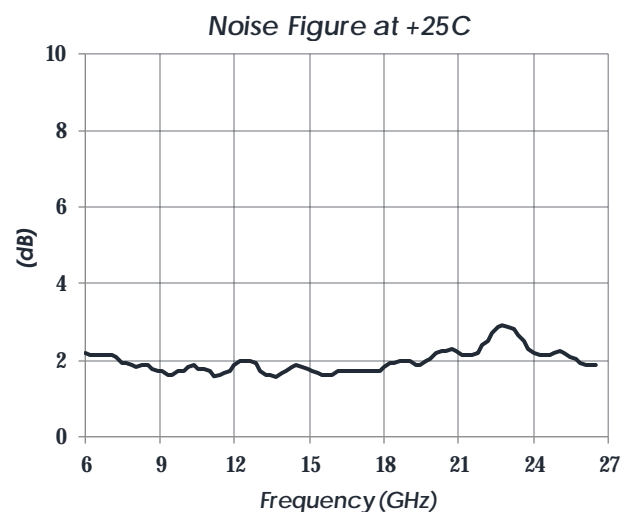
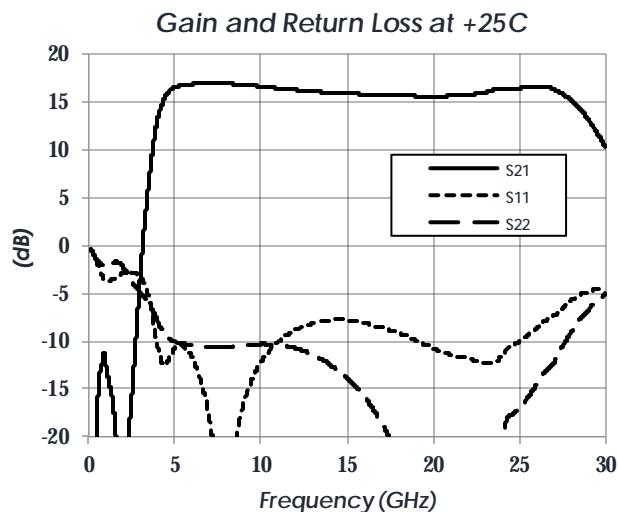
Features

- 16 dB Gain
- 2 dB Noise Figure
- +25 dBm OIP3
- +15 dB P1dB
- +3.3V Operation
- 0.4 W Power Consumption
- 3mm QFN Package
- -40C to +85C Operation
- Unconditionally Stable

Functional Diagram



Characteristic Performance



To obtain price, delivery, or to place an order contact MMICSales@mrchy.com

Atlanta Micro Inc., Now a part of Mercury Systems

3720 Davinci Ct, Suite 400, Peachtree Corners, GA 30092 • Phone: (470) 253-7640 • www.atlantamicro.com

Table of Contents

Description.....	1	Thermal Information.....	4
Features.....	1	DC Electrical Characteristics.....	5
Functional Diagram.....	1	RF Performance.....	5
Characteristic Performance.....	1	Typical Performance	6
Revision History	2	Typical Performance (continued)	7
Pin Layout and Definitions.....	3	Typical Application	8
Specifications.....	4	Evaluation PC Board.....	9
Absolute Maximum Ratings.....	4	Related Parts.....	9
Handling Information.....	4	Component Compliance Information.....	10
Recommended Operating Conditions ...	4		

Revision History

Date	Revision Number	Notes
April 13, 2021	1	Initial Release

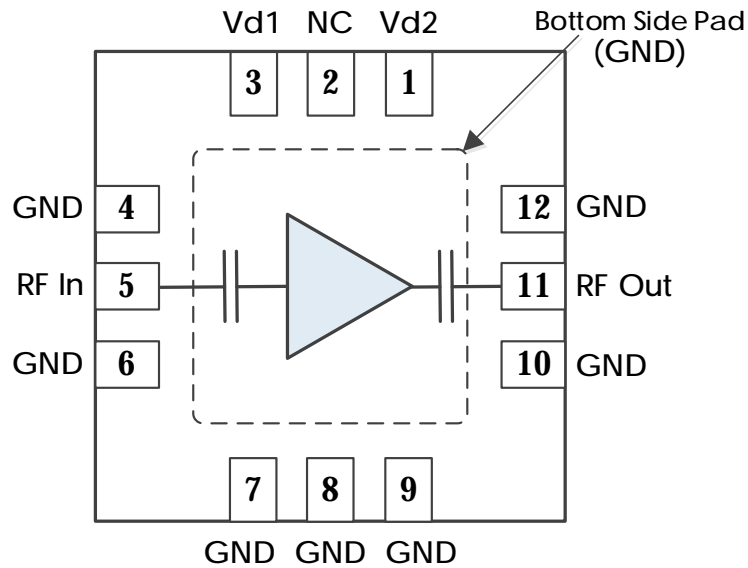
AM1134 – Amplifier

6 to 26.5 GHz Gain Block



Pin Layout and Definitions

Note: All Un-Labelled Pins are NC or Ground



Pin Number	Pin Name	Pin Function
1	Vd2	DC Power Input
2	NC	Not Connected
3	Vd1	DC Power Input
4	GND	Ground – Common
5	RF In	RF Input – 50 Ohms – DC Blocked
6-10	GND	Ground – Common
11	RF Out	RF Output – 50 Ohms – DC Blocked
12	GND	Ground - Common

Note: NC pins may be grounded or left open

AM1134 – Amplifier



6 to 26.5 GHz Gain Block

Specifications

Absolute Maximum Ratings

	Minimum	Maximum
Supply Voltage	-0.3 V	+3.5 V
RF Input Power		+20 dBm
Operating Junction Temperature	-40 C	+175 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
Moisture Sensitivity Level	MSL 3	



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

Recommended Operating Conditions

	Minimum	Typical	Maximum
Supply Voltage	+3.0 V	+3.3 V	
Operating Case Temperature	-40 C		+85 C

Thermal Information

Junction to Case Thermal Resistance (θ_{JC})	172 C/W
Nominal Junction Temperature at +85C ambient	+156 C
Channel Temperature to Maintain 1 Million Hour MTF	+175 C

To obtain price, delivery, or to place an order contact MMICSales@mrchy.com
Atlanta Micro Inc., Now a part of Mercury Systems
3720 Davinci Ct, Suite 400, Peachtree Corners, GA 30092 • Phone: (470) 253-7640 • www.atlantamicro.com

AM1134 – Amplifier



6 to 26.5 GHz Gain Block

DC Electrical Characteristics

(T = 25 °C unless otherwise specified)

Parameter	Testing Conditions	Minimum	Typical	Maximum
DC Supply Voltage	VD1 = VD2		+3.3 V	
DC Supply Current	VD1 = VD2 = +3.3V		126 mA	
Power Dissipated	VD1 = VD2 = +3.3V		0.4 W	

RF Performance

(T = 25 °C unless otherwise specified)

Parameter	Testing Conditions	Minimum	Typical	Maximum
Frequency Range		6 GHz		26.5 GHz
Gain	f = 6 GHz		16 dB	
	f = 15 GHz		15 dB	
	f = 26.5 GHz		16 dB	
Return Loss	f = 6 GHz		10 dB	
	f = 15 GHz		8 dB	
	f = 26.5 GHz		8 dB	
Output IP3	f = 15 GHz		25 dBm	
Output P1dB	f = 15 GHz		15 dBm	
Noise Figure	f = 15 GHz		2 dB	

To obtain price, delivery, or to place an order contact MMICSales@mrchy.com

Atlanta Micro Inc., Now a part of Mercury Systems

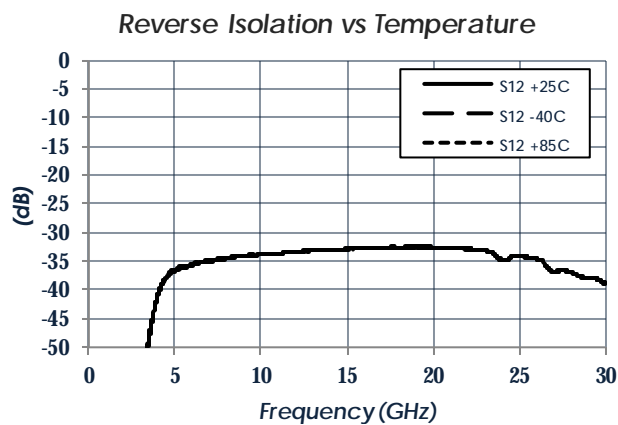
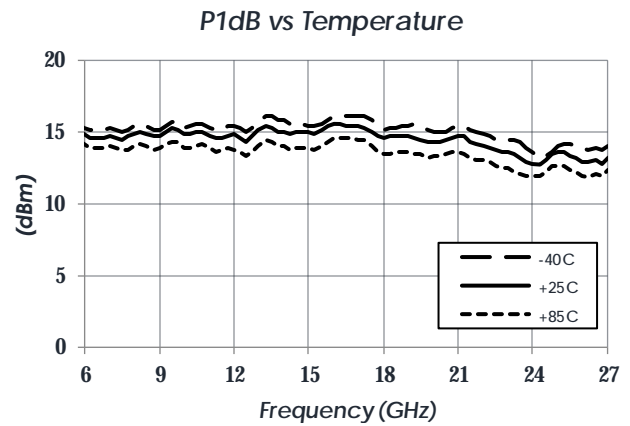
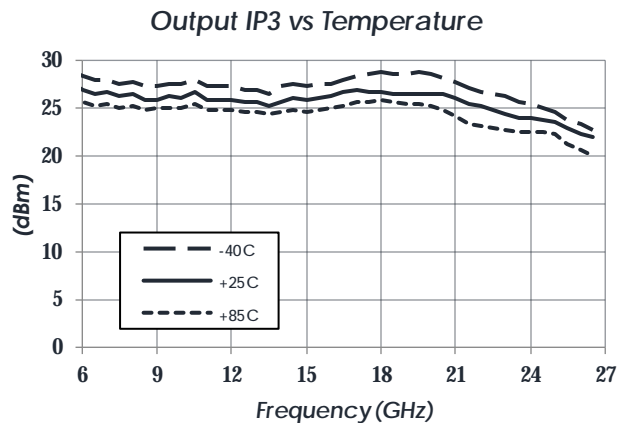
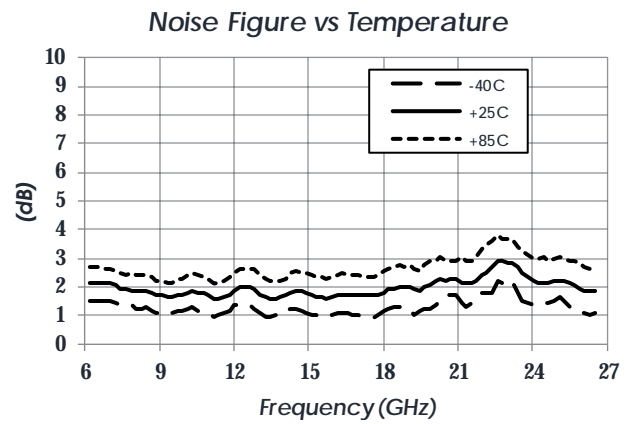
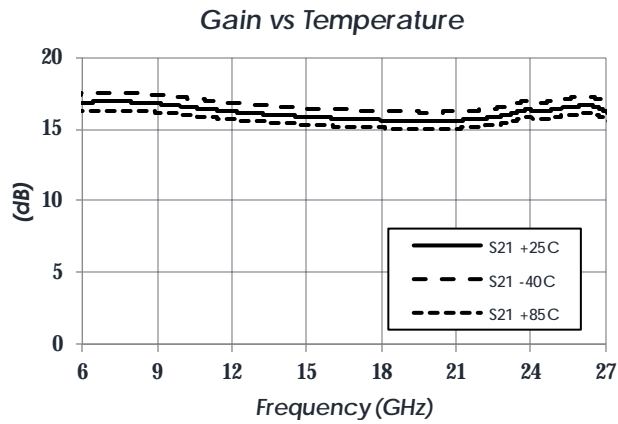
3720 Davinci Ct, Suite 400, Peachtree Corners, GA 30092 • Phone: (470) 253-7640 • www.atlantamicro.com

AM1134 – Amplifier

6 to 26.5 GHz Gain Block

Typical Performance

(VD1 = VD2 = +3.3V, T = 25°C unless otherwise specified)



OIP3 Test Conditions: Two -15dBm tones at input with 10 MHz spacing.

To obtain price, delivery, or to place an order contact MMICSales@mercy.com
 Atlanta Micro Inc., Now a part of Mercury Systems
 3720 Davinci Ct, Suite 400, Peachtree Corners, GA 30092 • Phone: (470) 253-7640 • www.atlantamicro.com

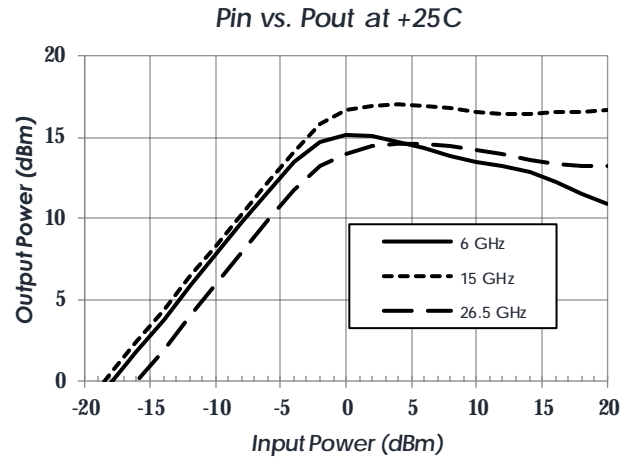
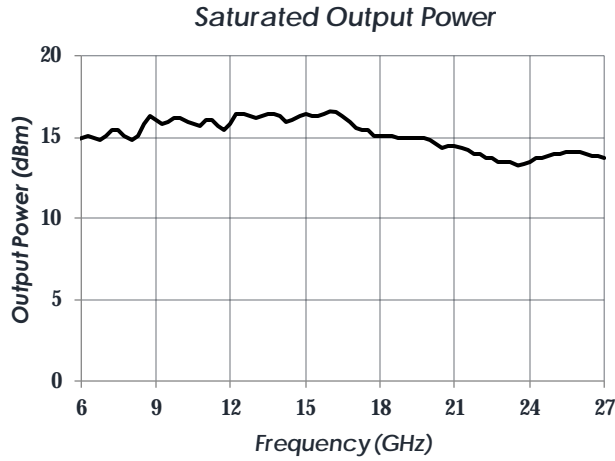
AM1134 – Amplifier

6 to 26.5 GHz Gain Block



Typical Performance (continued)

(VD1 = VD2 = +3.3V, T = 25°C unless otherwise specified)

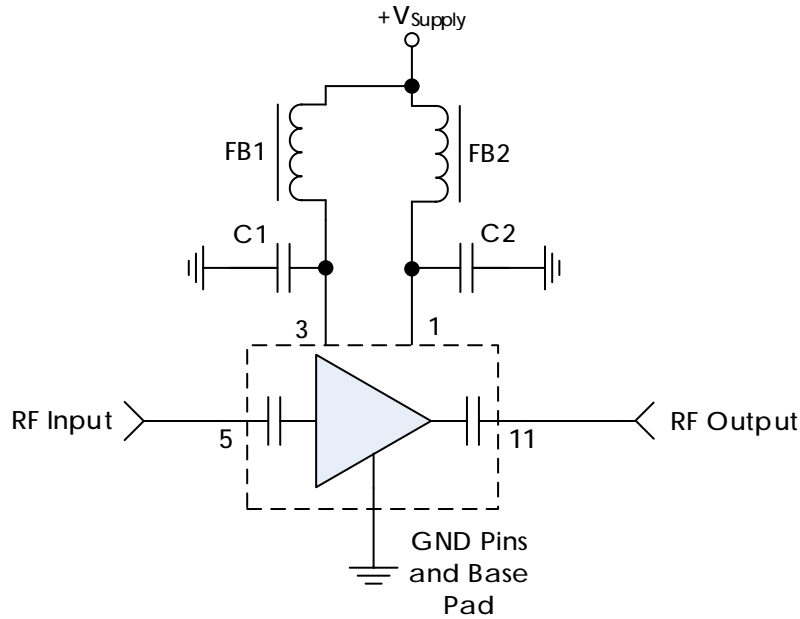


To obtain price, delivery, or to place an order contact MMICSales@mercy.com
Atlanta Micro Inc., Now a part of Mercury Systems
3720 Davinci Ct, Suite 400, Peachtree Corners, GA 30092 • Phone: (470) 253-7640 • www.atlantamicro.com

Specifications Subject to Change

AM1134 Rev 1

Typical Application



Note: NC pins may be grounded or left open

Recommended Component List (or equivalent):

Part	Value	Part Number	Manufacturer
C1, C2	0.1 uF	GRM155R71C104KA88	Murata
FB1, FB2	-	MMZ1005A222E	TDK

Notes:

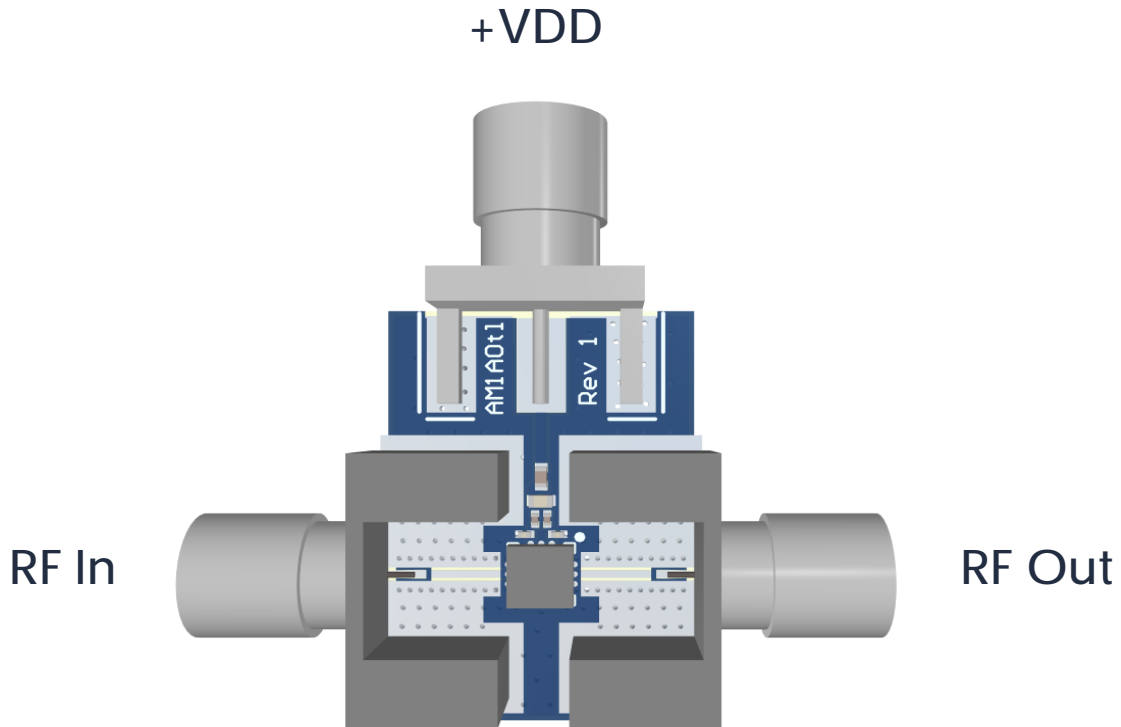
1. RF Input and Output pins are internally DC blocked

AM1134 – Amplifier

6 to 26.5 GHz Gain Block



Evaluation PC Board



Note: Not all components shown may be installed.

Related Parts

Part Number	Description		
AM1053	5 GHz	to 20 GHz	Gain Block
AM1067	5 GHz	to 20 GHz	Bypassable Gain Block
AM1070	DC	to 18 GHz	Broadband Gain Block
AM1071	DC	to 18 GHz	Broadband Gain Block
AM1077	5 GHz	to 20 GHz	Bypassable Gain Block w/ Isolation State
AM1100	2 GHz	to 26.5 GHz	Low Noise Amplifier
AM1101	2 GHz	to 26.5 GHz	Bypassable Amplifier
AM1102	DC	to 22 GHz	Low Noise Amplifier

To obtain price, delivery, or to place an order contact MMICSales@mercy.com
Atlanta Micro Inc., Now a part of Mercury Systems
3720 Davinci Ct, Suite 400, Peachtree Corners, GA 30092 • Phone: (470) 253-7640 • www.atlantamicro.com

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).

Conflict Materials: Atlanta Micro does not knowingly use materials that are sourced from the Democratic Republic of Congo (DRC) or any other known conflict regions. Atlanta Micro’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.

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.