HMC-C048

v03.1211

LOW NOISE AMPLIFIER MODULE, 5 - 9 GHz

Typical Applications

The HMC-C048 LNA is ideal for:

- Telecom Infrastructure
- Microwave Radio & VSAT
- Military & Space
- Test Instrumentation

Features

Low Noise Figure: 1.75 dB @ 6 GHz

High Gain: 22 dB

Output IP3: +25 dBm

P1dB Output Power: +14.8 dBm

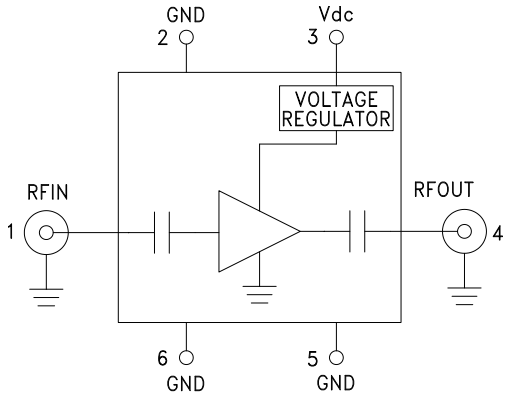
50 Ohm Matched & DC Blocked RF I/Os

Hermetically Sealed Module

Field Replaceable SMA Connectors

-55 °C to +85 °C Operating Temperature

Functional Diagram



General Description

The HMC-C048 is a GaAs MMIC pHEMT Low Noise Amplifier in a miniature, hermetic module which operates between 5 and 9 GHz. This high dynamic range low noise amplifier module provides 22 dB of gain and up to +25 dBm of output IP3 while operating from a single positive supply between +8V and +16V. The amplifier I/Os are internally matched to 50 Ohms and DC blocked for robust performance. The module features removable coaxial connectors which can be detached to allow direct connection of the I/O pins to a microstrip or coplanar circuit.

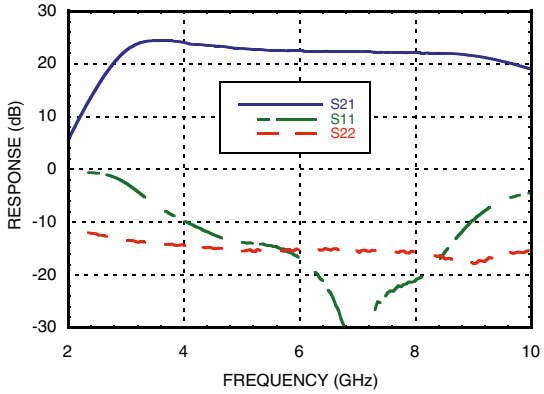
Electrical Specifications, T_A = +25° C, Vdc = +12V

Parameter	Min.	Typ.	Max.	Units
Frequency Range		5 - 9		GHz
Gain	18.5	22.5		dB
Gain Variation Over Temperature		0.015		dB/ °C
Noise Figure		1.75	2.3	dB
Input Return Loss		14		dB
Output Return Loss		15		dB
Output Power for 1 dB Compression (P1dB)	12	14.8		dBm
Saturated Output Power (Psat)		16.7		dBm
Output Third Order Intercept (IP3)		25		dBm
Supply Current		105	140	mA

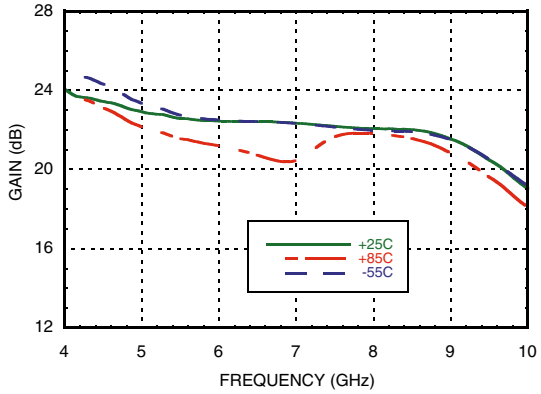
For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

LOW NOISE AMPLIFIER MODULE, 5 - 9 GHz

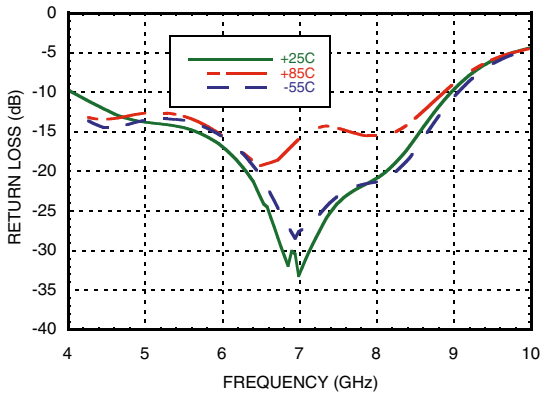
Broadband Gain & Return Loss



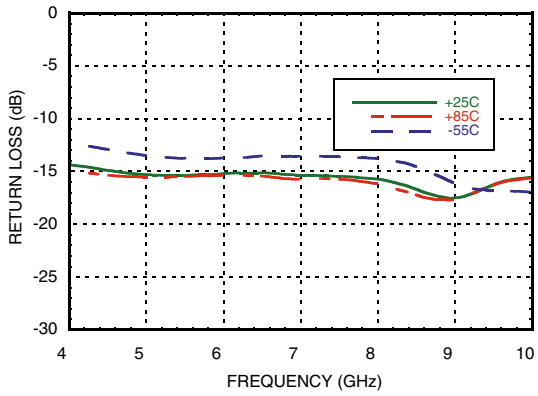
Gain vs. Temperature



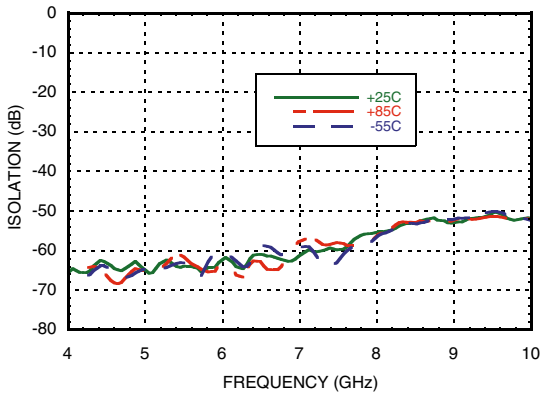
Input Return Loss vs. Temperature



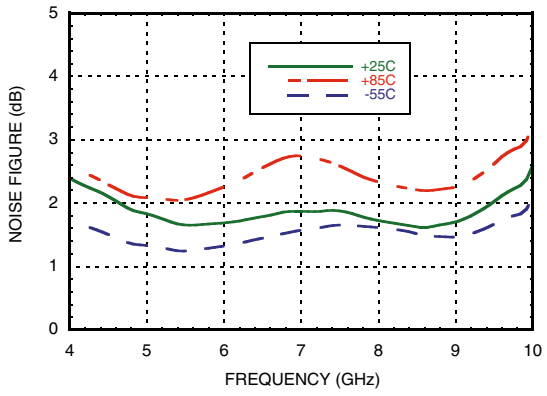
Output Return Loss vs. Temperature



Reverse Isolation vs. Temperature



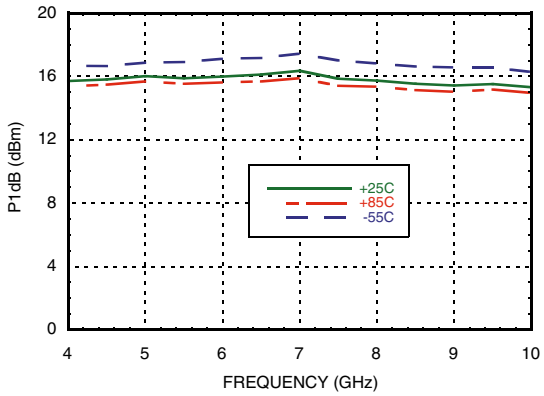
Noise Figure vs. Temperature



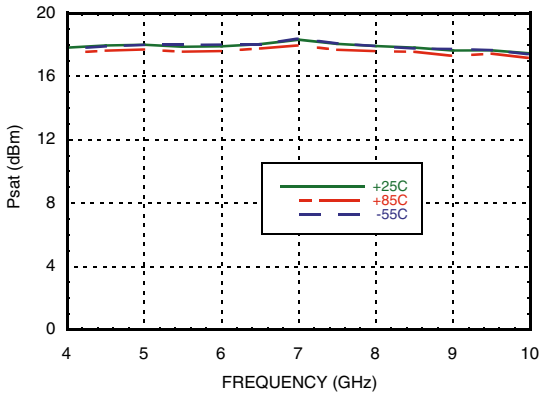
For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

LOW NOISE AMPLIFIER MODULE, 5 - 9 GHz

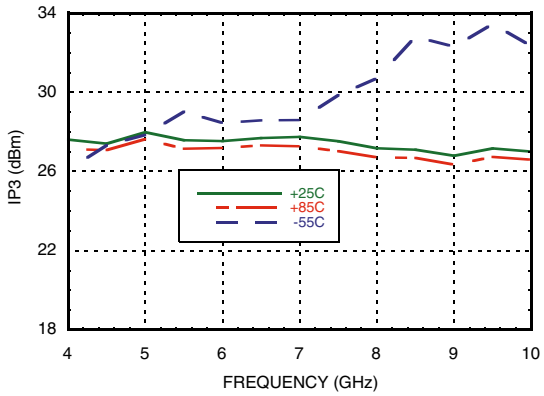
Output P1dB vs. Temperature



Psat vs. Temperature



Output IP3 vs. Temperature



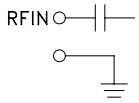
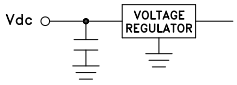
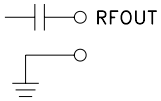
Absolute Maximum Ratings

Bias Supply Voltage (Vdc)	+16 Vdc
RF Input Power (RFIN)	+0 dBm
Storage Temperature	-65 to +150 °C
Operating Temperature	-55 to +85 °C

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

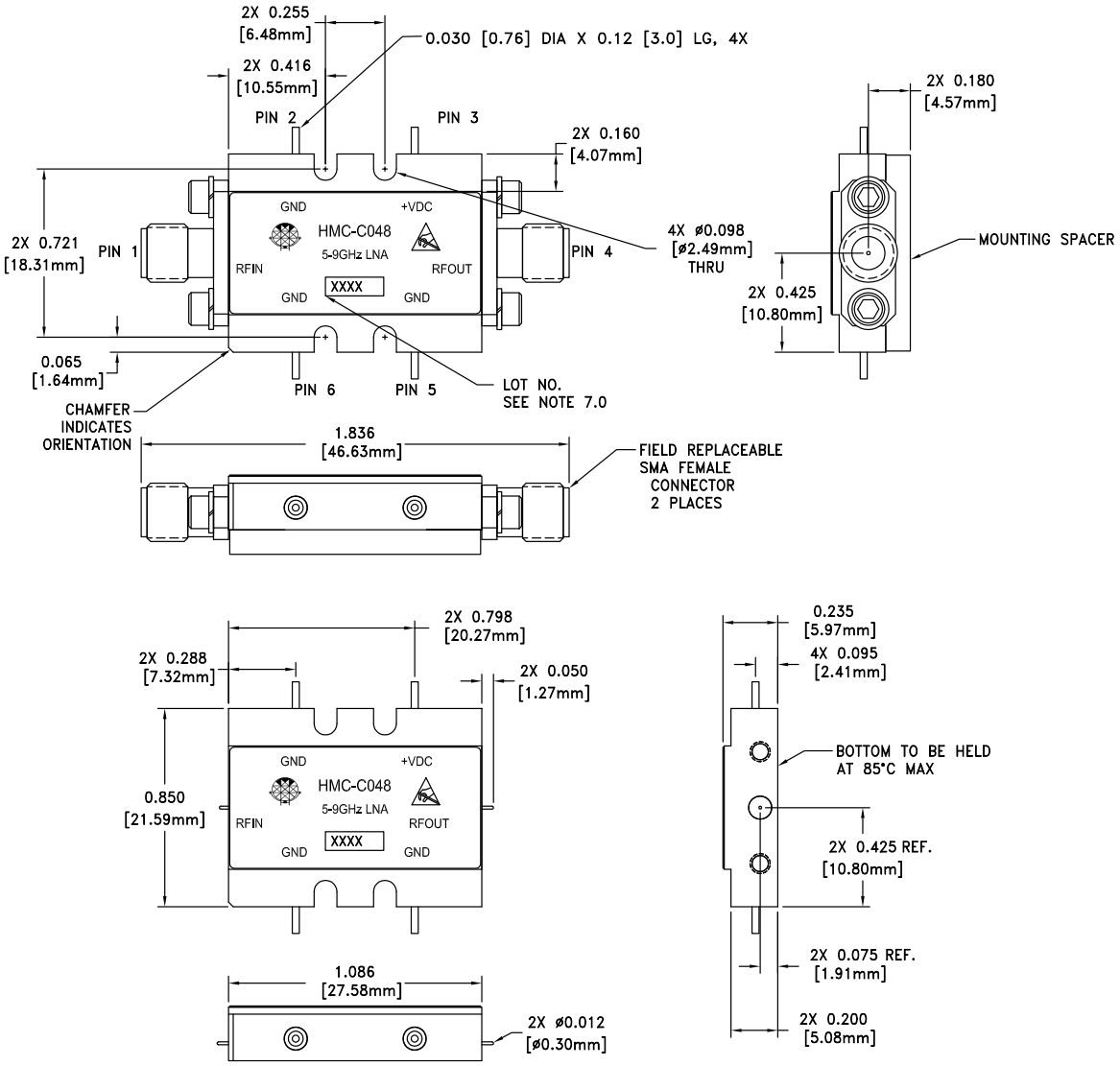
Pin Descriptions

Pin Number	Function	Description	Interface Schematic
1	RFIN & RF Ground	RF input connector, coaxial female, field replaceable. This pin is AC coupled and matched to 50 Ohms.	
2, 5, 6	GND	One of these pins must be connected to power supply ground.	
3	Vdc	Power supply voltage for the amplifier.	
4	RFOUT & RF Ground	RF output connector, coaxial female, field replaceable. This pin is AC coupled and matched to 50 Ohms.	

For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

LOW NOISE AMPLIFIER MODULE, 5 - 9 GHz

Outline Drawing



VIEW SHOWN WITH CONNECTORS AND MOUNTING SPACER REMOVED

Package Information

Package Type	C-10
Package Weight [1]	18.7 gms [2]
Spacer Weight	3.3 gms [2]

[1] Includes the connectors

[2] ±1 gms Tolerance

NOTES:

1. PACKAGE, LEADS, COVER MATERIAL: KOVAR™
2. FINISH: GOLD PLATE OVER NICKEL PLATE
3. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]
4. TOLERANCES:
   - 4.1 .XX = ±0.02
   - 4.2 .XXX = ±0.010
5. FIELD REPLACEABLE SMA CONNECTORS

For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

LOW NOISE AMPLIFIER MODULE, 5 - 9 GHz

Notes:

For price, delivery, and to place orders: Analog Devices, Inc., One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106
Phone: 781-329-4700 • Order online at www.analog.com
Application Support: Phone: 1-800-ANALOG-D

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Sub-GHz Modules ***category:***

Click to view products by Analog Devices ***manufacturer:***

Other Similar products are found below :

HMC-C024 nRF24L01P-MODULE-SMA CMD-KEY2-418-CRE V640-A90 SM1231E868 HMC-C582 SM-MN-00-HF-RC HMC-C031 LoRa Node Kit(US) Sierra HL7588 4G KIT(US) WISE-4610-S672NA EC21AUFA-MINIPCIE EC21EUGA-MINIPCIE CS-EASYSWITCH-25 EC21JFB-MINIPCIE DL-RFM96-433M Ra-07H-V1.1 Ra-07 Ra-01SH Ra-01S-T Ra-01SH-T CMD-HHCP-418-MD CMD-HHCP-433-MD CMD-HHLR-418-MD 2095000000200 XB9X-DMRS-031 20911051101 COM-13909 HMC-C033 COM-13910 WRL-14498 SX1276RF1KAS HMC-C011 HMC-C014 HMC-C050 HMC-C001 HMC-C006 HMC-C030 HMC-C021 HMC-C041 HMC-C042 HMC-C048 HMC-C051 HMC-C071 HMC-C072 HMC-C088 A2500R24C00GM 702-W HUM-900-PRC ISP4520-EU-ST