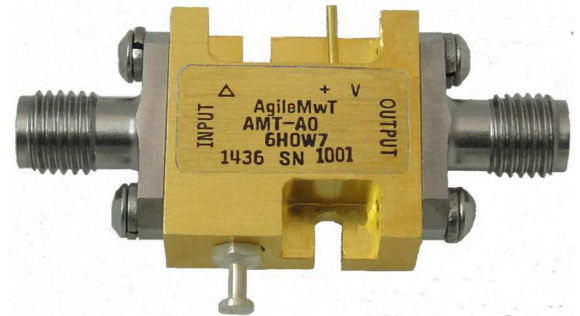


AMT-A0437 6 GHz to 8 GHz Low Noise Amplifier with flat gain Data Sheet



Features

- 6 GHz to 8 GHz Frequency Range
- Typical Noise Figure 1.4 dB
- Gain 27 dB typical 25 dB minimum
- Gain Flatness $< \pm 0.8$ dB typical ± 1.2 dB max
- P1dB +12 dBm typical
- VSWR 1.8:1 typical
- Internally Regulated
- Operates from a Single Supply
- Unconditionally stable



Description

The AMT-A0437 is a Low Noise amplifier with low noise figure and flat gain over the full frequency range. The performance is achieved through the use of AMTI's proprietary technology. The amplifier I/Os are Internally matched to 50 Ohms. The AMT-A0437 is ideal for use as Front End of receiver system, or where amplification is required without adding excessive noise in a Hi-Rel communications system for Commercial or Military applications.

Applications

- Receiver front end,
- Radar
- Communication systems
- Microwave Radio systems
- Test Equipment

MAXIMUM RATINGS¹

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	-40	+85
Storage Temperature - Case	T _{MS}	° C	-40	+100
RF Input power (CW)	P _{in}	dBm		+15
Die T _{Junction}	T _J	° C		+150
Positive Supply Voltage	V _{+SS}	V		+15

Do NOT apply DC to RF ports

Must be attached to proper Heat Sink

1. Stresses above those listed under "Absolute Maximum Rating" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL SPECIFICATIONS @ 23°C

Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	6		8
Gain	Small Signal	dB	25	27	
Gain Flatness		dB		±0.8	±1.2
Input Power	CW, without damage	dBm	+15		
Output Power (P1dB)	1 dB compression point @ 7 GHz	dBm	+10	+12.5	
OIP3	OIP3 @ 7 GHz Two tone F1-F2= 10MHz	dB		22	
Noise Figure		dB		1.4	1.7
RF Input Impedance	Reference to 50 ohms VSWR			1.5:1	2.0:1
RF Output Impedance	Reference to 50 ohms			1.8:1	2.3:1
Supply Voltage Positive:		V		+8	
Supply Current Positive:		mA		50	100

Notes:

1/ Unconditional Stability

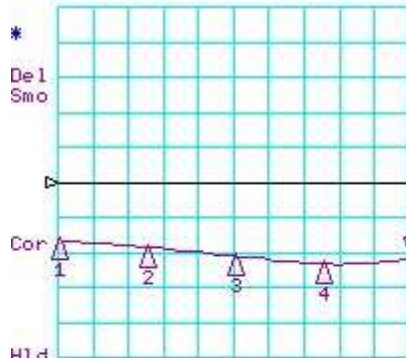
2/Measured with Agilent/HP equipment standard manufacturer variations apply

Customized configurations of the above specifications are available

Typical Performance

S-Parameters @ 23C

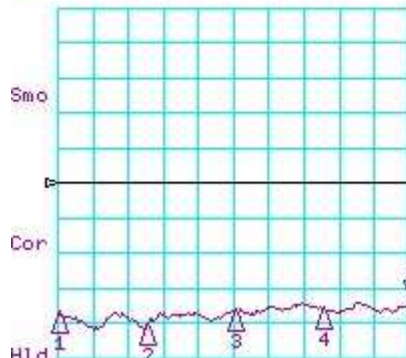
CH1 LOG 10 dB/ REF 0 dB
S11 5:-21.697 dB 8.000 000 000 GHz



CH1 Markers
1:-16.360 dB
6.00000 GHz
2:-18.573 dB
6.50000 GHz
3:-21.015 dB
7.00000 GHz
4:-22.895 dB
7.50000 GHz

H1d
START 6000.000 MHz STOP 8000.000 MHz

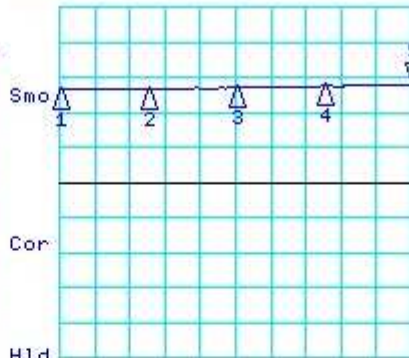
CH3 LOG 10 dB/ REF -10 dB
S12 5:-44.194 dB 8.000 000 000 GHz



CH3 Markers
1:-46.995 dB
6.00000 GHz
2:-50.364 dB
6.50000 GHz
3:-46.517 dB
7.00000 GHz
4:-45.978 dB
7.50000 GHz

H1d
START 6000.000 MHz STOP 8000.000 MHz

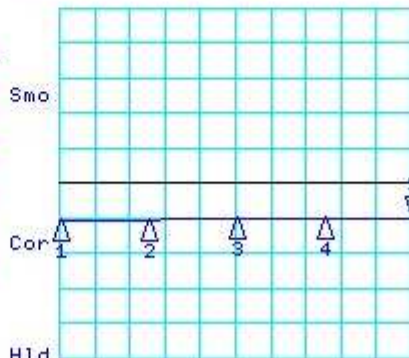
CH2 LOG 10 dB/ REF 0 dB
S21 5: 28.043 dB 8.000 000 000 GHz



CH2 Markers
1: 26.688 dB
6.00000 GHz
2: 26.455 dB
6.50000 GHz
3: 26.981 dB
7.00000 GHz
4: 27.669 dB
7.50000 GHz

H1d
START 6000.000 MHz STOP 8000.000 MHz

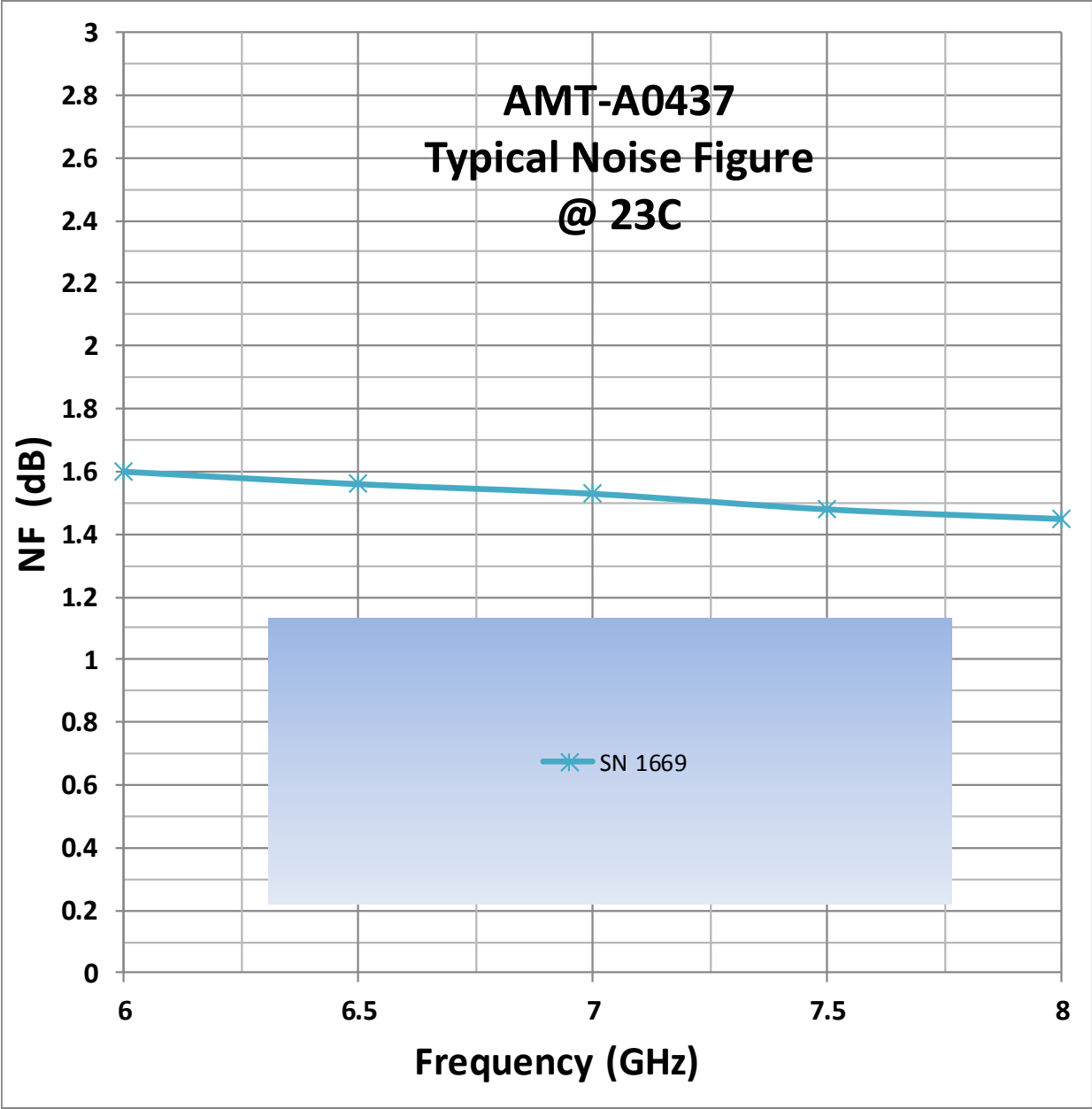
CH4 LOG 10 dB/ REF 0 dB
S22 5:-10.069 dB 8.000 000 000 GHz



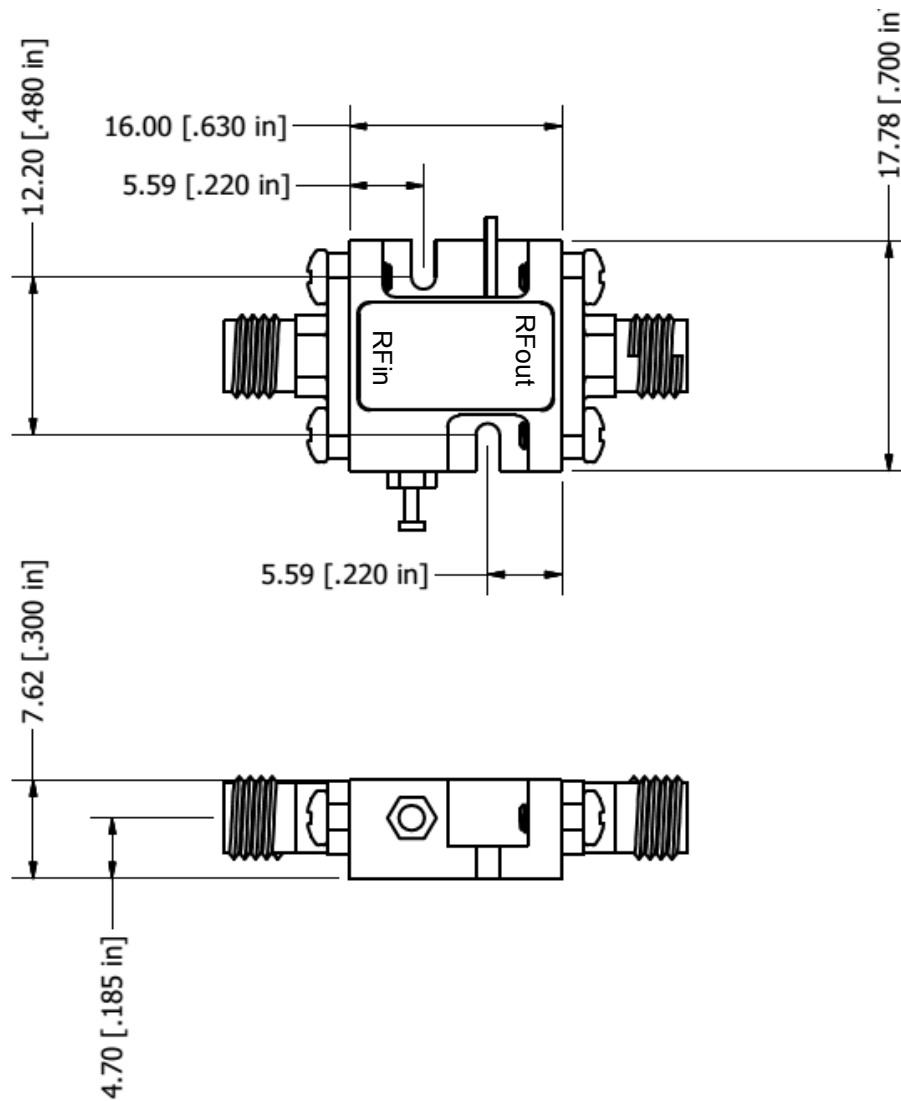
CH4 Markers
1:-10.892 dB
6.00000 GHz
2:-10.462 dB
6.50000 GHz
3:-10.002 dB
7.00000 GHz
4:-9.8460 dB
7.50000 GHz

H1d
START 6000.000 MHz STOP 8000.000 MHz

Typical Noise Figure Plot S-Parameters @ 23C



Package Outline: M088 SMA Connectorized mm(inches)



**Housing: Aluminum Gold over Nickel plated
Removable SMA and Ground Slug**

Model Number	Description	Hermeticity	Package
AMT-A0437	SMA Female	Non-Hermetic	Outline: M088

Contact us for custom configurations and special requirements.

Our highly experienced team of engineers can quickly identify and implement innovative solutions using latest technology to improve performance and reduce cost.

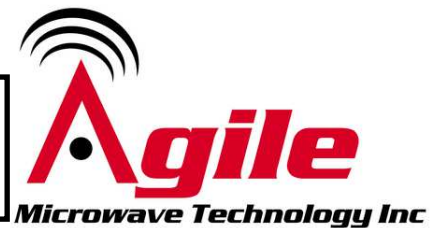
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital attenuator, Phase shifter, Microcontroller, Multiple amplifiers, Switch matrix, Comb generators and others
- Mechanical: Custom packages - Surface Mount, Connectorized, Waveguide, Carrier, Drop-in, Hermetic and others

Agile Microwave Technology Inc is the logical choice for all your commercial or military RF/Microwave components/module requirements.

Contact Information:

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**ISO 9001:2015
Certified Company**



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