

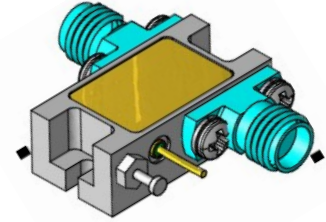
AMT-A0463 8 GHz to 9 GHz Low Noise Amplifier with flat gain

Data Sheet



Features

- 9 GHz to 10 GHz Frequency Range
- Typical Noise Figure 2.2 dB, 3dB max
- Gain 16 dB typical,
- matched to golden unit match $< \pm 1$ dB max
- Gain Flatness $< \pm 0.3$ dB typical ± 1 dB max
- P1dB +10 dBm minimum
- VSWR 1.5:1 typical , 2:1 max
- Internally Regulated, Compact Size
- Operates from a Single +8V Supply 120 mA typical



Description

The AMT-A0463 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 and DC blocked. The AMT-A0463 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	-20	+85
Storage Temperature - Case	T_{MS}	° C	-40	+125
RF Input power (CW)	Pin	dBm		+20
Die $T_{Junction}$	T_J	° C		+150
Positive Supply Voltage	V_{+SS}	V		+15

Do NOT apply DC to RF Input

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	8		9
Gain	Small Signal	dB	15.5	16	18
Gain Flatness		dB		±0.3	±1
Gain Matching	Set of units, variation from Golden unit	dB		±0.5	±1
Spurs ²	Spurs with Pout ~ 1 dBm	dBc	<-70		
Output Power (P1dB)	1 dB compression point @ 8.5 GHz	dBm	+10	+10.8	
OIP3	OIP3 @ 8.5 GHz Two tone F1-F2= 10MHz	dB		19	
Noise Figure ³		dB		2.2	3
RF Input Impedance	Reference to 50 ohms VSWR			1.5:1	2:1
RF Output Impedance	Reference to 50 ohms			1.5:1	2:1
Supply Voltage Positive:		V		+8	
Supply Current Positive:		mA		120	160

Notes:

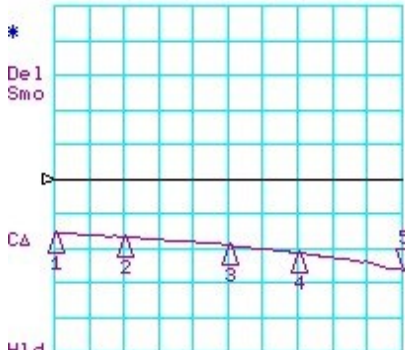
1/ Unconditional Stability

2/ Excluding Harmonics

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

Typical S-Parameters @ 23°C

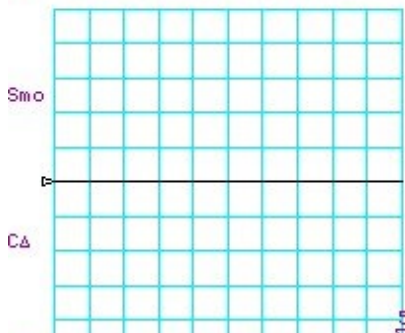
CH1 LOG 10 dB/ REF 0 dB
S11 5:-26.162 dB 9.000 000 000 GHz



CH1 Markers
1:-15.435 dB
8.00000 GHz
2:-16.756 dB
8.20000 GHz
3:-18.979 dB
8.50000 GHz
4:-21.402 dB
8.70000 GHz

H1d
START 8000.000 MHz STOP 9000.000 MHz

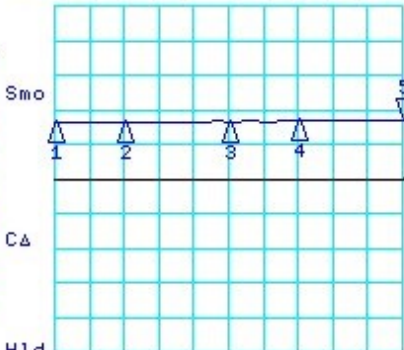
CH3 LOG 10 dB/ REF 0 dB
S12 5:-49.094 dB 9.000 000 000 GHz



CH3 Markers
1:-51.370 dB
8.00000 GHz
2:-51.173 dB
8.20000 GHz
3:-48.997 dB
8.50000 GHz
4:-50.438 dB
8.70000 GHz

H1d
START 8000.000 MHz STOP 9000.000 MHz

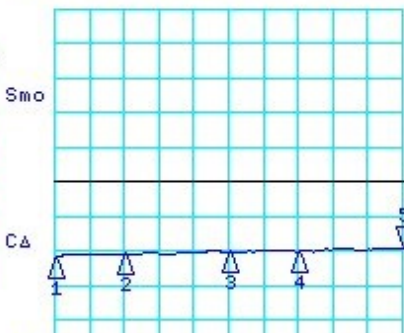
CH2 LOG 10 dB/ REF 0 dB
S21 5: 16.858 dB 9.000 000 000 GHz



CH2 Markers
1: 16.412 dB
8.00000 GHz
2: 16.611 dB
8.20000 GHz
3: 16.695 dB
8.50000 GHz
4: 16.818 dB
8.70000 GHz

H1d
START 8000.000 MHz STOP 9000.000 MHz

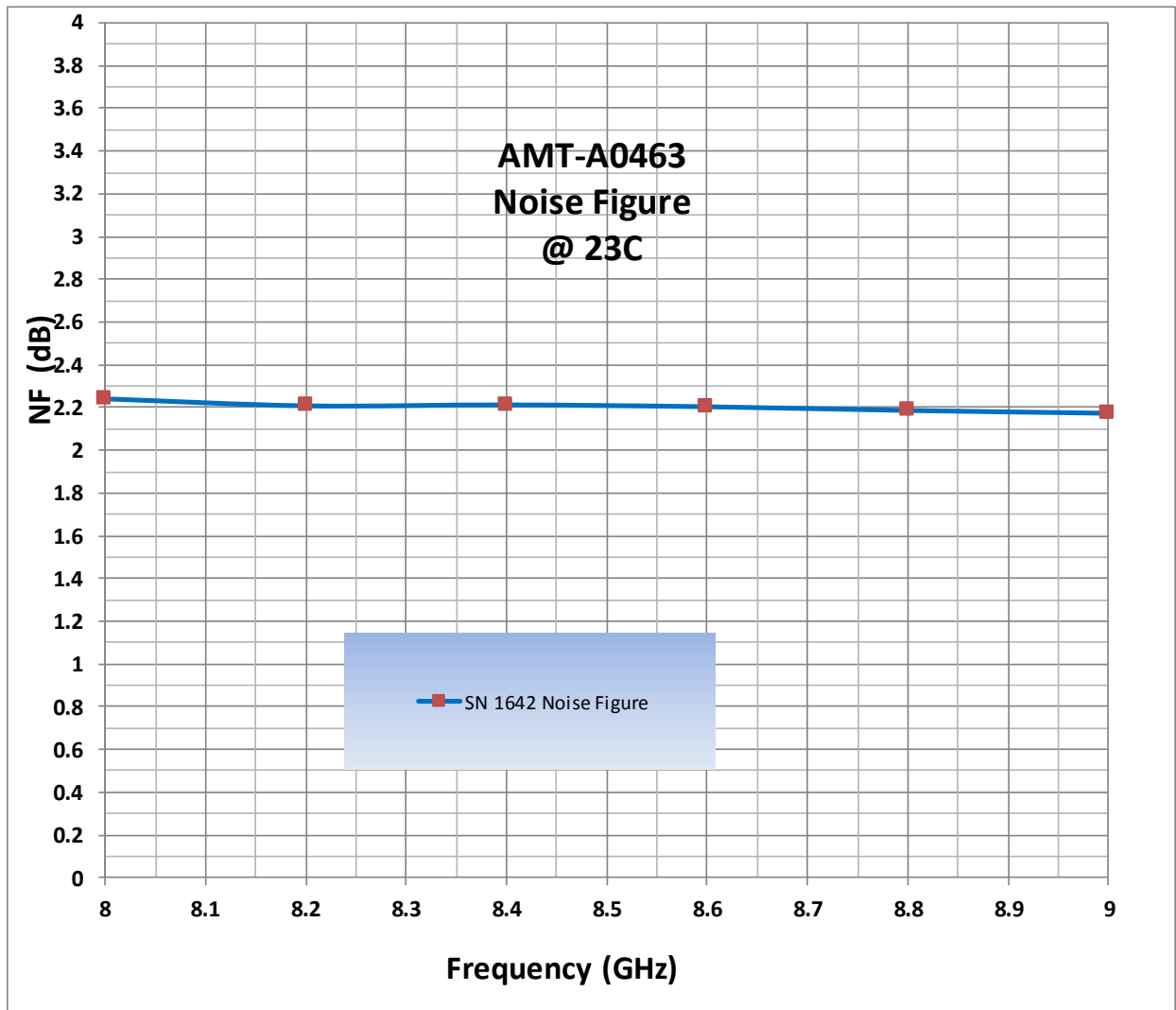
CH4 LOG 10 dB/ REF 0 dB
S22 5:-19.189 dB 9.000 000 000 GHz



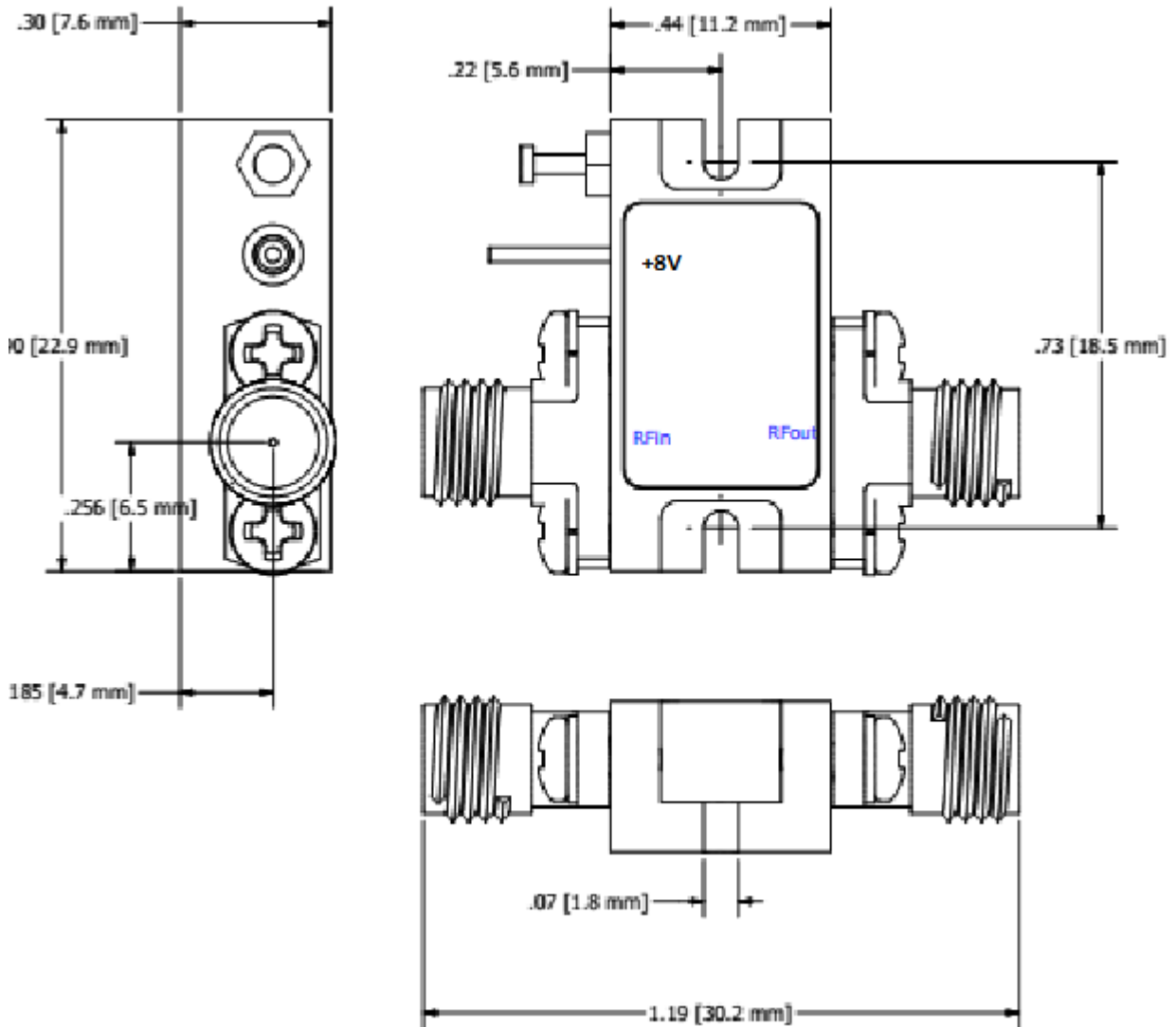
CH4 Markers
1:-21.831 dB
8.00000 GHz
2:-21.173 dB
8.20000 GHz
3:-20.371 dB
8.50000 GHz
4:-20.194 dB
8.70000 GHz

H1d
START 8000.000 MHz STOP 9000.000 MHz

Typical Noise Figure @ 23°C



Package Outline: M120 SMA Connectorized (inches)



SMA Connectors and ground slug are field replaceable
Housing: Aluminum Gold over Nickel plated

Model Number	Description	Hermeticity	Package
AMT-A0463	SMA Female	Non-Hermetic	Outline: M120

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.

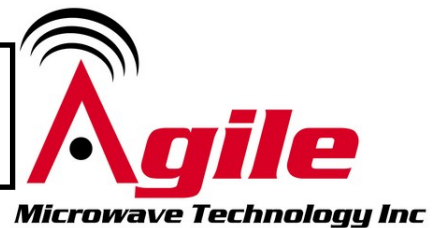
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital 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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