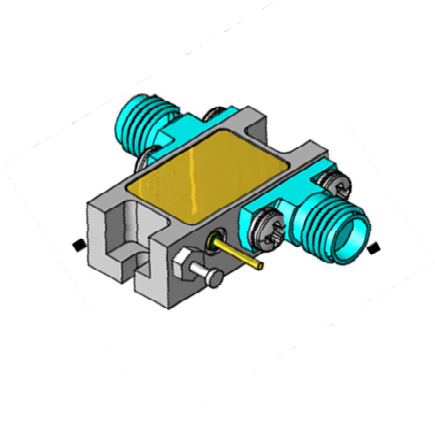
AMT-A0442 9.5 GHz to 10 GHz
Low Noise Amplifier

Data Sheet

Agile Microwave Technology Inc

Features



- 9.5 GHz to 10 GHz Frequency Range
- Typical Noise Figure 1.7 dB
- Gain 40 dB typical window of 38 to 40 dB
- Gain Flatness < ± 0.3 dB typical ± 1 dB max
- P1dB +15 dBm typical + 10 dBm minimum
- VSWR 1.8:1 typical
- Internally Regulated, Compact Size
- Operates from a Single +8V Supply 135 mA typical

Description

The AMT-A0442 is a Low Noise amplifier with low noise figure 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-A0442 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 RATINGS[1]

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	° C	-40	+85
Storage Temperature - Case	T_{MS}	° C	-40	+125
RF Input power (CW)	Pin	dBm		+15
Die $T_{Junction}$	T_J	° C		+150
Positive Supply Voltage	V_{+SS}	V		+12

Do NOT apply DC to RF Input **Must be attached to proper Heat Sink**

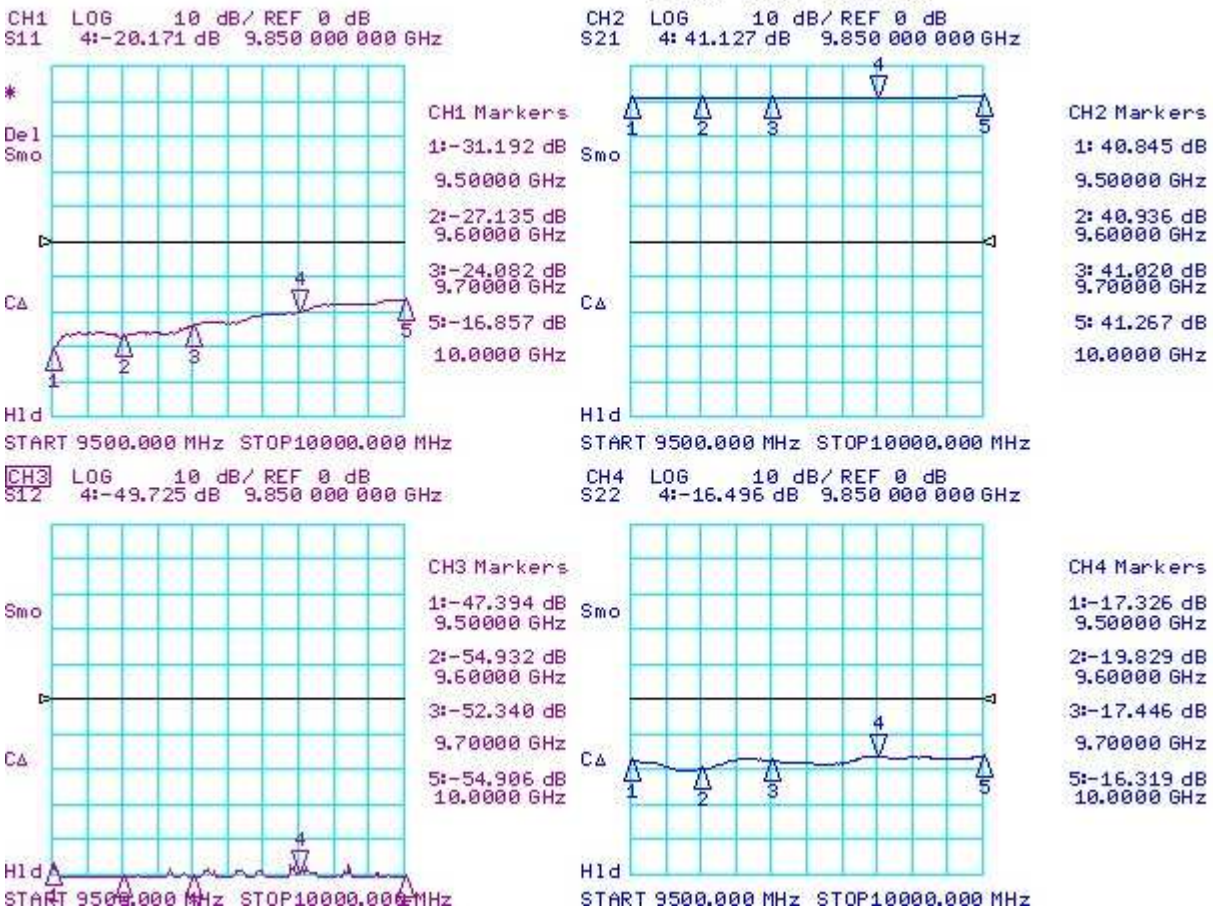
1.Stresses above those listed under "Absolute Maximum Rating" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure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

ELECTRICAL SPECIFICATIONS @ 23ºC

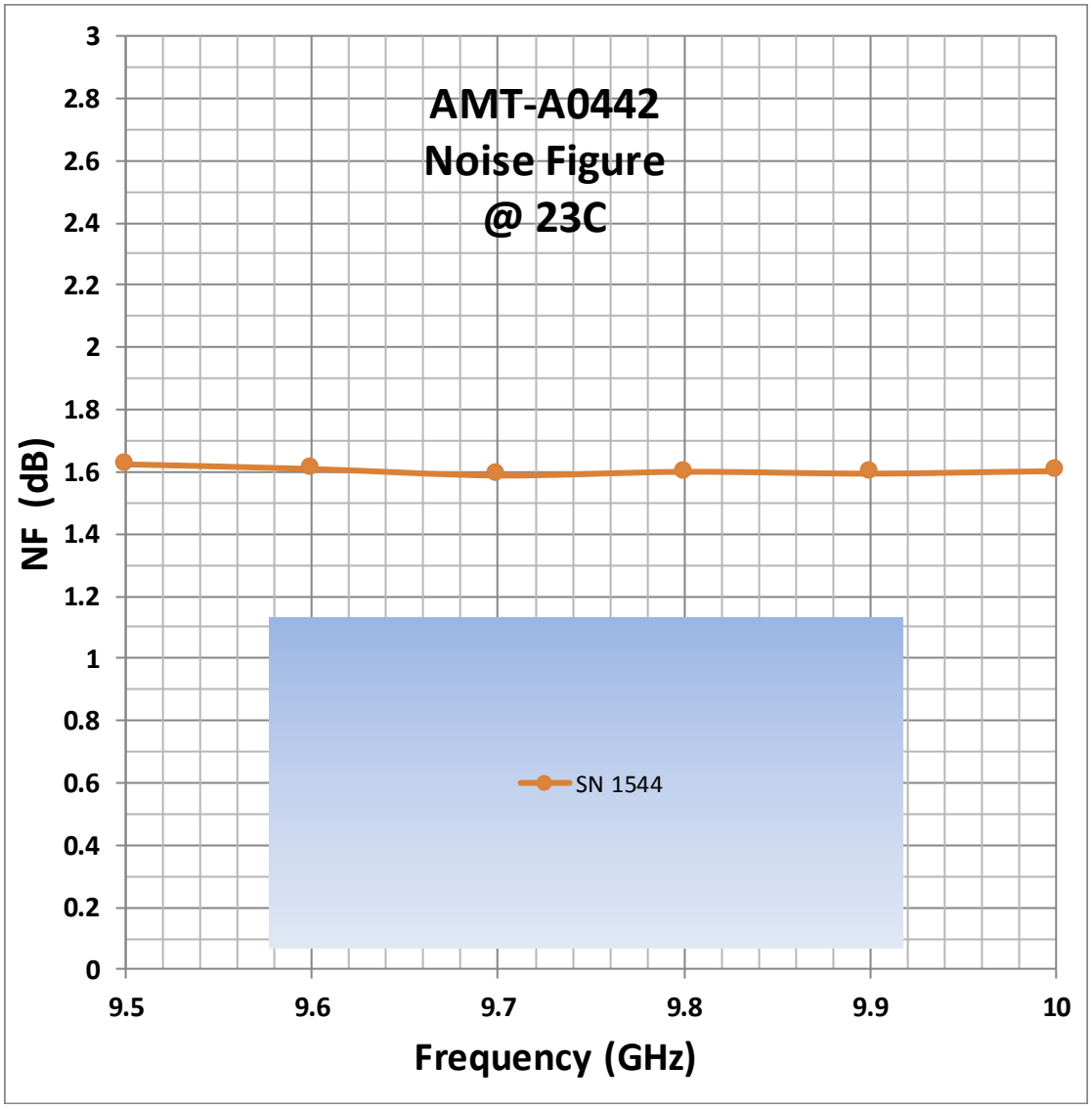
Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	9.5		10
Gain	Small Signal	dB	38	40	42
Gain Flatness		dB		±0.3	±1
Spurs[2]	Spurs with Pout ~ 1 dBm	dBc	<-70		
Output Power (P1dB)	1 dB compression point @ 9.7 GHz	dBm	+10	+15	
OIP3	OPI3 @ 9.7 GHz Two tone F1-F2= 10MHz	dB	18	25	
Noise Figure[3]		dB		1.7	2.5
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2:1
RF Output Impedance	Reference to 50 ohms			1.5:1	2:1
Supply Voltage Positive: Supply Current Positive:		V mA		+8 135	 150

Notes:
1/ Unconditional Stability
2/ Excluding Harmonics
3/Measured with Agilent/HP equipment standard manufacturer variations apply

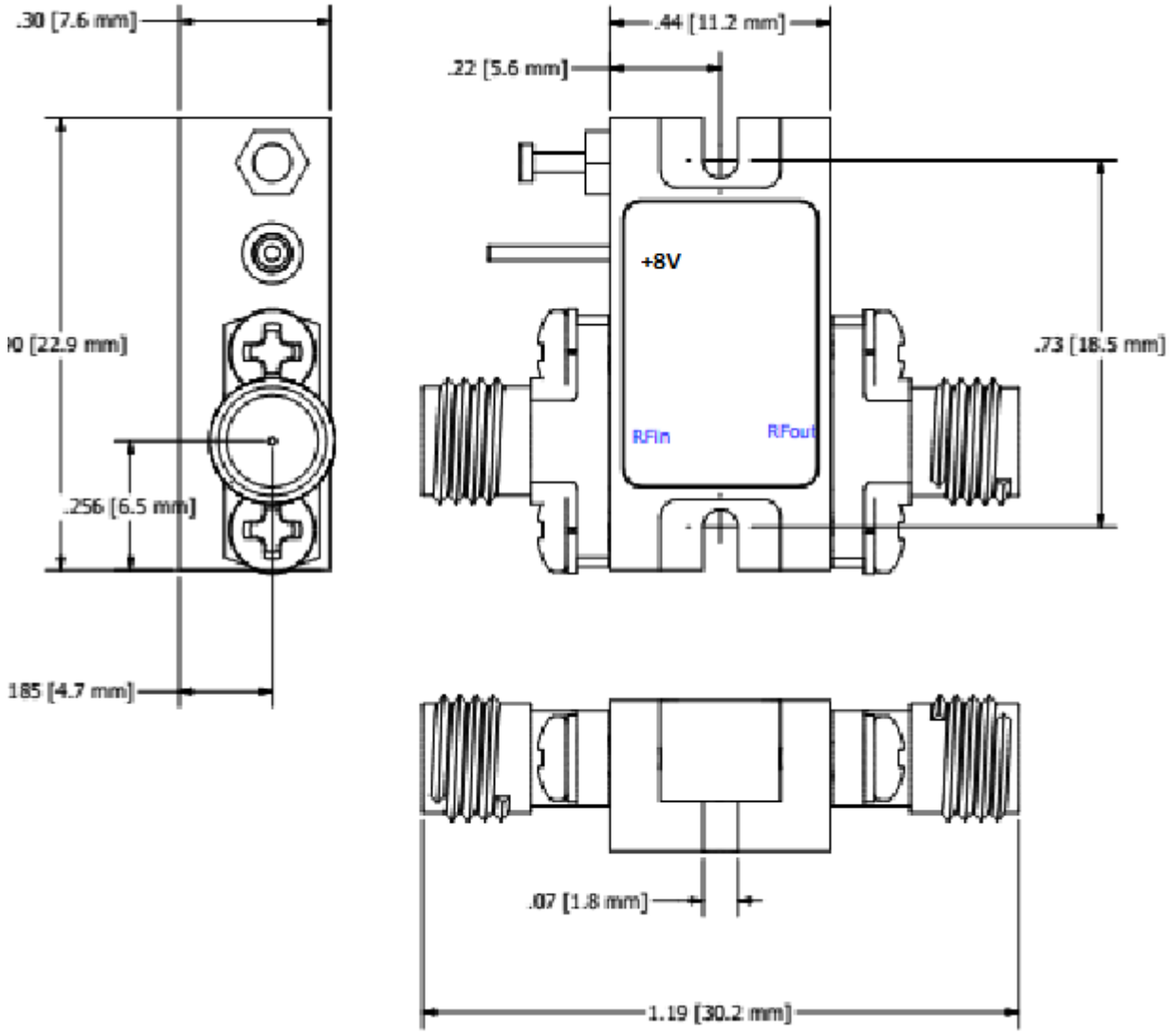
Typical S-Parameters @ 23ºC



Typical Noise Figure @ 23ºC



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-A0442	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:

ISO 9001:2015 Certified Company

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