AMT-A0388 14 GHz to 18 GHz Broadband Low Noise Amplifier

Data Sheet

Features

- 14 GHz to 18 GHz Frequency Range
- Gain 24 dB Typical, Positive Slope
- Gain Flatness ± 0.5 dB Typical
- 1.4 dB Typical Noise Figure
- VSWR 1.8:1 typical
- P1dB +14 dBm typ
- Internally Regulated
- Operates from Single +8 Supply
- Unconditionally Stable
- Compact Housing

Photo for Illustration only

Description

The AMT-A0388 is a Broadband amplifier with low NF in a compact size. The performance is achieved through the use of AMTI's proprietary matching technology and latest in GaAs technology. The amplifier I/Os are Internally matched to 50 Ohms and DC Blocked. The AMT-A0388 is ideal for use as gain stage with low noise for test equipment, Communication systems or where ultra broadband amplification and power are required without adding significant noise in a Hi-Rel communications system for Commercial or Military applications

Applications

- Test Equipment
- Receiver
- EW Systems
- Lab Applications
- Wideband Gain Block

MAXIMUM RATINGS[1] **EAR99**

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		+18
Die $T_{Junction}$	T_J	° C		+150
Positive Supply Voltage	V_{+SS}	V		+12

Appropriate Heat sink must be used

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.

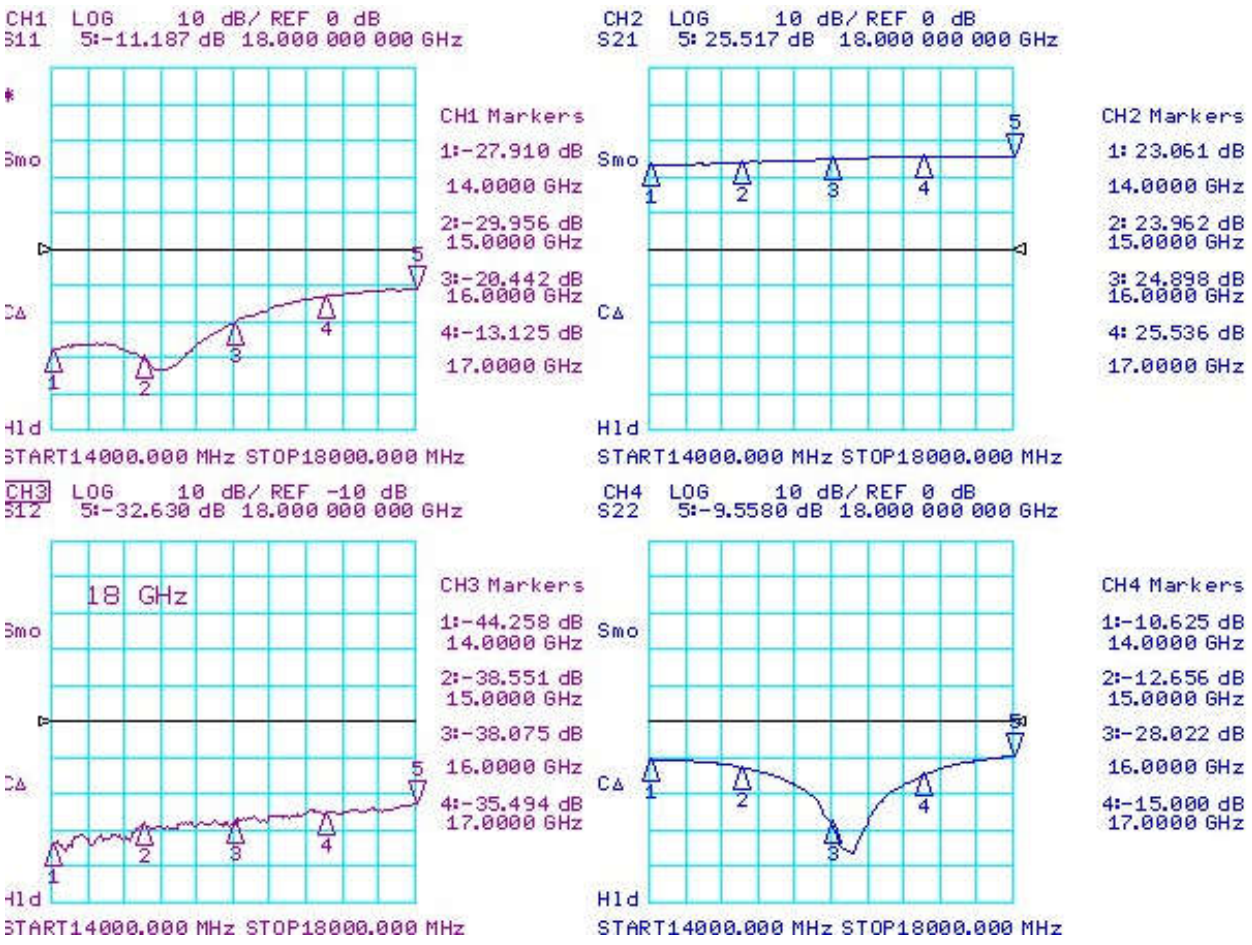
ELECTRICAL SPECIFICATIONS @ 23ºC

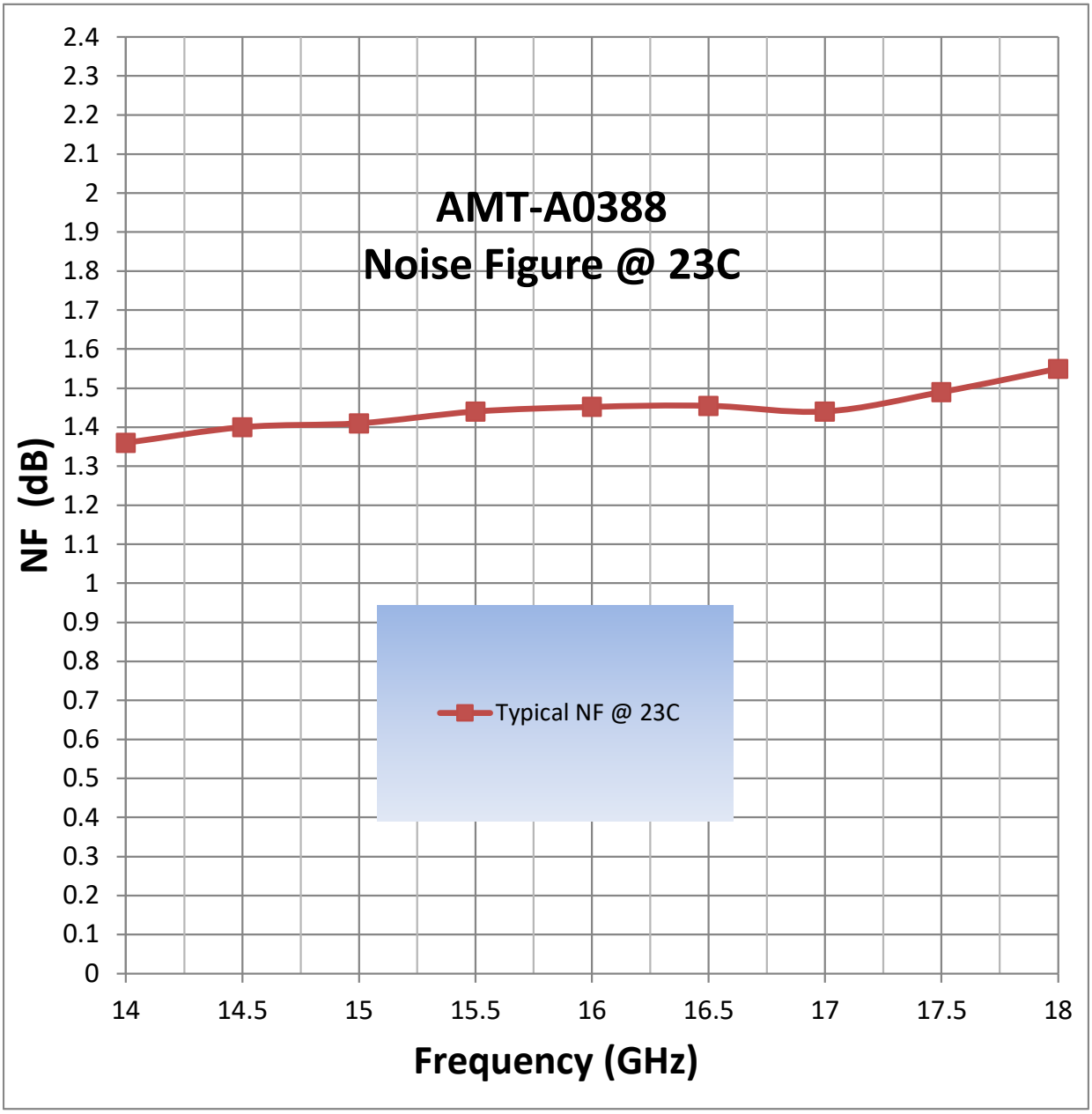
Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	14		18
Gain	Small Signal	dB	22	24	
Gain Flatness		dB		±0.5	±1.2
Noise Figure		dB		1.4	1.7
Output Power (P1dB)	@ 16 GHz	dBm	+10	+14	
OIP3	OPI3 @ 16 GHz Two tone F1-F2= 10MHz	dB		20	
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.3:1
RF Output Impedance	Reference to 50 ohms VSWR			1.8:1	2.3:1
Supply Voltage Positive: Supply Current Positive:	Small signal	V mA		+ 8 40	 80

Notes:
1/ Unconditional Stability

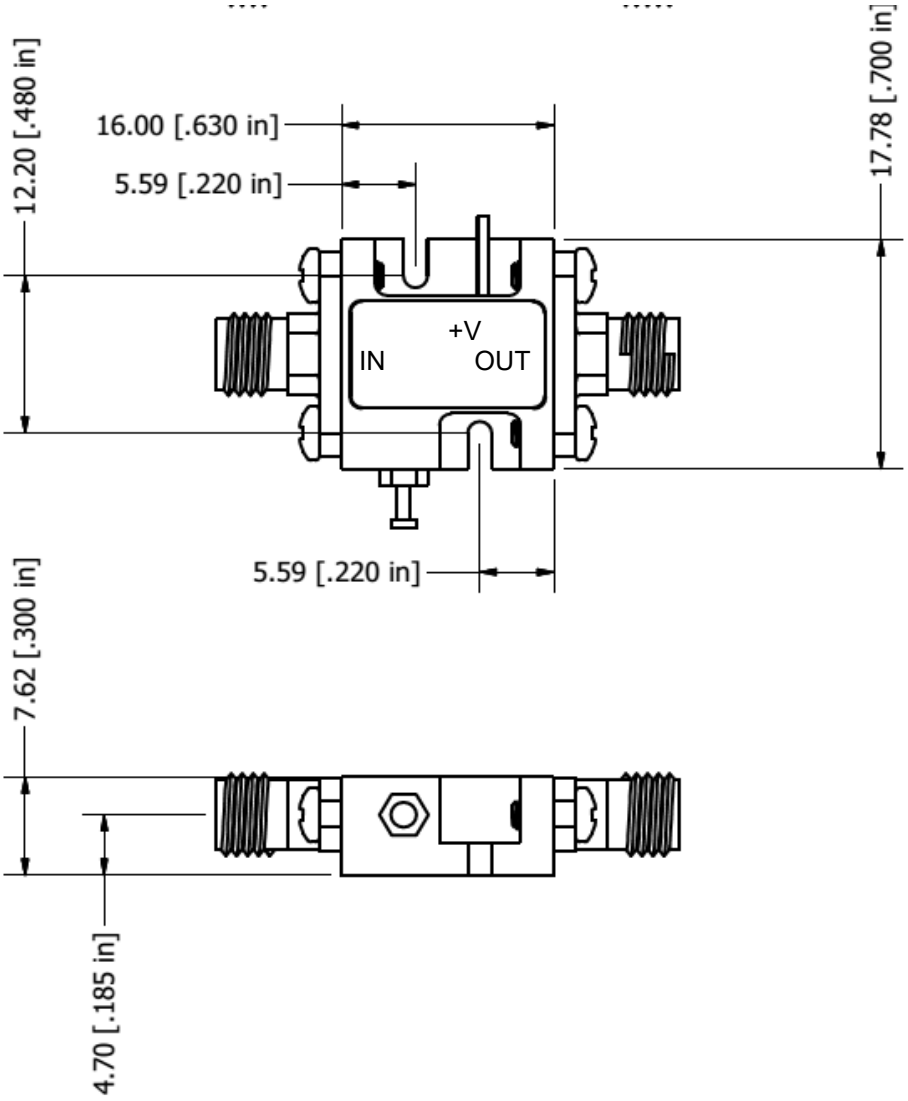
Customized configurations of the above specifications are available

Typical S-Parameters @ 25C




AMT-A0388
Noise Figure @ 23C
NF (dB)
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
14
14.5
15
15.5
16
16.5
17
17.5
18
Frequency (GHz)
Typical NF @ 23C

Package Outline M088: SMA Female Connectors (inches)



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

Field replaceable SMA Connectors and Ground Slug
Note: The unit must be attached to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0388	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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