AMT-A0441 6 GHz to 14 GHz
Broadband Medium Power with Low Noise Amplifier

Data Sheet

Features

- 6 GHz to 14 GHz Frequency Range
- Gain 19 dB Typical , Gain window 17 to 20 dB
- Gain Flatness ± 0.3 dB typical ± 1 dB max
- 2.5 dB Typical Noise Figure
- VSWR 1.8:1 typical
- OIP3 +28 dBm minimum
- Internally Regulated
- Operates from Single +12V Supply 190 mA typ
- Unconditionally Stable
- Compact Housing

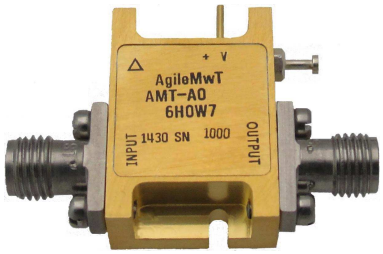


Photo for Illustration only

Description

The AMT-A0441 is a medium power with low noise amplifier with flat gain, in a compact size and matched gain window. The performance is achieved through the use of AMTI's proprietary matching technology. The amplifier I/Os are Internally matched to 50 Ohms and DC Blocked. The AMT-A0441 is ideal for use as gain stage with low noise for test equipment, Communication systems or where ultra broadband amplification and medium power are required without adding significant noise in a Hi-Rel communications system for Commercial or Military applications

Applications

- Test Equipment
- Receiver
- Lab Applications
- Broadband Gain Block
- Broadband Driver

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		+13

Appropriate Heat sink must be used Do Not apply DC to RF

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.

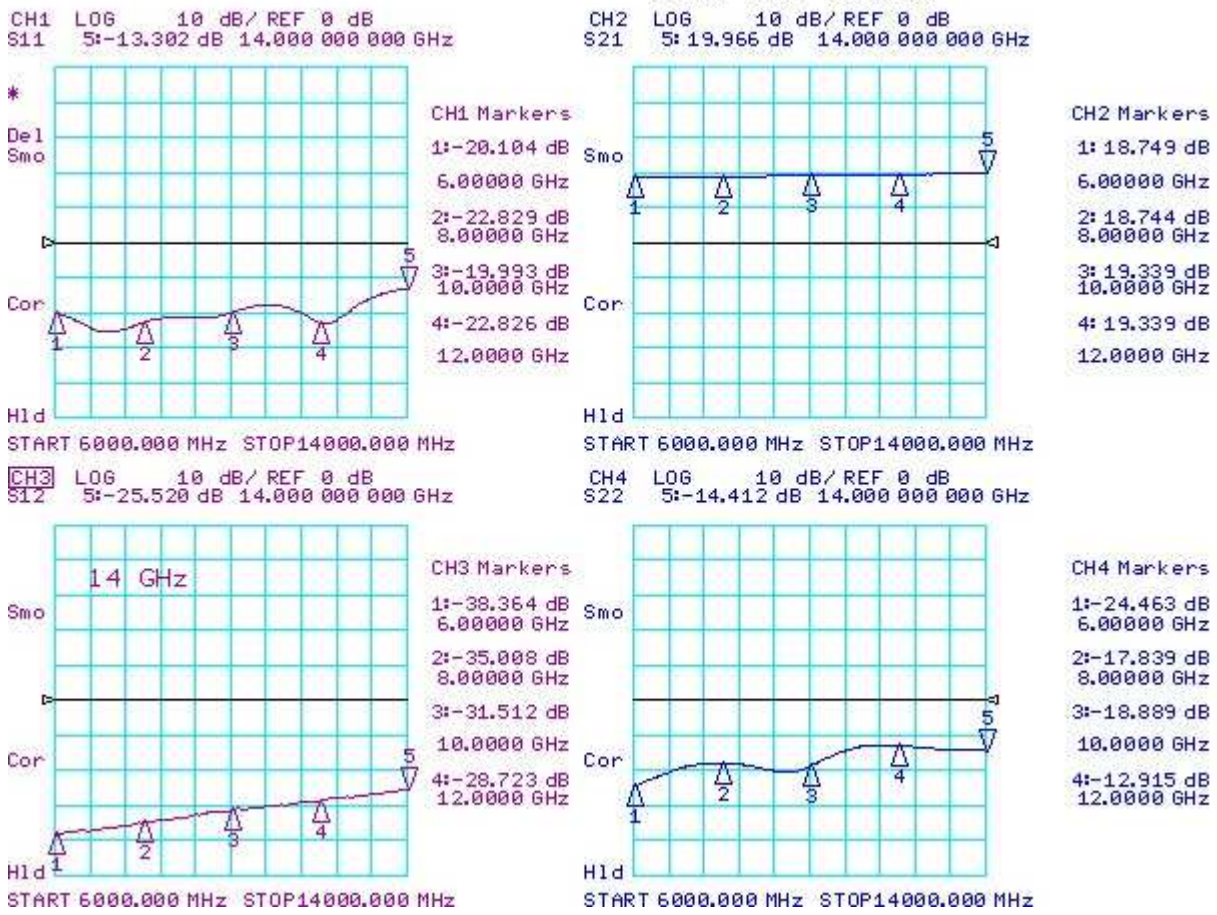
ELECTRICAL SPECIFICATIONS @ 23ºC

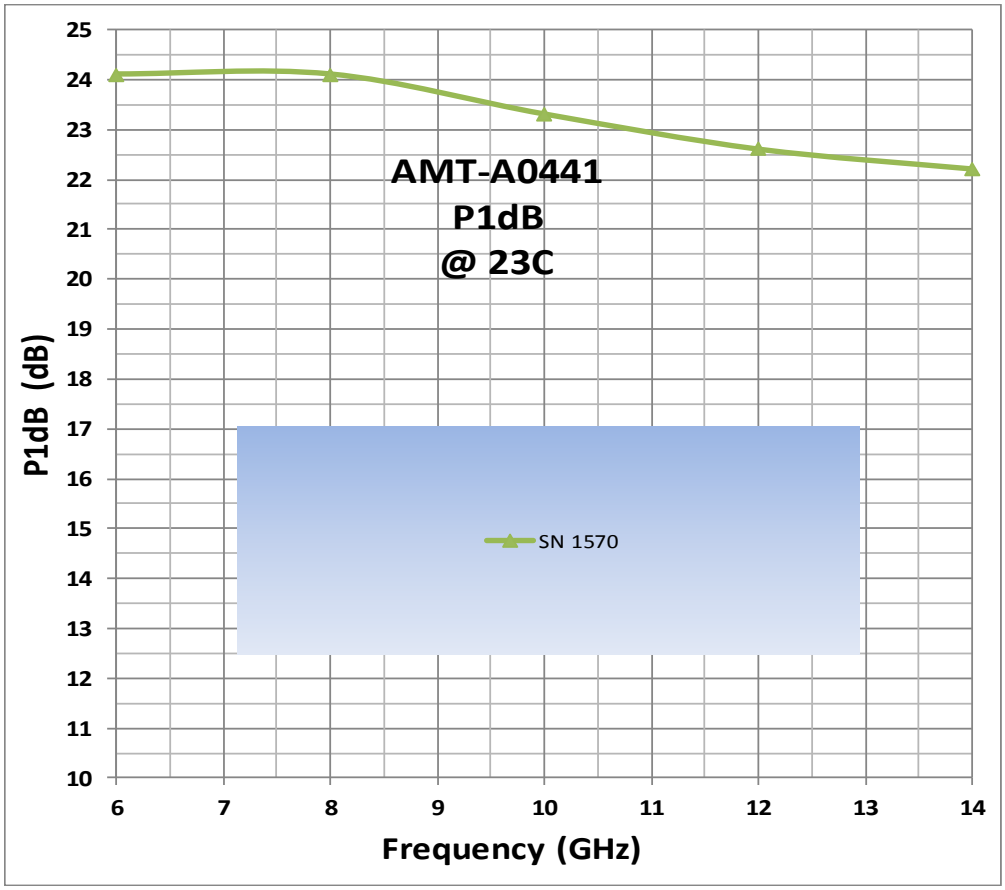
Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	6		14
Gain[2]	Small Signal	dB	17	19	20
Gain Flatness		dB		±0.4	±1
Noise Figure[4]		dB		2.5	3.5
Output Power (P1dB)	@ 10 GHz	dBm	+22	+23	
OIP3	OPI3 @ 10 GHz Two tone F1-F2= 10MHz	dB	+28		
Spurs[3]	Self generated Spurs with Pout ~ 1 dBm	dBc	<-70		
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2:1
RF Output Impedance	Reference to 50 ohms VSWR			1.8:1	2:1
Supply Voltage Positive: Supply Current Positive:	Small signal	V mA		+ 12 190	 300

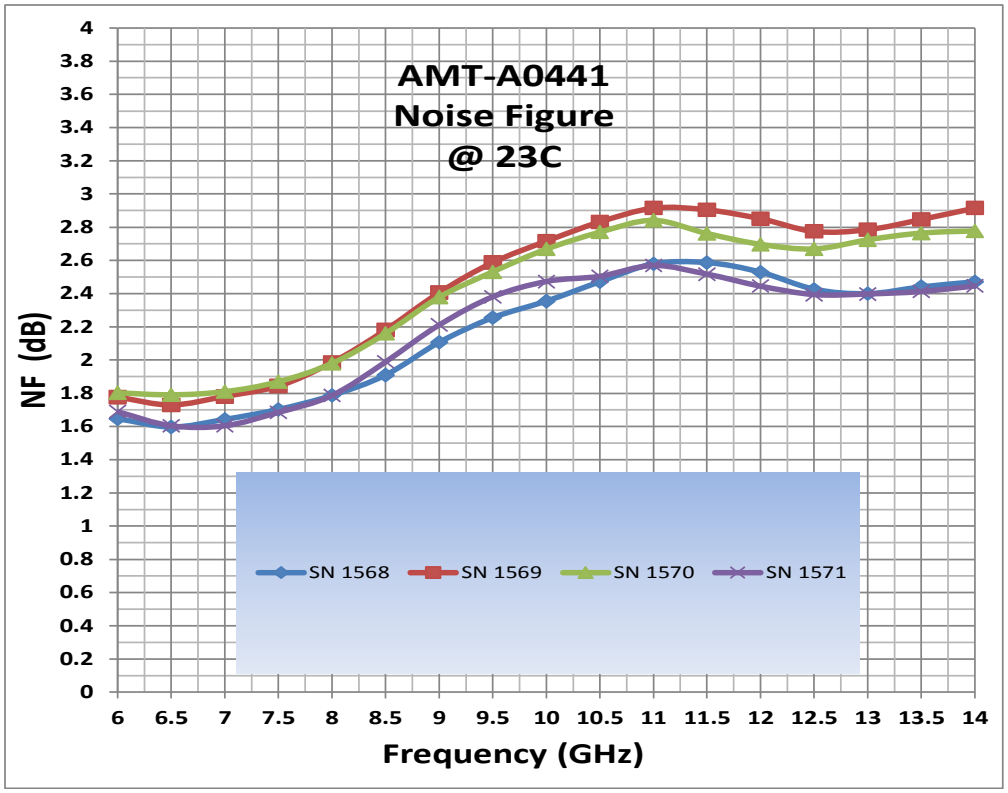
Notes:
1/ Unconditional Stability
2/ Maybe up to 0.5 dB higher at 14 GHz
3/ Excludes harmonics
4/Measured with Agilent/HP equipment standard manufacturer variations apply

Customized configurations of the above specifications are available

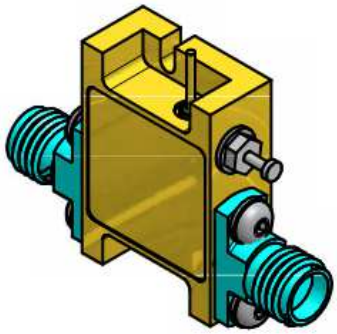
Typical S-Parameters @ 23ºC

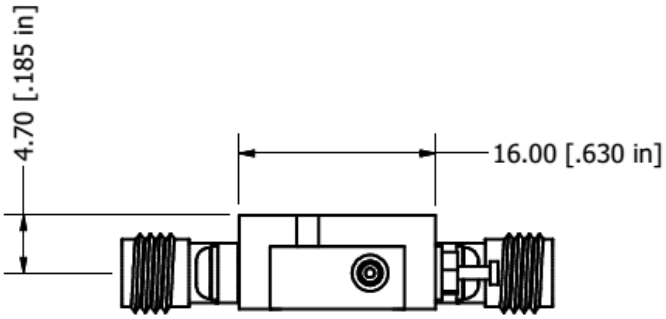


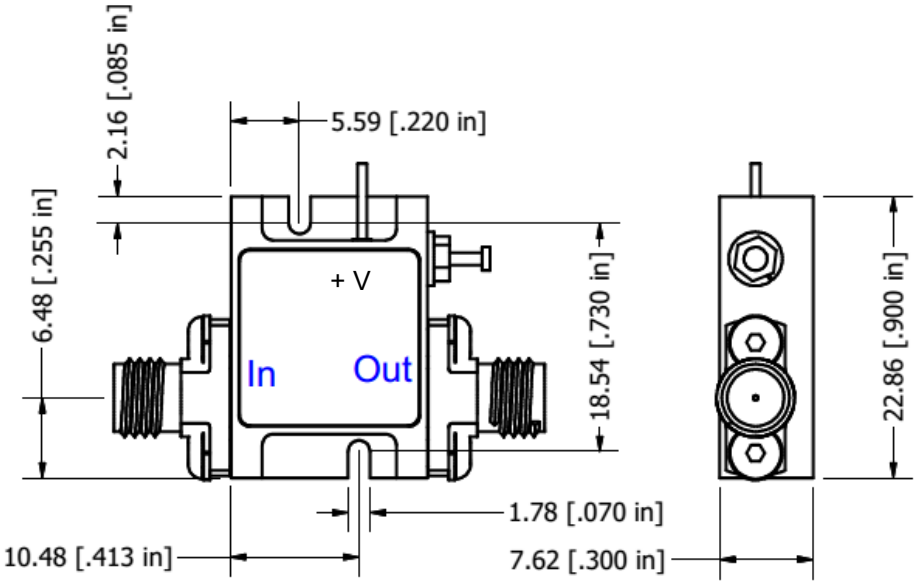

AMT-A0441
P1dB
@ 23C
P1dB (dB)
Frequency (GHz)
SN 1570


AMT-A0441
Noise Figure
@ 23C
NF (dB)
Frequency (GHz)
SN 1568
SN 1569
SN 1570
SN 1571

Package Outline M084: SMA mm Female Connectors (inches)







Field replaceable SMA Connectors
Housing material: Aluminum Plating: Gold over Nickel
Note: The unit must be attached to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0441	SMA Female	Non-Hermetic	Outline: M084

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

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Agile Microwave Technology Inc