

AMT-A0405 8 GHz to 18 GHz Broadband Low Noise Amplifier with 1.9 dB NF

Data Sheet



Features

- 8 GHz to 18 GHz Frequency Range
- Gain 27 dB Typical
- Gain Flatness ± 1 dB Typical
- 1.9 dB Typical Noise Figure
- Typical P1dB power > +15 dBm
- Internally Regulated
- Operates from Single +12 Supply
- Unconditionally Stable
- Compact Housing



Description

The AMT-A0405 is a Broadband Low Noise 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-A0405 is ideal for use as low noise for test equipment, Communication systems or where broadband amplification and power are required without adding significant noise in a Hi-Rel communications system for Commercial or Military applications

Applications

- Test Equipment
- EW Systems
- Lab Applications
- Radar

MAXIMUM RATINGS¹

EAR99 NLR

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	-40	+75
Storage Temperature - Case	T _{MS}	° C	-40	+125
RF Input power (CW)	P _{in}	dBm		+20
Die T _{Junction}	T _J	° C		+150
Positive Supply Voltage	V _{+SS}	V		+13

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 @ 23°C

Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	8		18
Gain	Small Signal	dB	25	27	30
Gain Flatness		dB		±1	±1.4
Noise Figure		dB		1.9	2.2
Output Power (P1dB)		dBm	+10	+15	
OIP3	OIP3 @ 12 GHz Two tone F1-F2= 10MHz	dB	20	24	
RF Input Impedance	Reference to 50 ohms VSWR			1.5:1	2.2:1
RF Output Impedance	Reference to 50 ohms VSWR			1.5:1	2.2:1
Supply Voltage Positive:		V		+12	
Supply Current Positive:	Small signal	mA		150	180

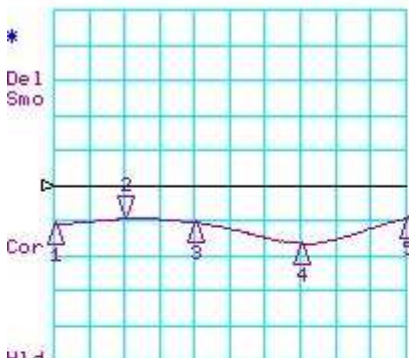
Notes:

1/ Unconditional Stability

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

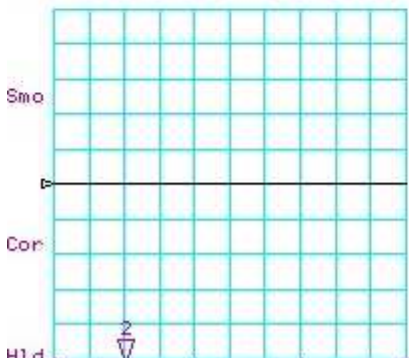
CH1 LOG 10 dB/ REF 0 dB
S11 2:-9.5880 dB 10.000 000 000 GHz



CH1 Markers
1:-11.236 dB
8.00000 GHz
3:-10.593 dB
12.0000 GHz
4:-16.458 dB
15.0000 GHz
5:-9.5450 dB
18.0000 GHz

H1d
START 8000.000 MHz STOP18000.000 MHz

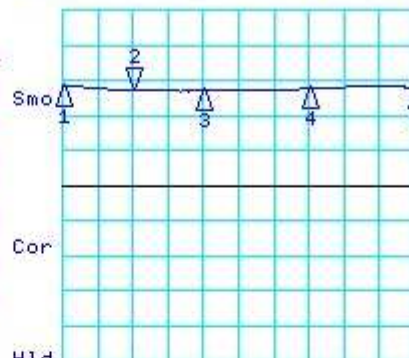
CH3 LOG 10 dB/ REF 0 dB
S12 2:-57.446 dB 10.000 000 000 GHz



CH3 Markers
1:-57.977 dB
8.00000 GHz
3:-58.008 dB
12.0000 GHz
4:-53.976 dB
15.0000 GHz
5:-55.663 dB
18.0000 GHz

H1d
START 8000.000 MHz STOP18000.000 MHz

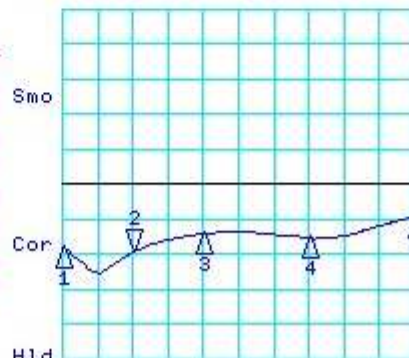
CH2 LOG 10 dB/ REF 0 dB
S21 2: 27.227 dB 10.000 000 000 GHz



CH2 Markers
1: 28.471 dB
8.00000 GHz
3: 27.058 dB
12.0000 GHz
4: 27.708 dB
15.0000 GHz
5: 27.845 dB
18.0000 GHz

H1d
START 8000.000 MHz STOP18000.000 MHz

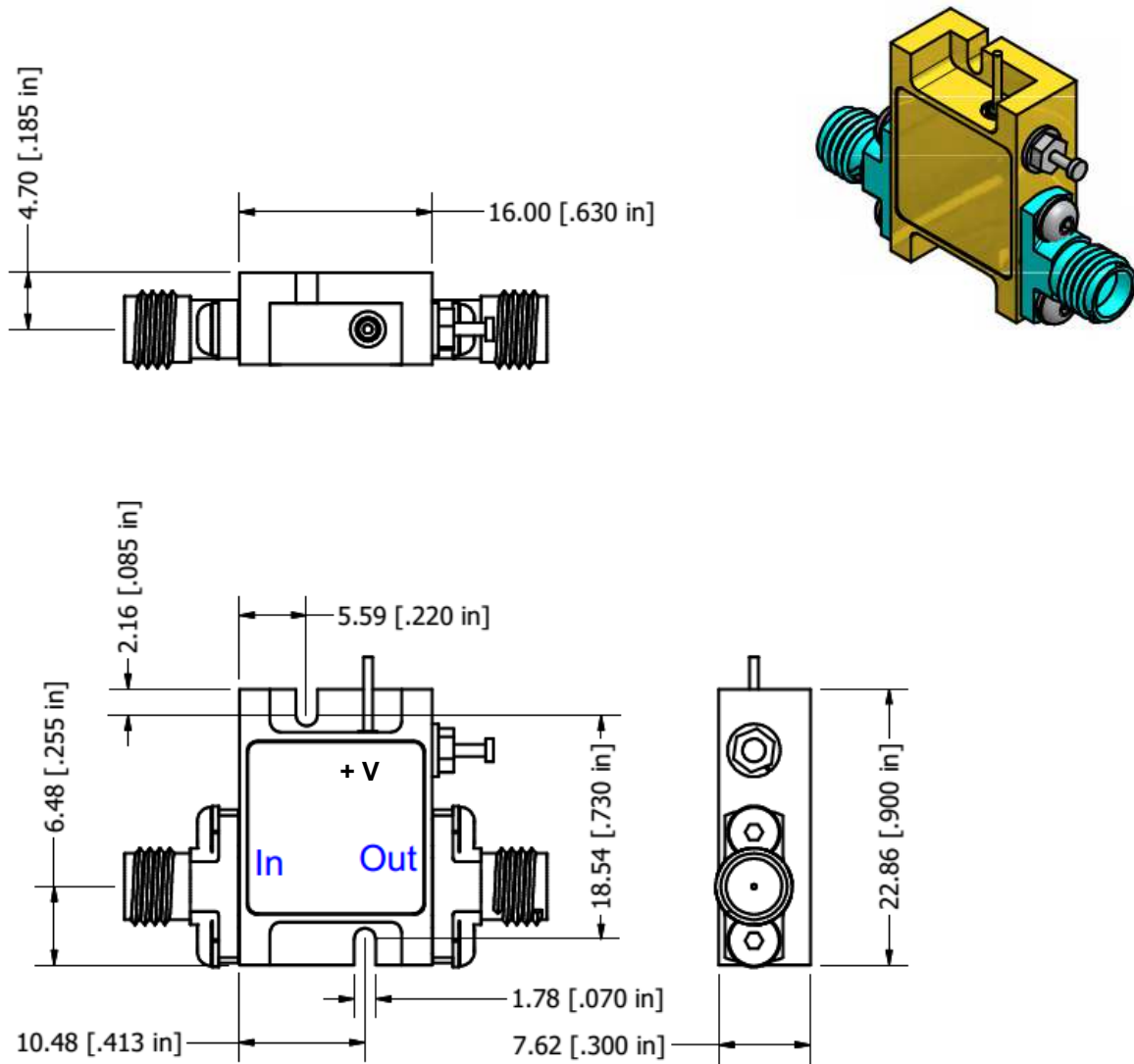
CH4 LOG 10 dB/ REF 0 dB
S22 2:-19.460 dB 10.000 000 000 GHz



CH4 Markers
1:-18.148 dB
8.00000 GHz
3:-13.974 dB
12.0000 GHz
4:-15.413 dB
15.0000 GHz
5:-9.3680 dB
18.0000 GHz

H1d
START 8000.000 MHz STOP18000.000 MHz

Package Outline M084: SMA Connectorized mm(inches)



Field replaceable SMA Connectors, Removable Ground Slug

Note: The unit must be attached to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0405	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.

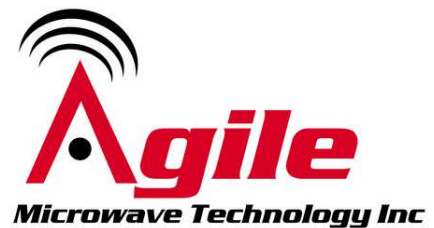
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital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

**701 Cascade Pointe Lane
Cary, NC 27513**

**ISO 9001:2015
Certified Company**



Phone: (984) 228-8001

info@agilemwt.com

www.agilemwt.com

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