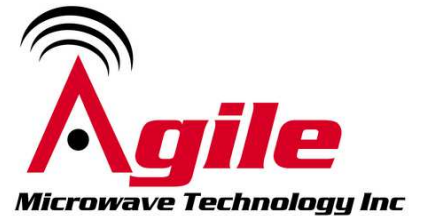


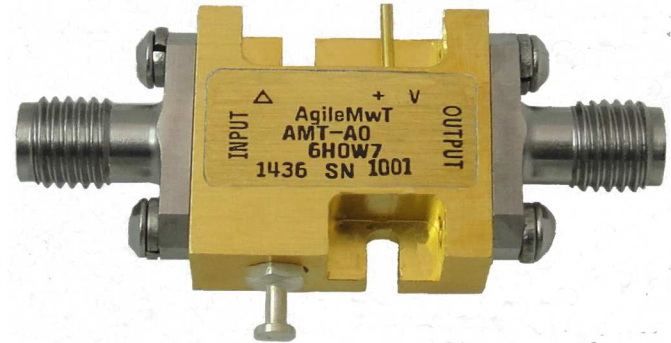
AMT-A0112 11 GHz to 18 GHz Broadband Low Noise Amplifier

Data Sheet



Features

- 11 GHz to 18 GHz Frequency Range
- Typical Noise Figure < 1.4 dB
- Typical Gain 42 dB
- Gain Flatness < ± 2 dB
- +14 dBm P1dB
- Internally Regulated
- Operates from a +12V Single Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0112 is a Broadband Low Noise amplifier with very 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. The AMT-A0112 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}	$^{\circ}C$	-40	+85
Storage Temperature - Case	T_{MS}	$^{\circ}C$	-54	+150
RF Input power (CW)	P_{in}	dBm		+10
Die $T_{Junction}$	T_J	$^{\circ}C$		+150
Positive Supply Voltage	V_{+SS}	V		+12.5

Note: Do not apply DC to RF Input

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	11		18
Gain	Small Signal	dB	38	42	
Gain Flatness		dB		±1.5	
Input Power	CW, without damage	dBm	+10		
Output Power (P1dB)	1 dB compression point @ 15 GHz	dBm	12	14	
OIP3	OIP3 measured @ 8 GHz Two tone F1-F2= 10MHz	dBm		24	
Noise Figure		dB		1.4	1.8
RF Input Impedance	Reference to 50 ohms VSWR			2.0:1	2.5:1
RF Output Impedance	Reference to 50 ohms			1:8:1	2.4:1
Supply Voltage Positive:		V		+12	
Supply Current Positive:		mA		107	130

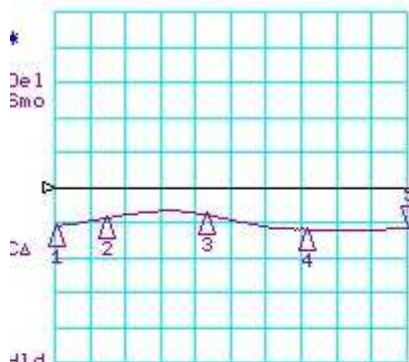
Notes:

1/ Unconditional Stability:

Customized configurations of the above specifications are available

Typical S-Parameters @ 25°C

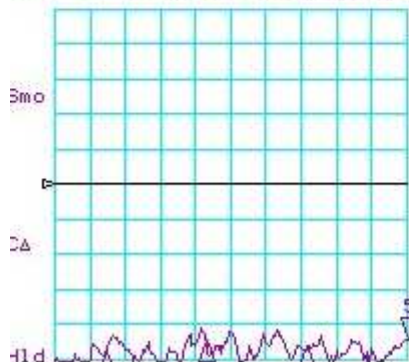
CH1 LOG 10 dB/ REF 0 dB
S11 5: -11.577 dB 18.000 000 000 GHz



CH1 Markers
1: -10.994 dB
11.0000 GHz
2: -8.7730 dB
12.0000 GHz
3: -7.6030 dB
14.0000 GHz
4: -11.941 dB
16.0000 GHz

START 11000.000 MHz STOP 18000.000 MHz

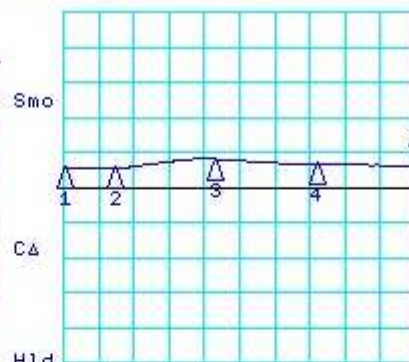
CH3 LOG 10 dB/ REF 0 dB
S12 5: -44.267 dB 18.000 000 000 GHz



CH3 Markers
1: -50.098 dB
11.0000 GHz
2: -48.198 dB
12.0000 GHz
3: -45.130 dB
14.0000 GHz
4: -47.003 dB
16.0000 GHz

START 11000.000 MHz STOP 18000.000 MHz

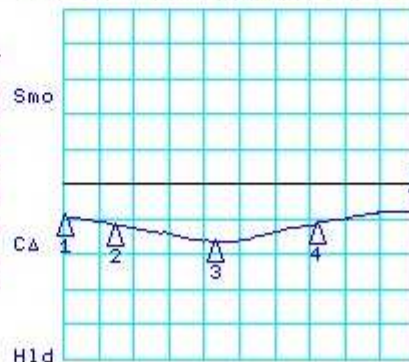
CH2 LOG 10 dB/ REF 37 dB
S21 5: 43.038 dB 18.000 000 000 GHz



CH2 Markers
1: 42.452 dB
11.0000 GHz
2: 42.484 dB
12.0000 GHz
3: 45.098 dB
14.0000 GHz
4: 43.689 dB
16.0000 GHz

START 11000.000 MHz STOP 18000.000 MHz

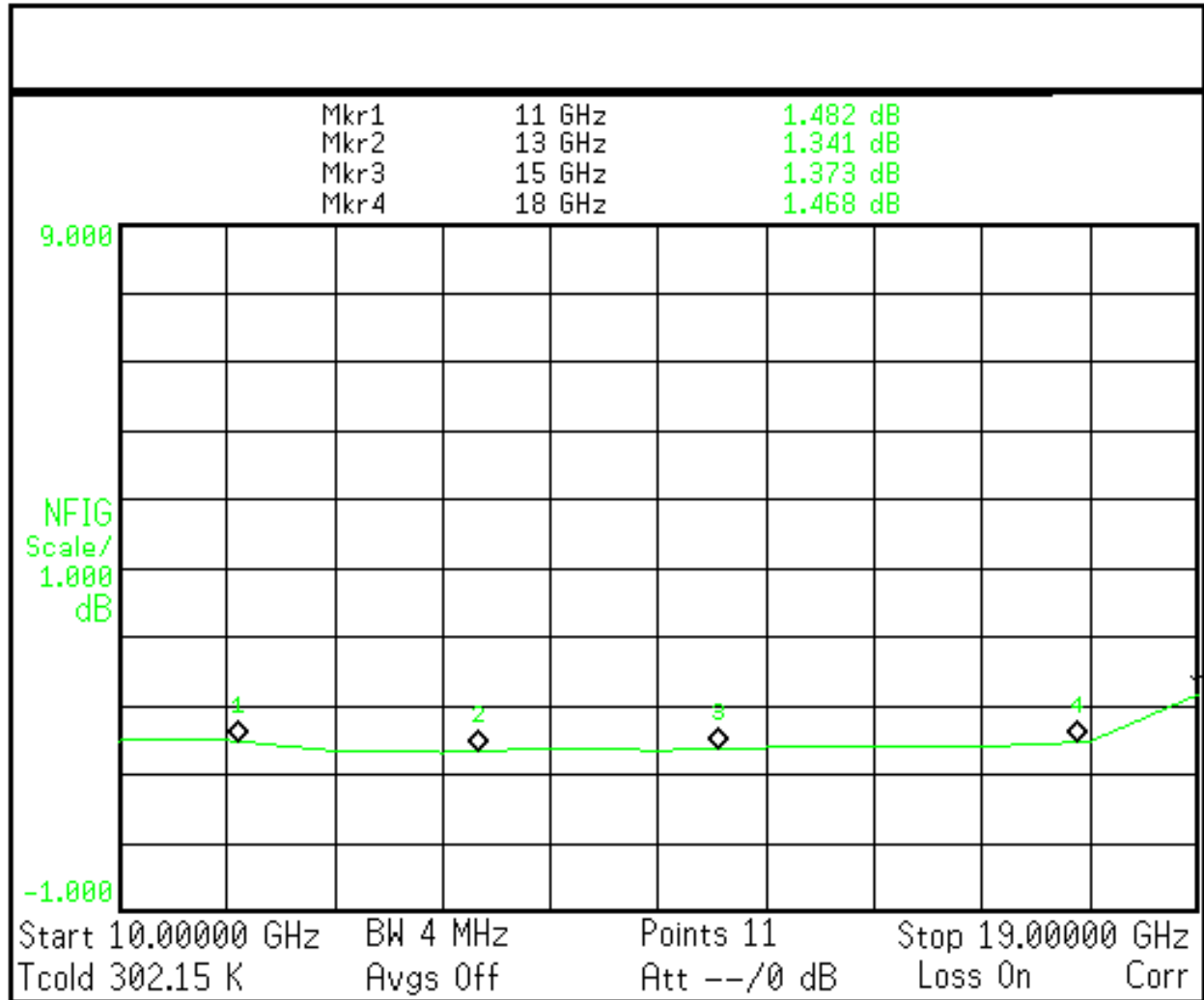
CH4 LOG 10 dB/ REF 0 dB
S22 5: -8.0250 dB 18.000 000 000 GHz



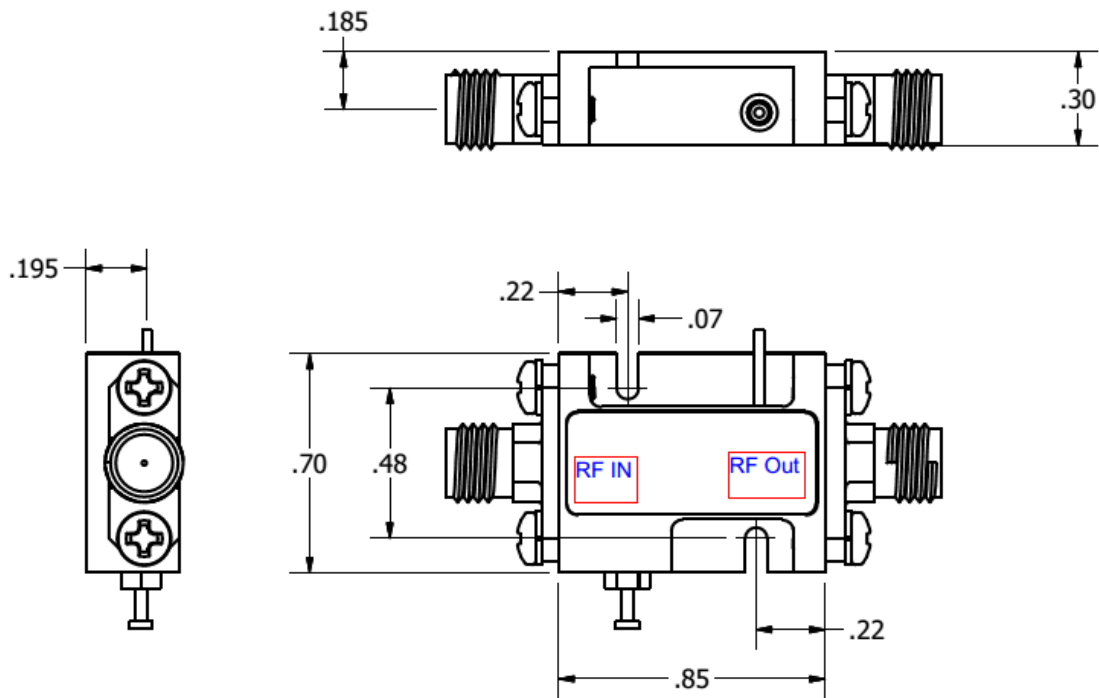
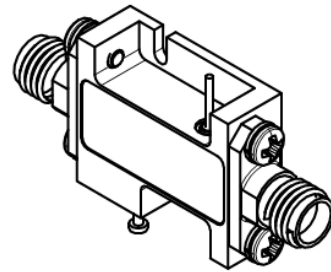
CH4 Markers
1: -9.2200 dB
11.0000 GHz
2: -11.563 dB
12.0000 GHz
3: -16.386 dB
14.0000 GHz
4: -11.466 dB
16.0000 GHz

START 11000.000 MHz STOP 18000.000 MHz

Typical Noise Figure @ 25°C



Package Outline: M110 SMA Connectorized (inches)



Amplifier must be attached properly to dissipate heat
Removeable SMA and Ground slug

Model Number	Description	Hermeticity	Package
AMT-A0112	SMA Female	Non-Hermetic	Outline: M110

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.

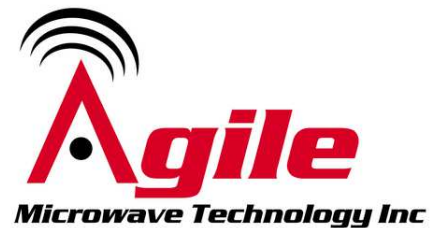
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital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