

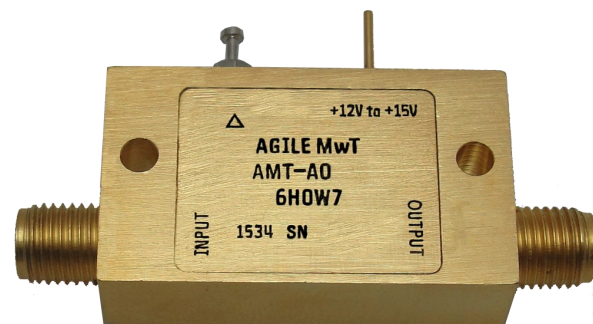
AMT-A0468 0.2 GHz to 10 GHz Broadband Medium power LNA with EMI sheilding

Data Sheet



Features

- 0.2 GHz to 10 GHz Frequency Range
- Gain 34 dB typ
- Gain Flatness $\pm 1.5\text{ dB typ } \pm 2.5\text{ dB max}$
- Typical Noise Figure <math>< 2\text{ dB typ } 3\text{ dB max}</math>
- **+25.5 dBm P1dB Typical**
- Internally Regulated
- High EMI performance
DC to RF leakage $-90\text{ dBc typ } -70\text{ dBc max}$
- Operates from a Single +12V to +15V Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0468 is a Broadband Low Noise amplifier with low EMI leakage 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-A0468 is ideal for use in communication system, or where amplification is required without adding excessive noise in a Hi-Rel communications system for Com-

Applications

- Communication systems
- Microwave Radio systems
- Test Equipment
- Point to Point Radios

MAXIMUM RATINGS¹

Do NOT apply DC to RF Input

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	$^{\circ}\text{C}$	-40	+85
Storage Temperature - Case	T_{MS}	$^{\circ}\text{C}$	-54	+95
RF Input power (CW)	P_{in}	dBm		+12
Die $T_{Junction}$	T_J	$^{\circ}\text{C}$		+150
Positive Supply Voltage	V_{+SS}	V		+16

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	0.2		10
Gain	Small Signal	dB	30	34	40
Gain Flatness		dB		±1.5	±2.5
Input Power	CW, without damage	dBm	+12		
Output Power (P1dB)	1 dB compression point @ 6 GHz	dBm	25	25.5	
Noise Figure	Above 500 MHz	dB		2	3
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.4:1
RF Output Impedance	Reference to 50 ohms			1:8:1	2.4:1
EMI Leakage	DC supply pin to RFout	dBc	-70	-90	
Supply Voltage Positive:		V		+12	
Supply Current Positive:		mA		180	300

Notes:

1/ Unconditional Stability

2/ P1dB maybe +24 dBm below 1 GHz

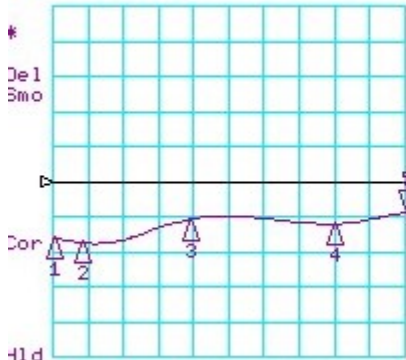
Measured NF has standard (Agilent/HP equipment) uncertainty of 0.15 dB

High EMI shielding

Customized configurations of the above specifications are available

Typical S-Parameters @ 25C

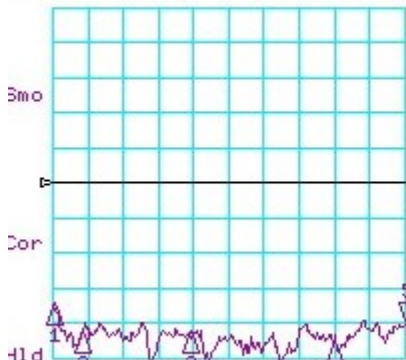
CH1 LOG 10 dB/ REF 0 dB
S11 5: -8.7800 dB 10.000 000 000 GHz



CH1 Markers
1: -15.917 dB
200.000 MHz
2: -17.350 dB
1.00000 GHz
3: -10.771 dB
4.00000 GHz
4: -12.002 dB
8.00000 GHz
5: -8.7800 dB
10.00000 GHz

START 200.000 MHz STOP 10000.000 MHz

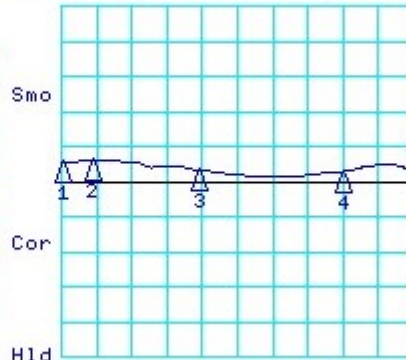
CH3 LOG 10 dB/ REF -10 dB
S12 5: -50.527 dB 10.000 000 000 GHz



CH3 Markers
1: -44.462 dB
200.000 MHz
2: -52.742 dB
1.00000 GHz
3: -52.926 dB
4.00000 GHz
4: -55.269 dB
8.00000 GHz
5: -50.527 dB
10.00000 GHz

START 200.000 MHz STOP 10000.000 MHz

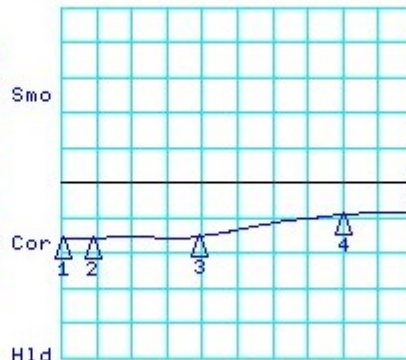
CH2 LOG 10 dB/ REF 30 dB
S21 5: 33.187 dB 10.000 000 000 GHz



CH2 Markers
1: 35.814 dB
200.000 MHz
2: 36.074 dB
1.00000 GHz
3: 33.445 dB
4.00000 GHz
4: 32.976 dB
8.00000 GHz
5: 33.187 dB
10.00000 GHz

START 200.000 MHz STOP 10000.000 MHz

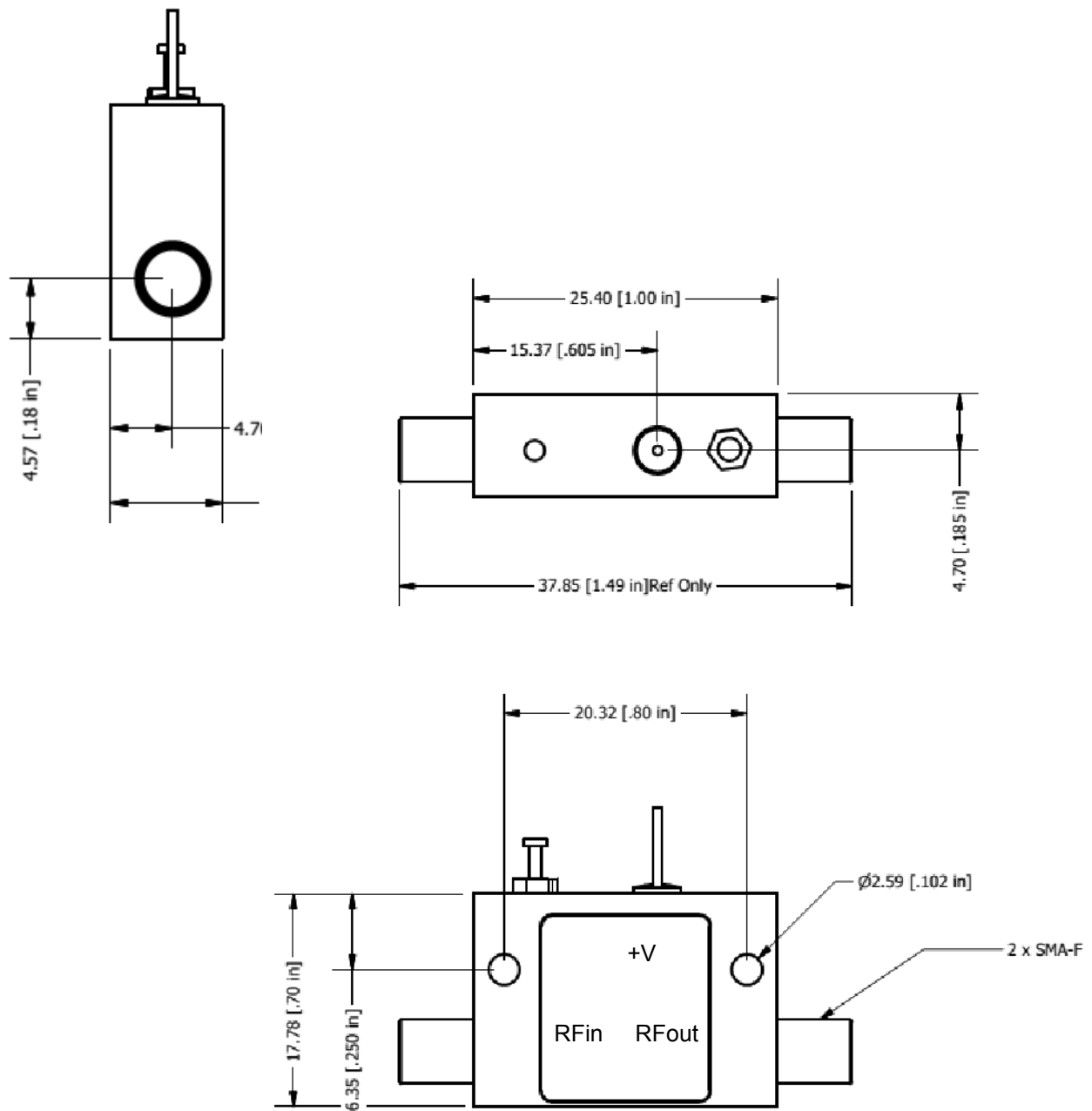
CH4 LOG 10 dB/ REF 0 dB
S22 5: -8.3320 dB 10.000 000 000 GHz



CH4 Markers
1: -15.798 dB
200.000 MHz
2: -15.773 dB
1.00000 GHz
3: -15.277 dB
4.00000 GHz
4: -9.0760 dB
8.00000 GHz
5: -8.3320 dB
10.00000 GHz

START 200.000 MHz STOP 10000.000 MHz

Package Outline: SMA-F Connectorized mm [Inches]



Model Number	Description	Hermeticity	Package
AMT-A0468	SMA Female Non-removable	Non-Hermetic	Outline: M101

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**

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Phone: (984) 228-8001 info@agilemwt.com www.agilemwt.com

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