

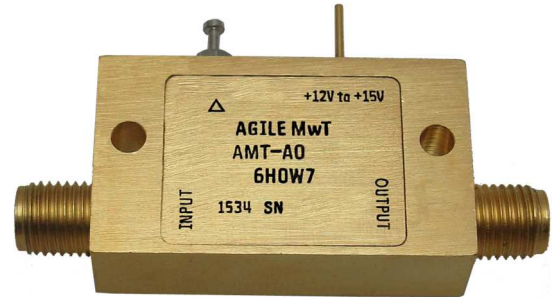
AMT-A0308 0.4 GHz to 6 GHz Low Noise Medium Power & Low EMI Leakage Amplifier



Data Sheet

Features

- 0.4 GHz to 6 GHz Frequency Range
- Gain 38 dB typ
- Gain Flatness $< \pm 0.8$ dB typ ± 1.5 db max
- Typical Noise Figure < 1.5 dB 2.3 dB max
- **+25.5 dBm P1dB Typical, +25 dBm min**
- Internally Regulated
- High EMI performance
DC to RF leakage -90 dBc typ -70 dBc max
- Operates from a Single +12V Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0308 is a Broadband Low Noise amplifier with medium power and low EMI leakage over the full frequency range. The performance is achieved through the use of AM-TI's proprietary technology. The amplifier I/Os are Internally matched to 50 Ohms . The AMT-A0308 is ideal for use in communication system, or where amplification is required without adding excessive noise in a Hi-Rel communications

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}	$^{\circ}C$	-40	+85
Storage Temperature - Case	T_{MS}	$^{\circ}C$	-54	+95
RF Input power (CW)	P_{in}	dBm		+12
Die $T_{Junction}$	T_J	$^{\circ}C$		+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	0.4		6
Gain	Small Signal	dB	30	38	40
Gain Flatness		dB		±0.8	±1.5
Input Power	CW, without damage	dBm	+12		
Output Power (P1dB) ²	1 dB compression point @ 4 GHz	dBm	25	25.5	
Noise Figure	Above 500 MHz	dB		1.5	2.3
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2:1
RF Output Impedance	Reference to 50 ohms			1:8:1	2.3:1
EMI Leakage	DC supply pin to RFout	dBc	-70		
Supply Voltage Positive:		V		+12 +15	
Supply Current Positive:		mA		200	350

Notes:

1/ Unconditional Stability

2/ Above 500 MHz

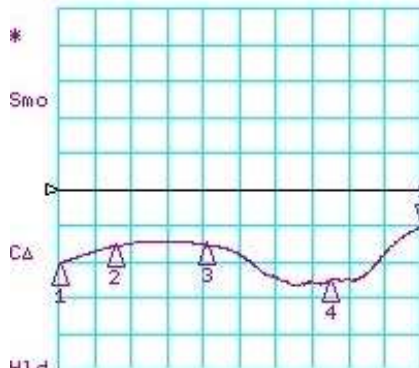
High EMI shielding

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

Customized configurations of the above specifications are available

Typical S-Parameters @ 25C

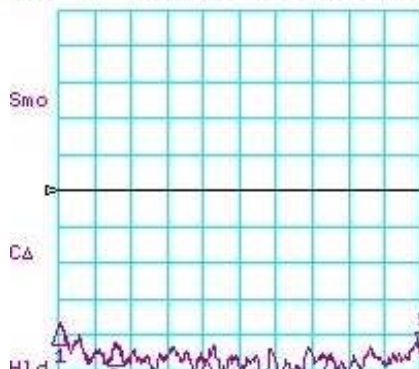
CH1 LOG 10 dB/ REF 0 dB
S11 5: -10.298 dB 6.000 000 000 GHz



CH1 Markers
1: -20.630 dB
100.000 MHz
2: -15.657 dB
1.00000 GHz
3: -15.228 dB
2.50000 GHz
4: -25.293 dB
4.50000 GHz

START 100.000 MHz STOP 6000.000 MHz

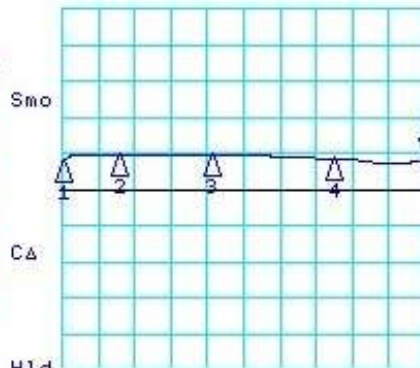
CH3 LOG 10 dB/ REF -10 dB
S12 5: -55.640 dB 6.000 000 000 GHz



CH3 Markers
1: -46.721 dB
100.000 MHz
2: -52.574 dB
1.00000 GHz
3: -57.288 dB
2.50000 GHz
4: -55.698 dB
4.50000 GHz

START 100.000 MHz STOP 6000.000 MHz

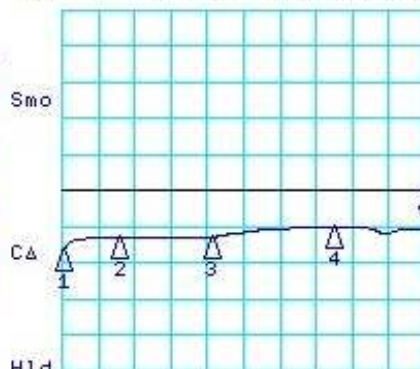
CH2 LOG 10 dB/ REF 30 dB
S21 5: 37.946 dB 6.000 000 000 GHz



CH2 Markers
1: 37.833 dB
100.000 MHz
2: 39.508 dB
1.00000 GHz
3: 39.411 dB
2.50000 GHz
4: 38.446 dB
4.50000 GHz

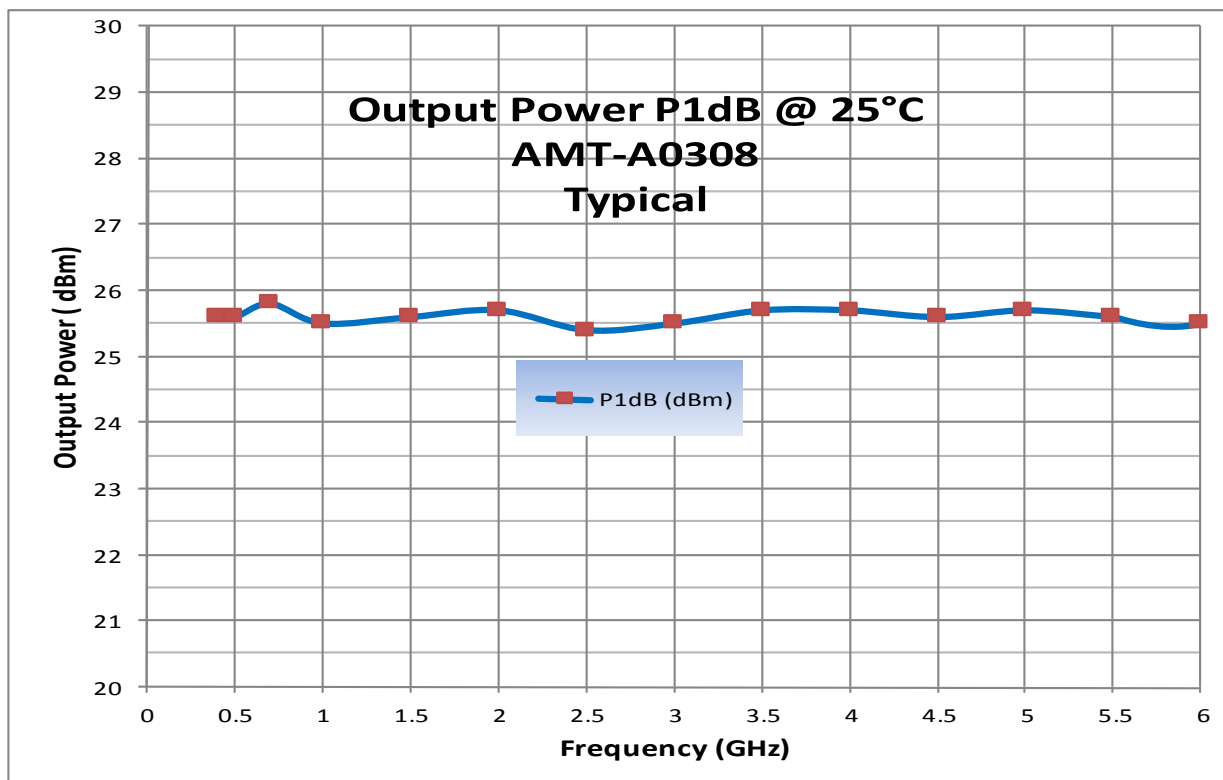
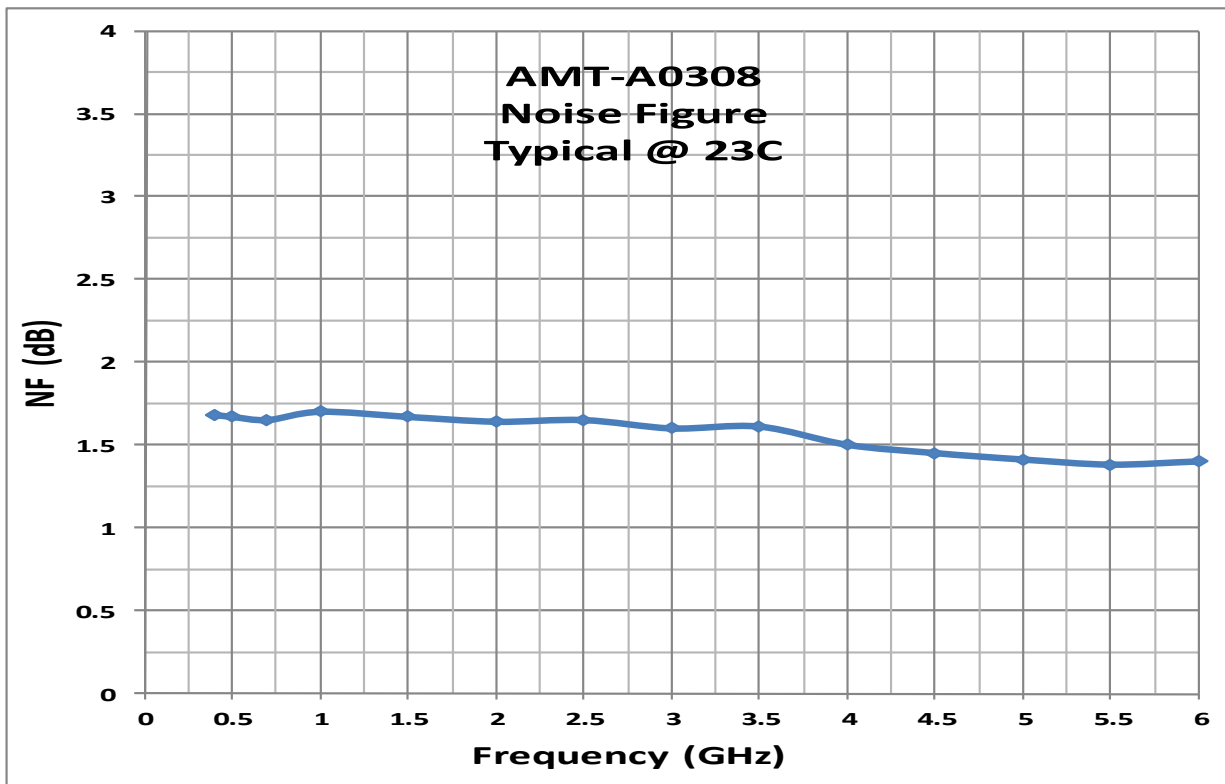
START 100.000 MHz STOP 6000.000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 5: -10.931 dB 6.000 000 000 GHz

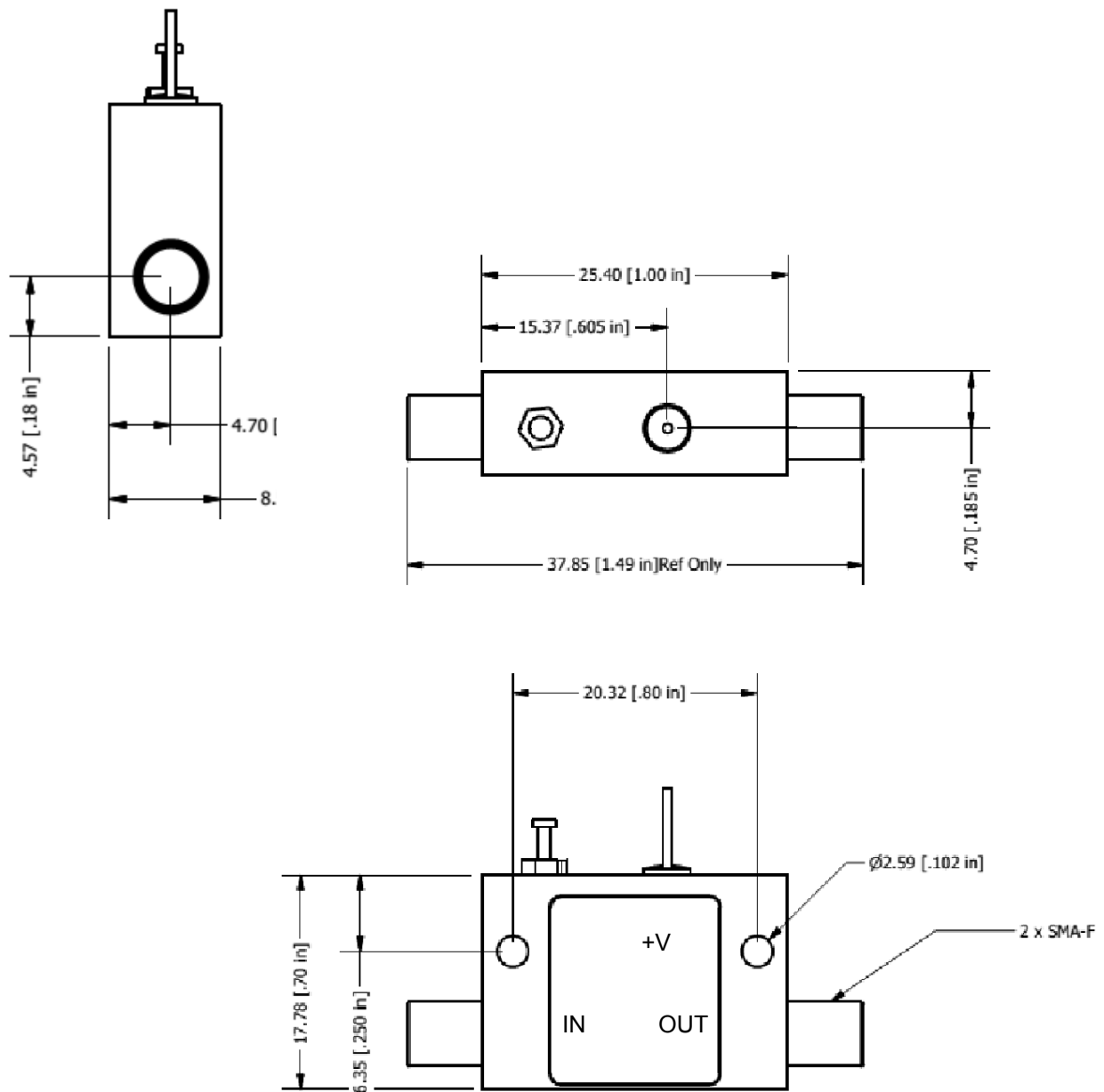


CH4 Markers
1: -16.590 dB
100.000 MHz
2: -12.899 dB
1.00000 GHz
3: -12.925 dB
2.50000 GHz
4: -9.9120 dB
4.50000 GHz

START 100.000 MHz STOP 6000.000 MHz



Package Outline: SMA-F Connectorized mm [Inches]



Model Number	Description	Hermeticity	Package
AMT-A0308	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.

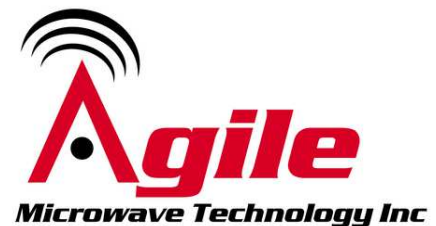
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital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

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**ISO 9001:2015
Certified Company**



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