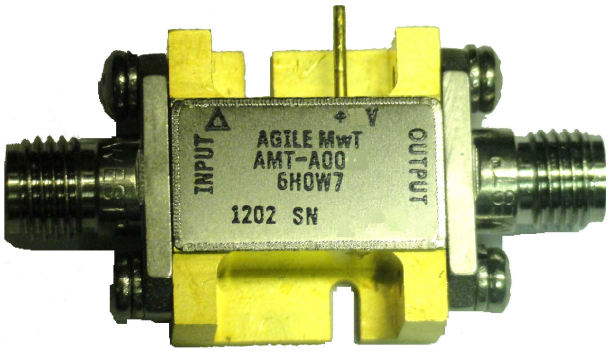
# AMT-A0062 7 GHz to 11 GHz
# Broadband Low Noise Amplifier with 5W CW Limiter

Data Sheet

## Features

- 7 GHz to 11 GHz Frequency Range
- Typical Noise Figure < 1.8 dB
- Typical Gain 22 dB
- Gain Flatness < ± 1.2 dB
- 5W CW Input power survivability
- +11 dBm P1dB
- Internally Regulated
- Operates from a Single Supply
- Unconditionally Stable



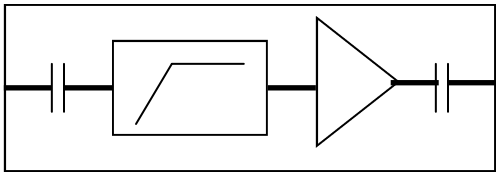

## Applications

- Receiver front end,
- Communication systems
- Microwave Radio systems
- Test Equipment

## Description

The AMT-A0062 is a Broadband Low Noise amplifier with Integrated 5W CW Limiter 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 and DC block. The AMT-A0062 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

Functional Diagram



### MAXIMUM RATINGS[1]

| Parameter | Symbol | Units | MIN | MAX |
|---|---|---|---|---|
| Operating Temperature – Case | $T_{MO}$ | ° C | -54 | +85 |
| Storage Temperature - Case | $T_{MS}$ | ° C | -55 | +150 |
| RF Input power (CW) | Pin | dBm | | +37 |
| Die $T_{Junction}$ | $T_J$ | ° C | | +150 |
| Positive Supply Voltage | $V_{+SS}$ | V | | +8.5 |

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

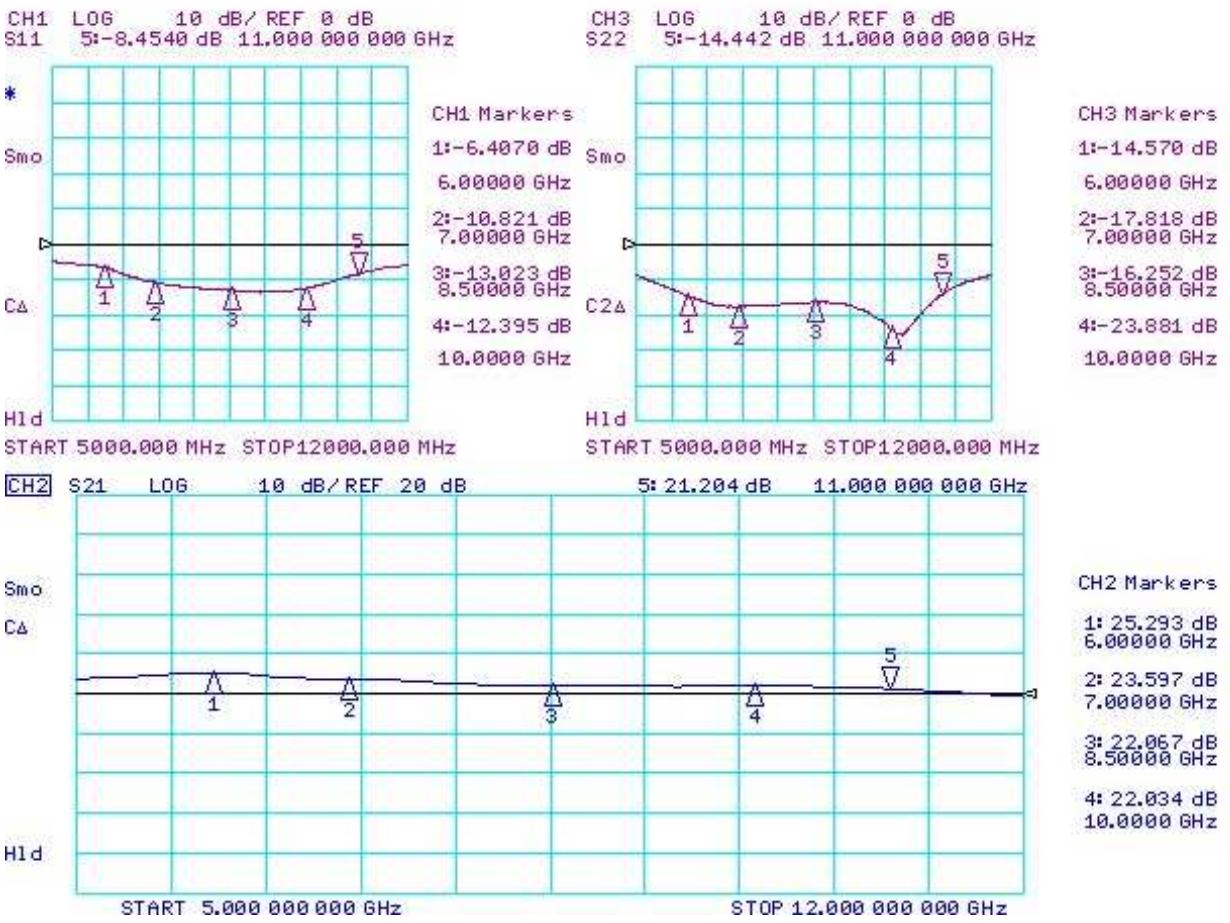
| Parameter | Conditions | Units | MIN | Typical | MAX |
|---|---|---|---|---|---|
| Frequency Range | | GHz | 7 | | 11 |
| Gain | Small Signal | dB | 21 | 22 | |
| Gain Flatness | | dB | | ±1.2 | ±1.9 |
| Input Power | CW, without damage | dBm | +37 | | |
| Output Power (P1dB) | 1 dB compression point @ 9 GHz | dBm | | 11 | |
| OIP3 | OPI3 measured @ 9 GHz Two tone F1-F2= 10MHz | dB | | 21 | |
| Noise Figure | | dB | | 1.8 | 2.1 |
| RF Input Impedance | Reference to 50 ohms VSWR | | | 1.8:1 | 2.3:1 |
| RF Output Impedance | Reference to 50 ohms | | | 1:5:1 | 2.0:1 |
| Stability Factor K | Unconditionally Stable | | 1 | | |
| Stability Factor B1 | Unconditionally Stable | | 0 | | |
| Supply Voltage Positive:<br><br>Supply Current Positive: | | V<br><br>mA | | +8<br><br>36 | <br><br>50 |

Notes:
1/ Unconditional Stability: (K > 1) and (B1 > 0)

Customized configurations of the above specifications are available

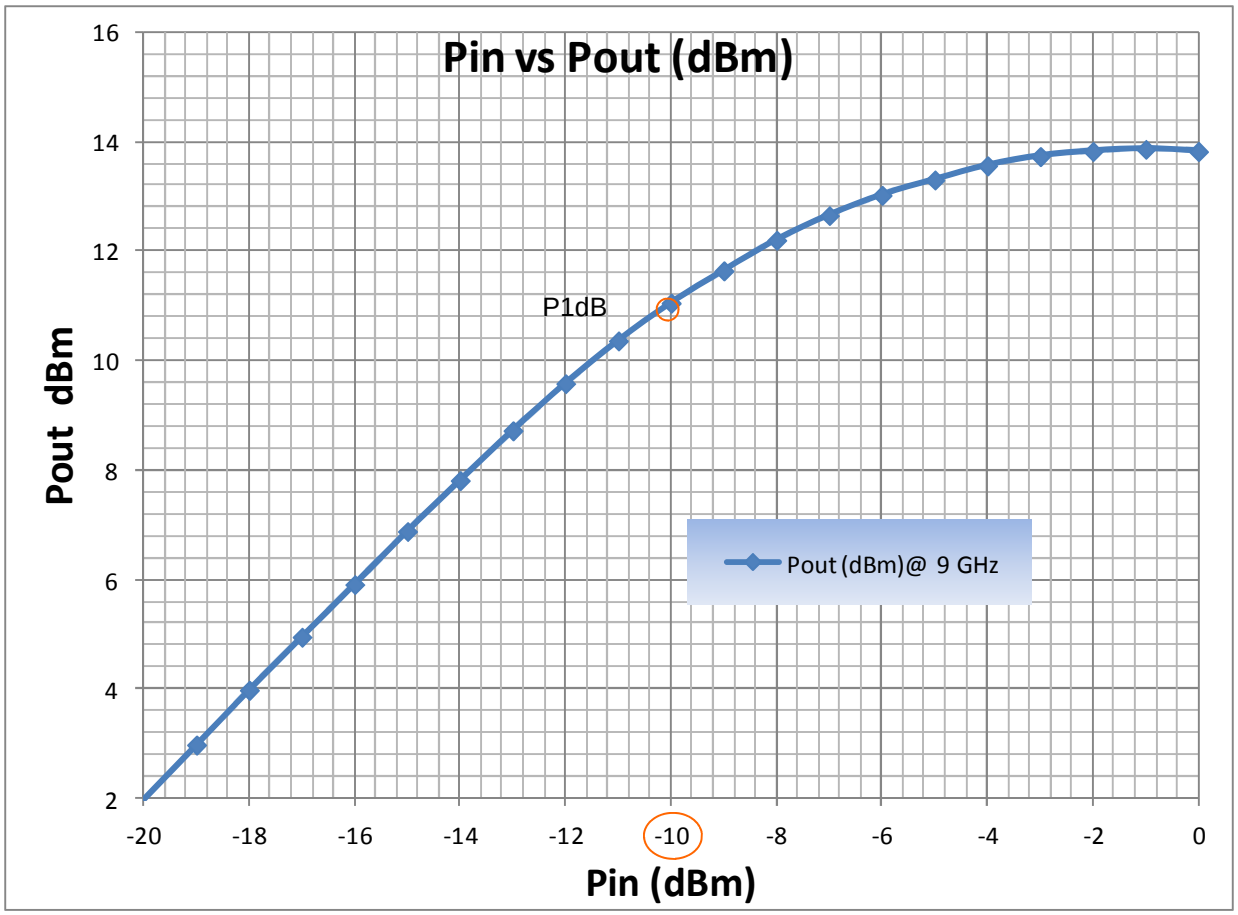
## Typical Performance @ 23ºC

## S– Parameters



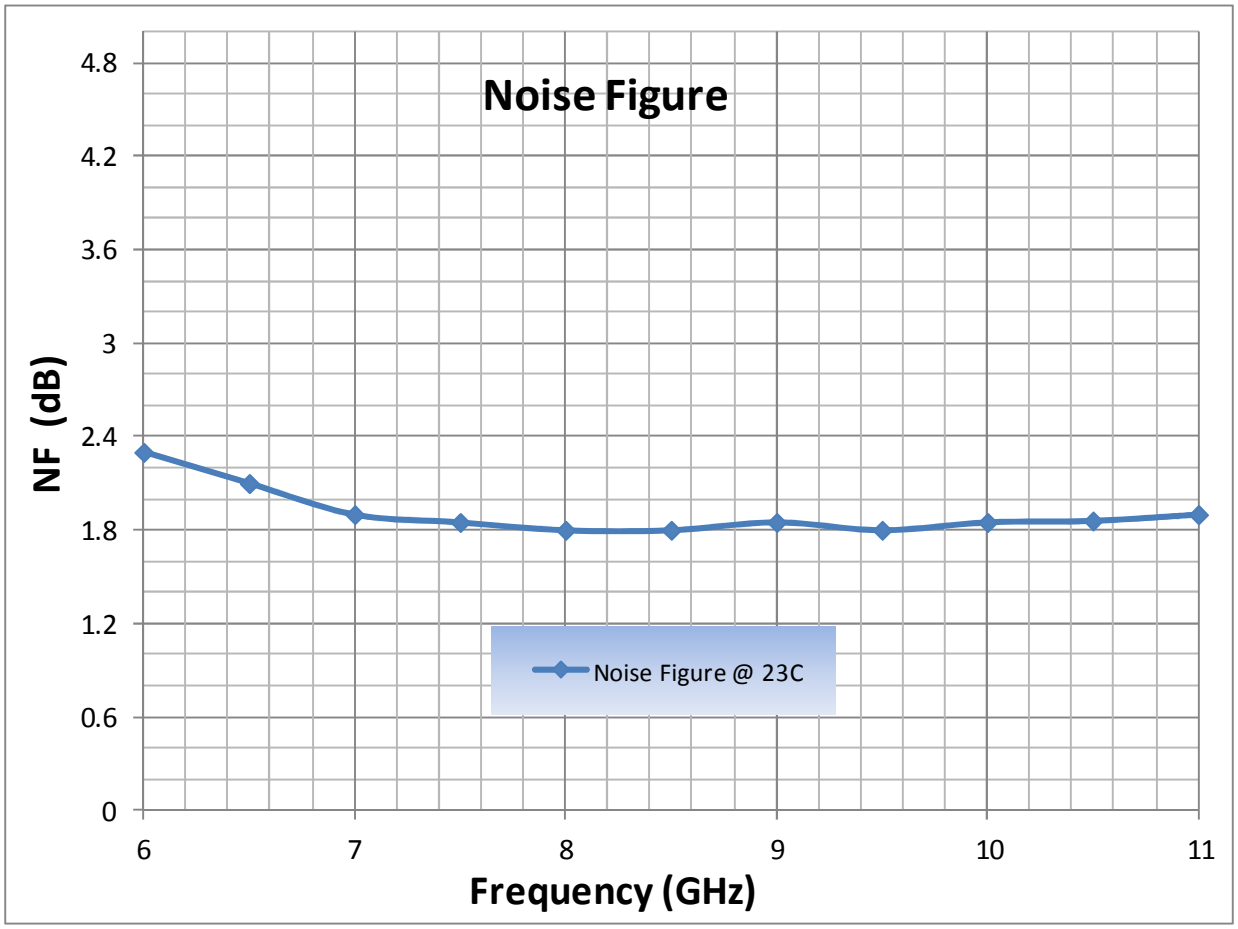
**Typical Performance @ 23ºC**

**RF Power In / RF Power Out**

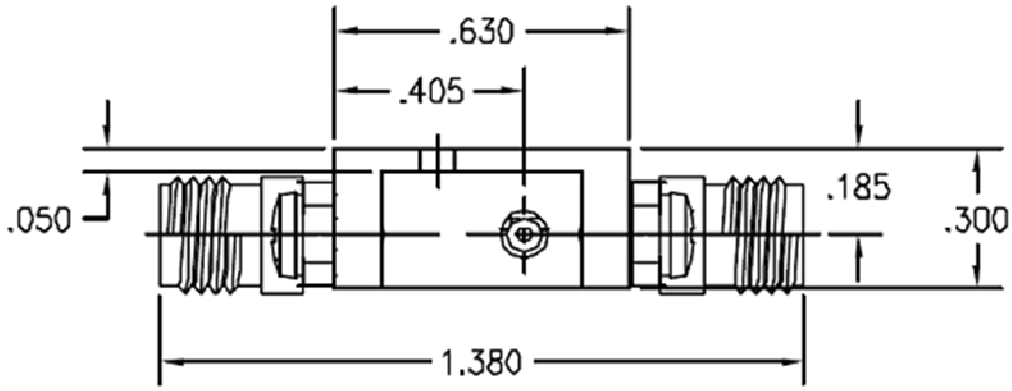


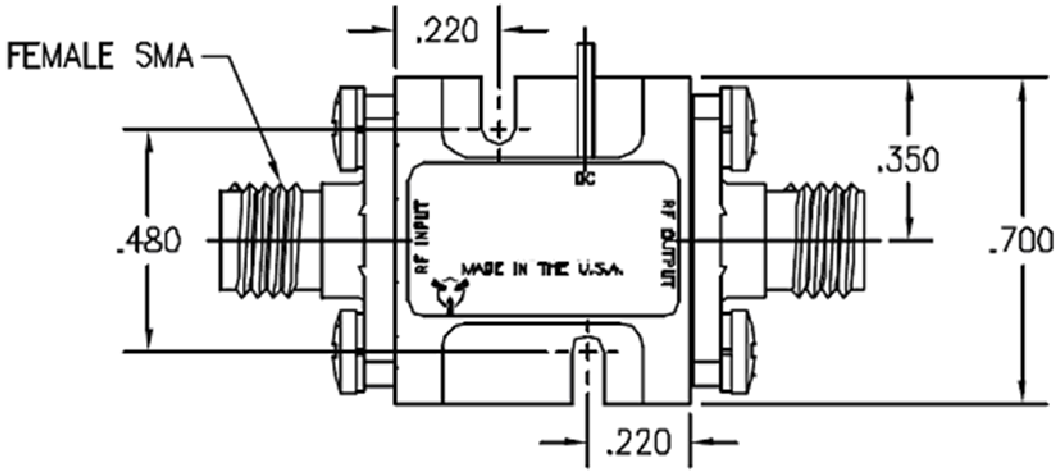
**Typical Performance @ 23ºC**

**Noise Figure**



## Package Outline: M004 SMA Connectorized (inches)




| Model Number | Description | Hermeticity | Package |
|---|---|---|---|
| AMT-A0062 | SMA Female | Non-Hermetic | Outline: M004 |
| AMT-A0062-H | SMA Female | Hermetic | Outline: M004 |

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.

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