

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

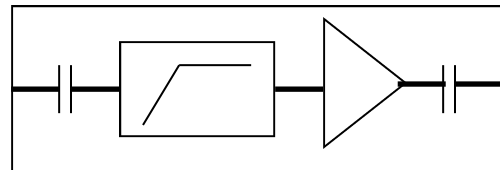
Description

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

Applications

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

Functional Diagram



MAXIMUM RATINGS¹

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	-40	+85
Storage Temperature - Case	T _{MS}	° C	-55	+150
RF Input power (CW)	P _{in}	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 @ 23°C

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	OIP3 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
Supply Voltage Positive:		V		+8	
Supply Current Positive:		mA		36	50

Notes:

1/ Unconditional Stability

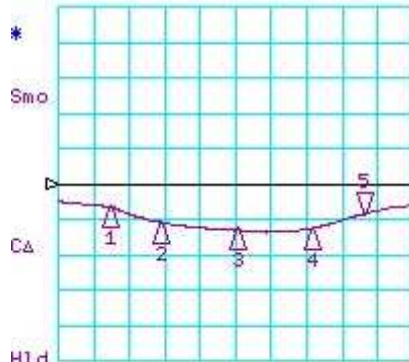
Customized configurations of the above specifications are available

Typical Performance @ 23°C

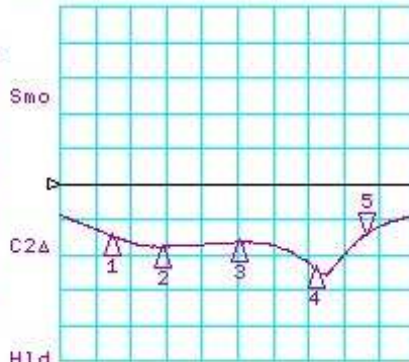
S- Parameters

CH1 LOG 10 dB/ REF 0 dB
 S11 5: -8.4548 dB 11.000 000 000 GHz

CH3 LOG 10 dB/ REF 0 dB
 S22 5: -14.442 dB 11.000 000 000 GHz



CH1 Markers
 1: -6.4070 dB
 6.00000 GHz
 2: -10.821 dB
 7.00000 GHz
 3: -13.023 dB
 8.50000 GHz
 4: -12.395 dB
 10.0000 GHz

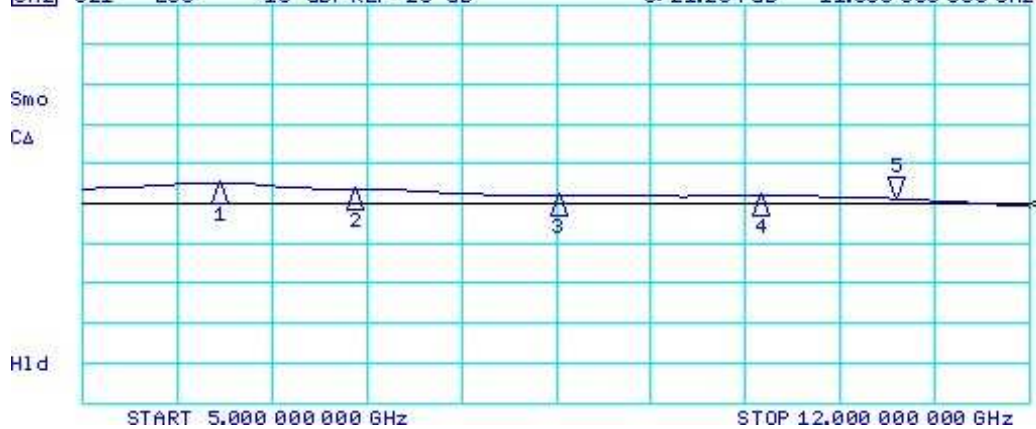


CH3 Markers
 1: -14.570 dB
 6.00000 GHz
 2: -17.818 dB
 7.00000 GHz
 3: -16.252 dB
 8.50000 GHz
 4: -23.881 dB
 10.0000 GHz

START 5000.000 MHz STOP 12000.000 MHz

START 5000.000 MHz STOP 12000.000 MHz

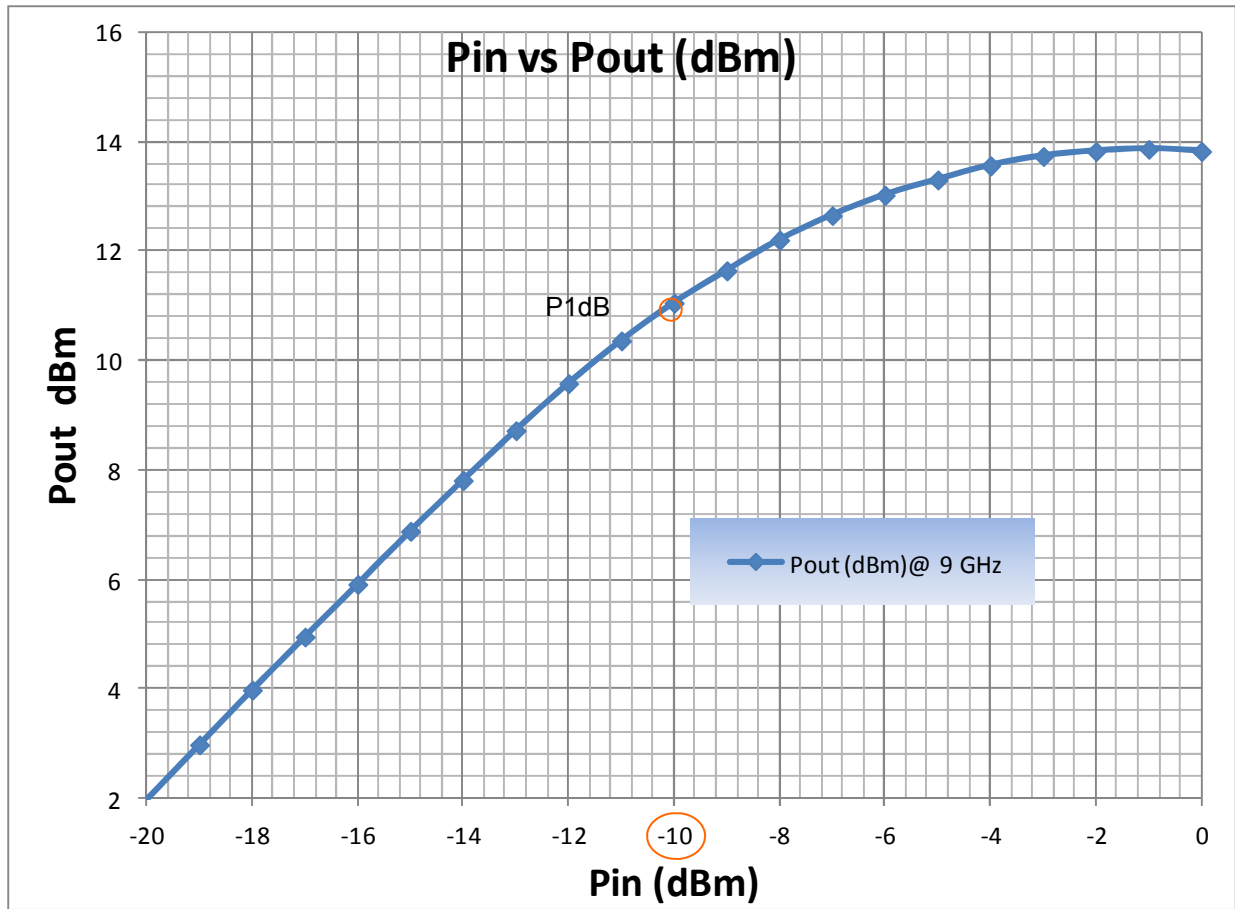
CH2 S21 LOG 10 dB/ REF 20 dB 5: 21.204 dB 11.000 000 000 GHz



CH2 Markers
 1: 25.293 dB
 6.00000 GHz
 2: 23.597 dB
 7.00000 GHz
 3: 22.067 dB
 8.50000 GHz
 4: 22.034 dB
 10.0000 GHz

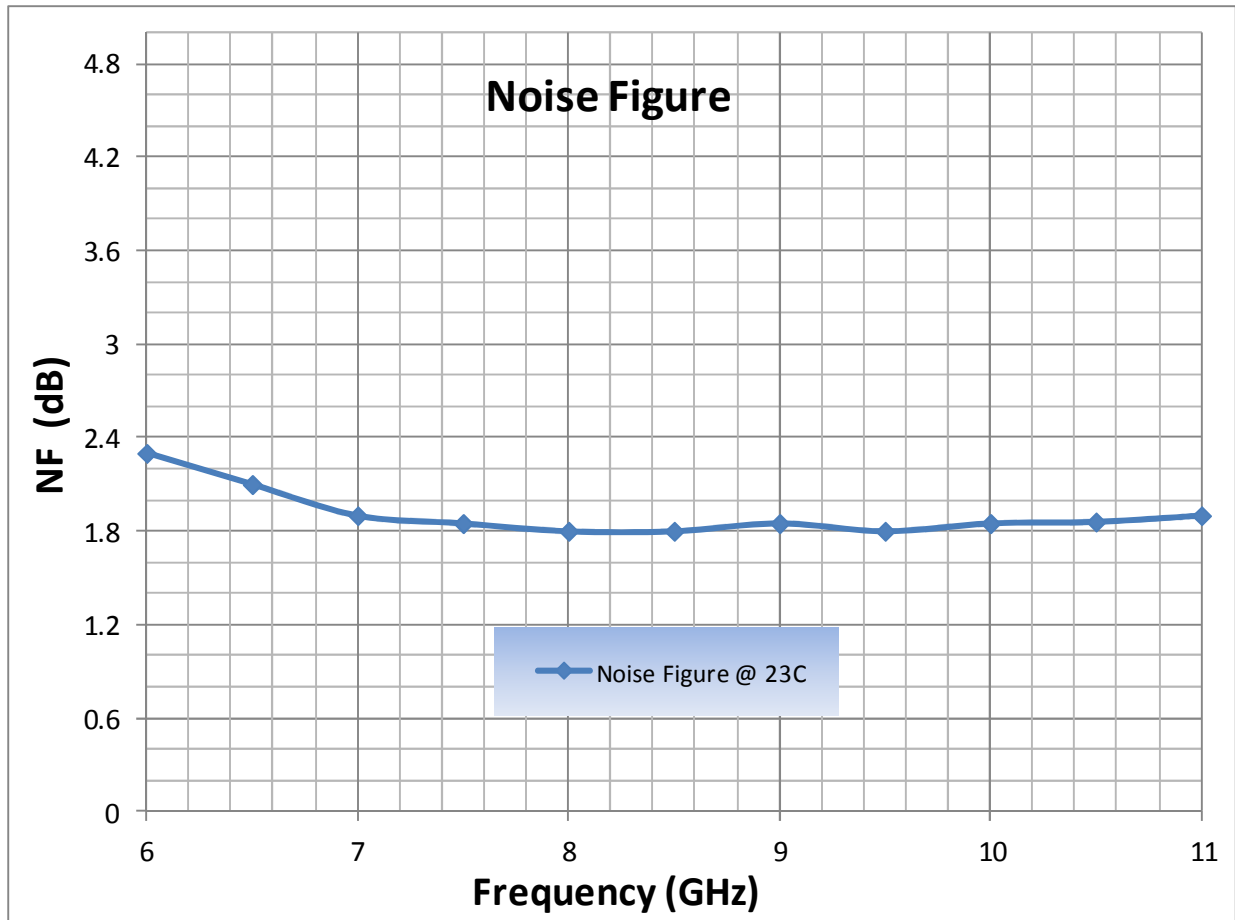
Typical Performance @ 23°C

RF Power In / RF Power Out

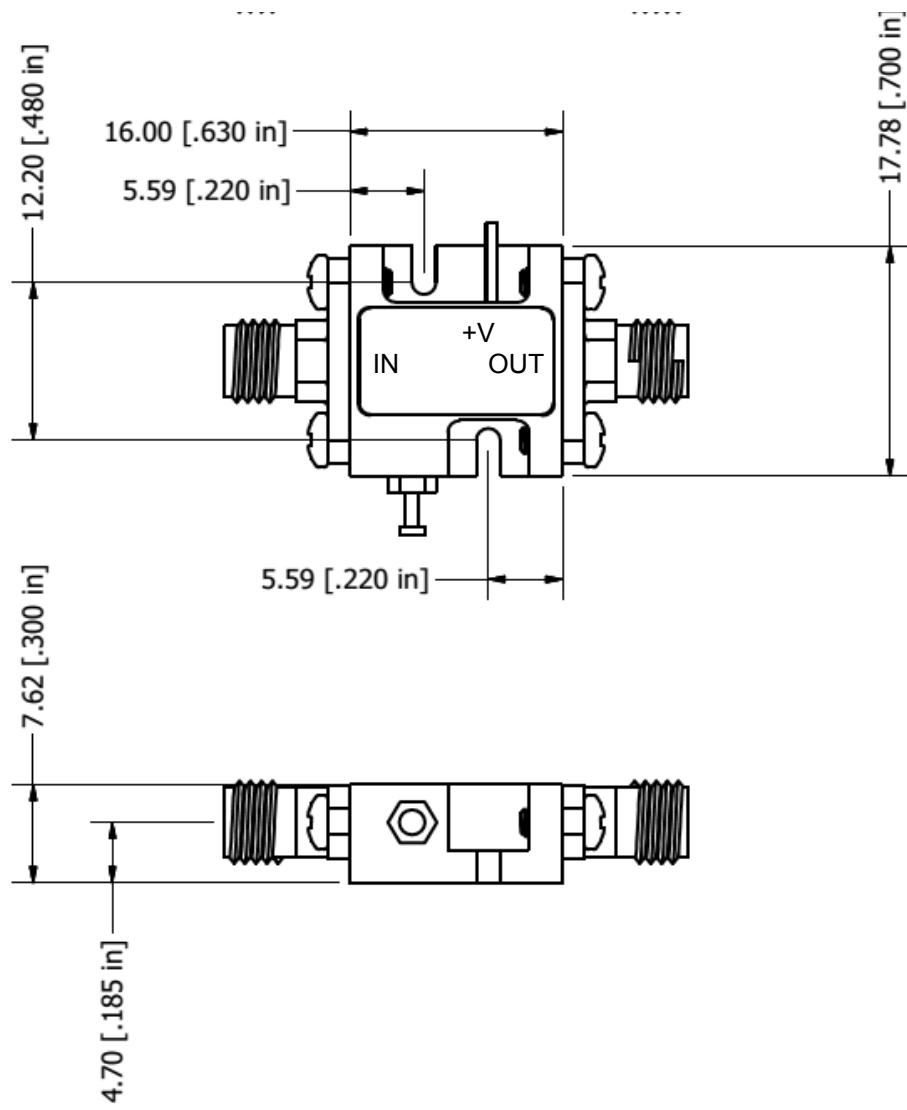


Typical Performance @ 23°C

Noise Figure



Package Outline: M088 SMA Connectorized (inches)



Model Number	Description	Hermeticity	Package
AMT-A0062	SMA Female	Non-Hermetic	Outline: M088

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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