

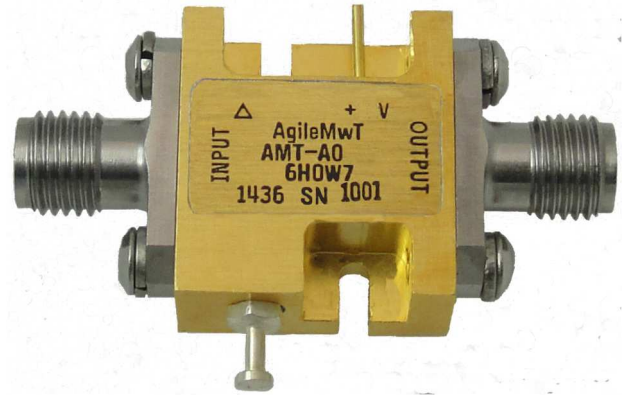
AMT-A0411 7.8 GHz to 12.2 GHz Low Noise Amplifier with flat gain

Data Sheet



Features

- 7.8 GHz to 12.2 GHz Frequency Range
- Typical Gain 22 dB
- Gain Flatness $< \pm 0.5$ dB Typical
- P1dB +19 dBm Typical
- Typical Noise Figure 3 dB
- Internally Regulated
- Operates from a Single +12V Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0411 is a Low Noise amplifier with flat gain 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-A0411 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}	° C	-40	+85
Storage Temperature - Case	T_{MS}	° C	-55	+125
RF Input power (CW)	P_{in}	dBm		+20
Die $T_{Junction}$	T_J	° C		+150
Positive Supply Voltage	V_{+SS}	V		+12.5

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	7.8		12.2
Gain	Small Signal	dB	21	22	23
Gain Flatness		dB		±0.5	±1
Input Power	CW, without damage	dBm	20		
Output Power (P1dB)	1 dB compression point @ 10GHz	dBm	15	19	
OIP3	OIP3 measured @ 10 GHz Two tone F1-F2= 10MHz	dB	24	26	
Noise Figure	Up to 50C	dB		3.2	4
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.0:1
RF Output Impedance	Reference to 50 ohms			1:5:1	2.0:1
Supply Voltage Positive:		V		+12	
Supply Current Positive:		mA		150	170

Notes:
Un-

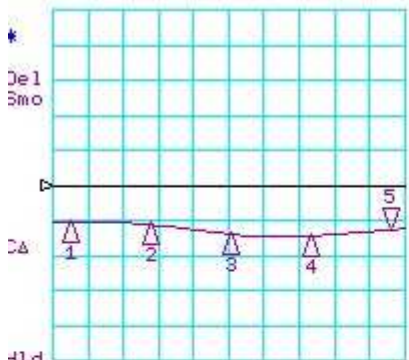
conditionally stable

Customized configurations of the above specifications are available

Typical Performance

S-Parameters @ 23C

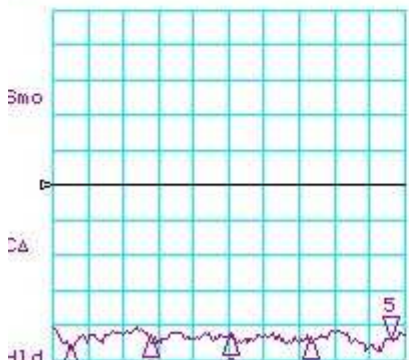
CH1 LOG 10 dB/ REF 0 dB
S11 5: -12.614 dB 12.000 000 000 GHz



CH1 Markers
1: -10.563 dB
8.00000 GHz
2: -11.124 dB
9.00000 GHz
3: -13.614 dB
10.0000 GHz
4: -14.366 dB
11.0000 GHz

START 7800.000 MHz STOP 12200.000 MHz

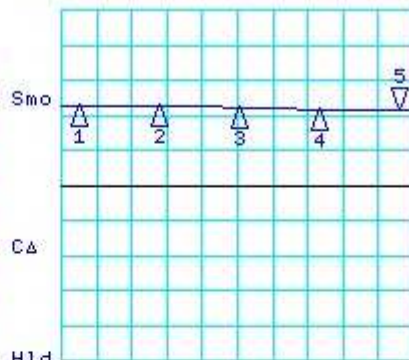
CH3 LOG 10 dB/ REF -10 dB
S12 5: -53.747 dB 12.000 000 000 GHz



CH3 Markers
1: -55.834 dB
8.00000 GHz
2: -53.090 dB
9.00000 GHz
3: -52.883 dB
10.0000 GHz
4: -53.876 dB
11.0000 GHz

START 7800.000 MHz STOP 12200.000 MHz

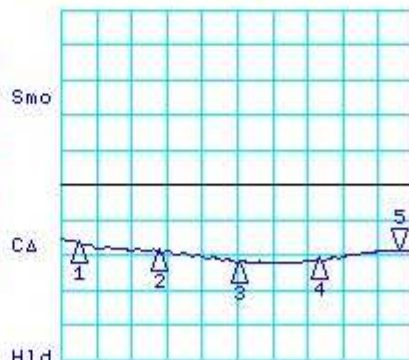
CH2 LOG 10 dB/ REF 0 dB
S21 5: 21.727 dB 12.000 000 000 GHz



CH2 Markers
1: 22.623 dB
8.00000 GHz
2: 22.582 dB
9.00000 GHz
3: 22.224 dB
10.0000 GHz
4: 21.685 dB
11.0000 GHz

START 7800.000 MHz STOP 12200.000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 5: -18.699 dB 12.000 000 000 GHz

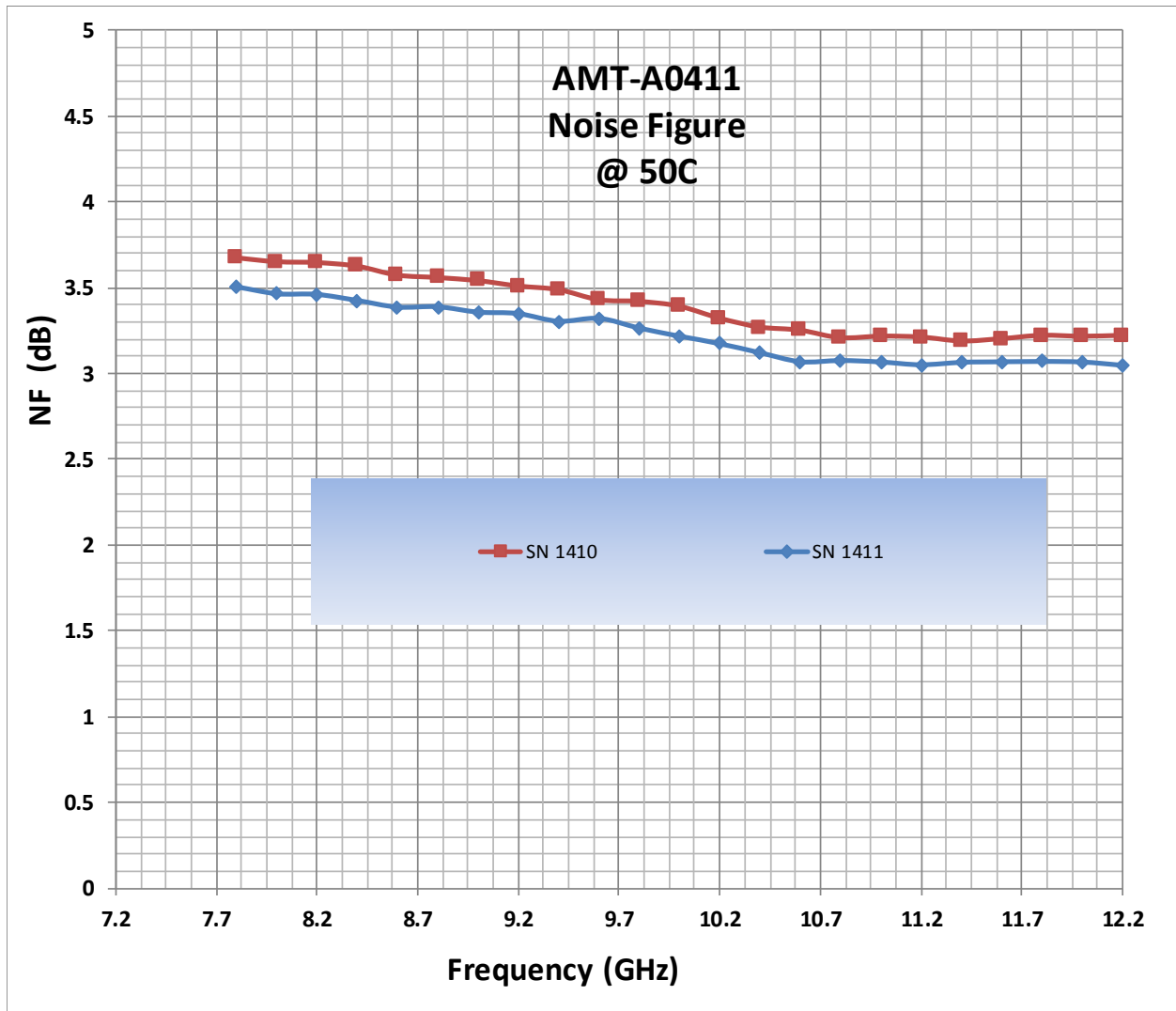


CH4 Markers
1: -16.320 dB
8.00000 GHz
2: -18.990 dB
9.00000 GHz
3: -21.859 dB
10.0000 GHz
4: -21.200 dB
11.0000 GHz

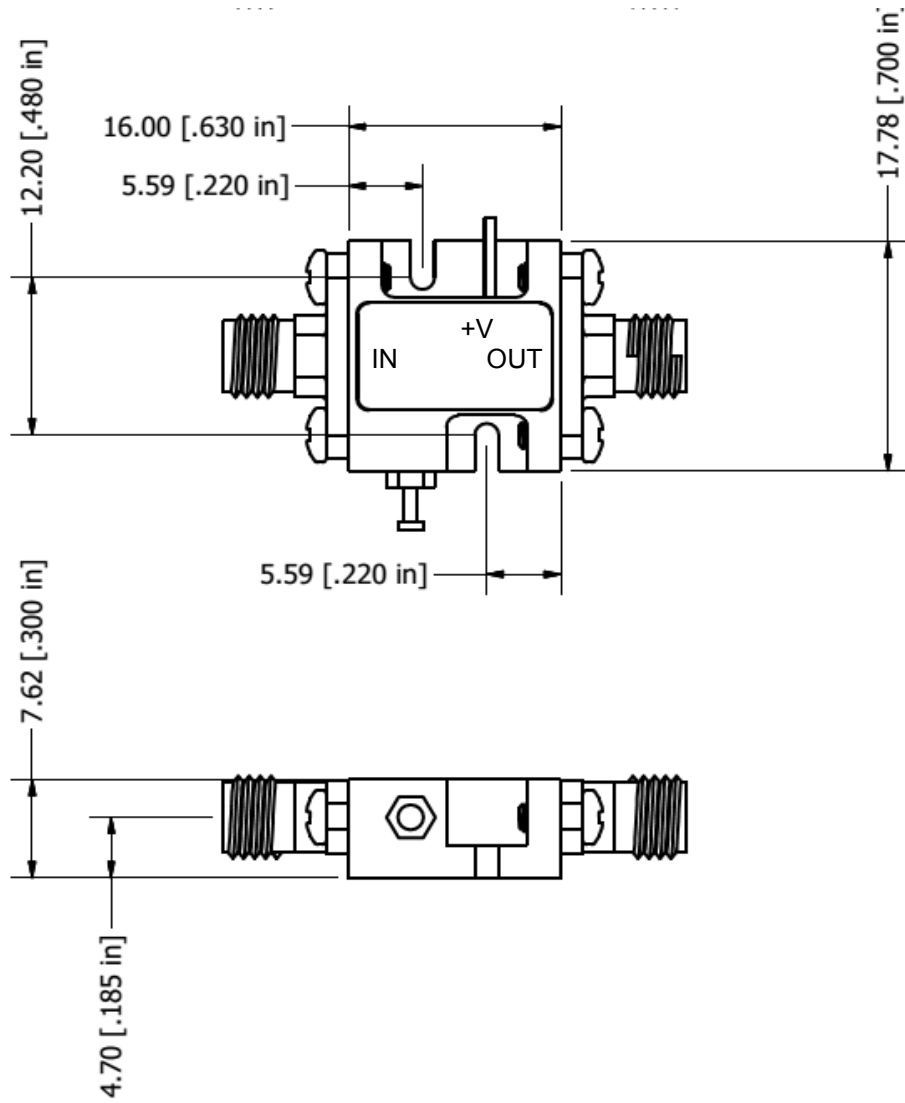
START 7800.000 MHz STOP 12200.000 MHz

Typical Performance

Noise Figure @ 50C



Package Outline: M088 SMA Connectorized (inches)



Housing: Aluminum Gold over Nickel plated
Removable SMA and Ground Slug

Model Number	Description	Hermeticity	Package
AMT-A0411	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.

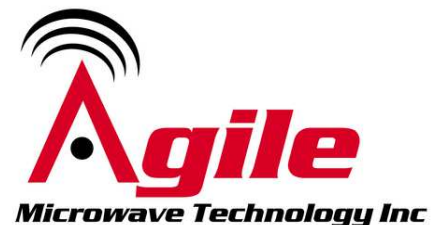
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital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