

AMT-A0067 4 GHz to 12 GHz Broadband Low Noise Amplifier

Data Sheet



Features

- 4 GHz to 12 GHz Frequency Range
- Typical Noise Figure < 1.2 dB
- Typical Gain 40 dB
- Gain Flatness < ± 1.5 dB
- +10 dBm P1dB
- Internally Regulated
- Operates from a +8V Single Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0067 is a Broadband Low Noise amplifier with very low noise figure 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-A0067 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}	$^{\circ}C$	-40	+85
Storage Temperature - Case	T_{MS}	$^{\circ}C$	-54	+150
RF Input power (CW)	P_{in}	dBm		+10
Die $T_{Junction}$	T_J	$^{\circ}C$		+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	4		12
Gain	Small Signal	dB	38	40	
Gain Flatness		dB		±1.5	±2
Input Power	CW, without damage	dBm	+10		
Output Power (P1dB)	1 dB compression point @ 8 GHz	dBm		10	
OIP3	OIP3 measured @ 8 GHz Two tone F1-F2= 10MHz	dBm		20	
Noise Figure		dB		1.2	1.6
RF Input Impedance	Reference to 50 ohms VSWR			2.0:1	2.3:1
RF Output Impedance	Reference to 50 ohms			1:8:1	2.2:1
Supply Voltage Positive:		V		+8	
Supply Current Positive:		mA		90	130

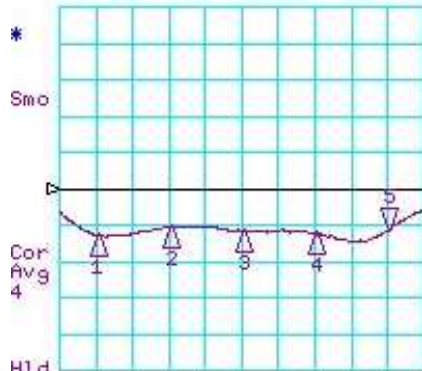
Notes:

1/ Unconditional Stability

Customized configurations of the above specifications are available

Typical S-Parameters @ 25°C

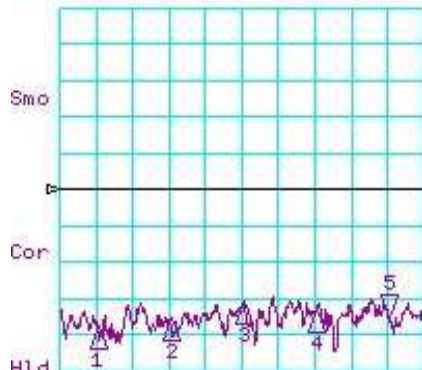
CH1 LOG 10 dB/ REF 0 dB
S11 5: -11.313 dB 12.000 000 000 GHz



CH1 Markers
1: -12.642 dB
4.00000 GHz
2: -10.666 dB
6.00000 GHz
3: -11.748 dB
8.00000 GHz
4: -12.365 dB
10.0000 GHz

START 3000.000 MHz STOP 13000.000 MHz

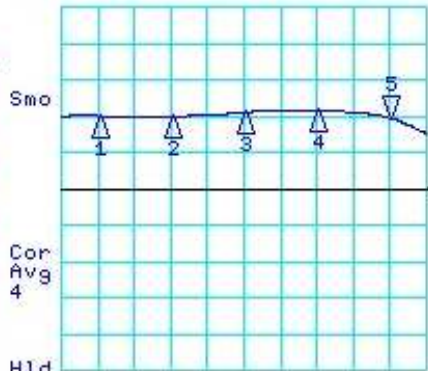
CH3 LOG 10 dB/ REF -20 dB
S12 5: -55.307 dB 12.000 000 000 GHz



CH3 Markers
1: -58.168 dB
4.00000 GHz
2: -55.893 dB
6.00000 GHz
3: -51.079 dB
8.00000 GHz
4: -53.476 dB
10.0000 GHz

START 3000.000 MHz STOP 13000.000 MHz

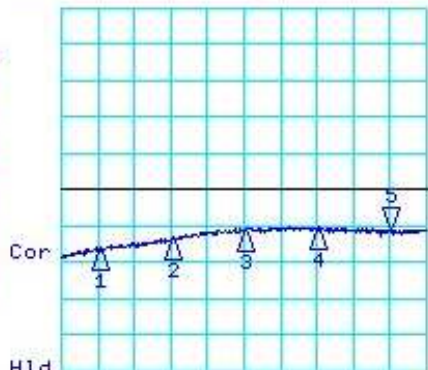
CH2 LOG 10 dB/ REF 20 dB
S21 5: 39.520 dB 12.002 000 000 GHz



CH2 Markers
1: 40.095 dB
4.00000 GHz
2: 39.964 dB
6.00000 GHz
3: 41.075 dB
8.00000 GHz
4: 41.403 dB
10.0000 GHz

START 3000.000 MHz STOP 13000.000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 5: -11.211 dB 12.000 000 000 GHz

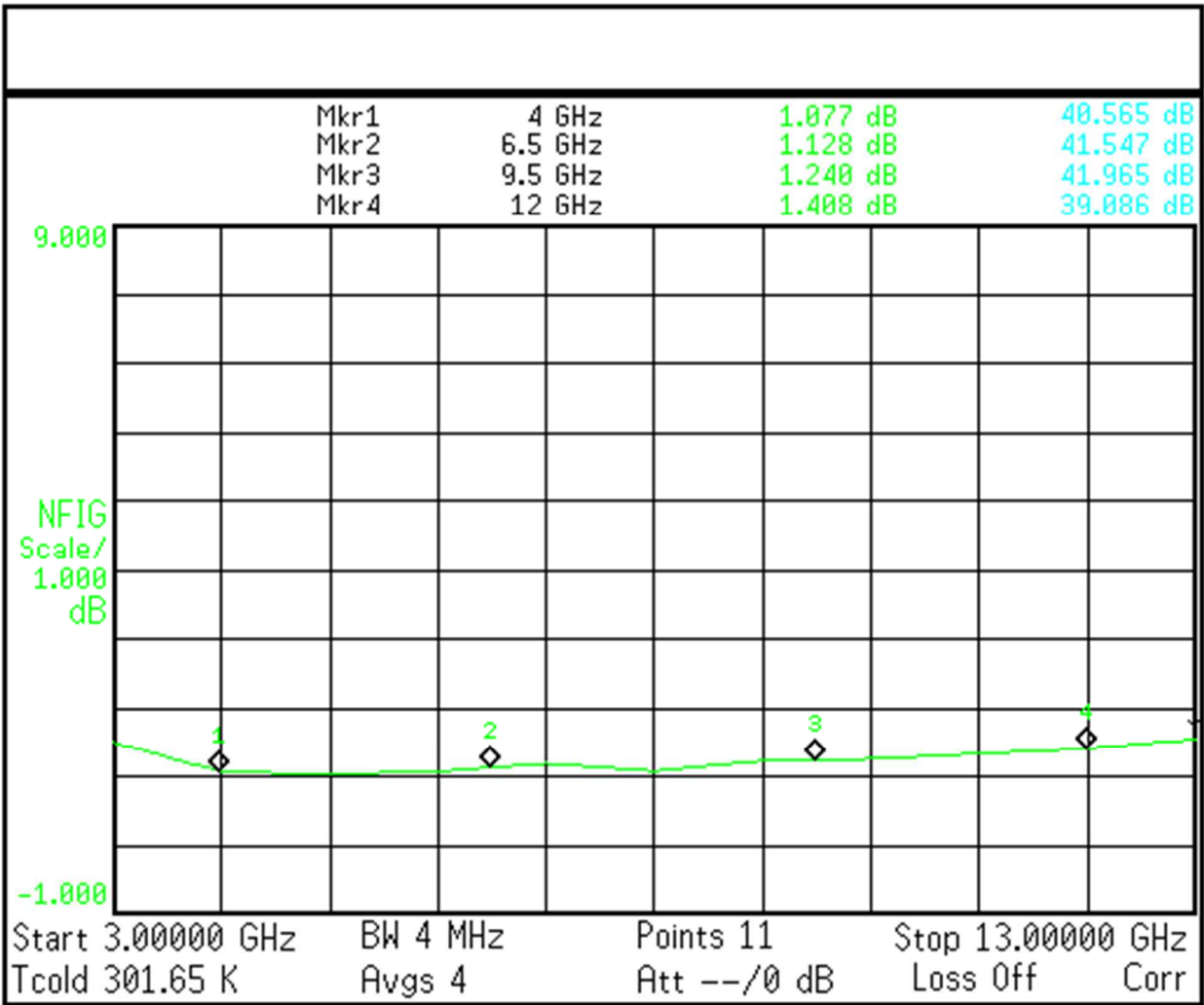


CH4 Markers
1: -16.547 dB
4.00000 GHz
2: -13.763 dB
6.00000 GHz
3: -11.252 dB
8.00000 GHz
4: -10.508 dB
10.0000 GHz

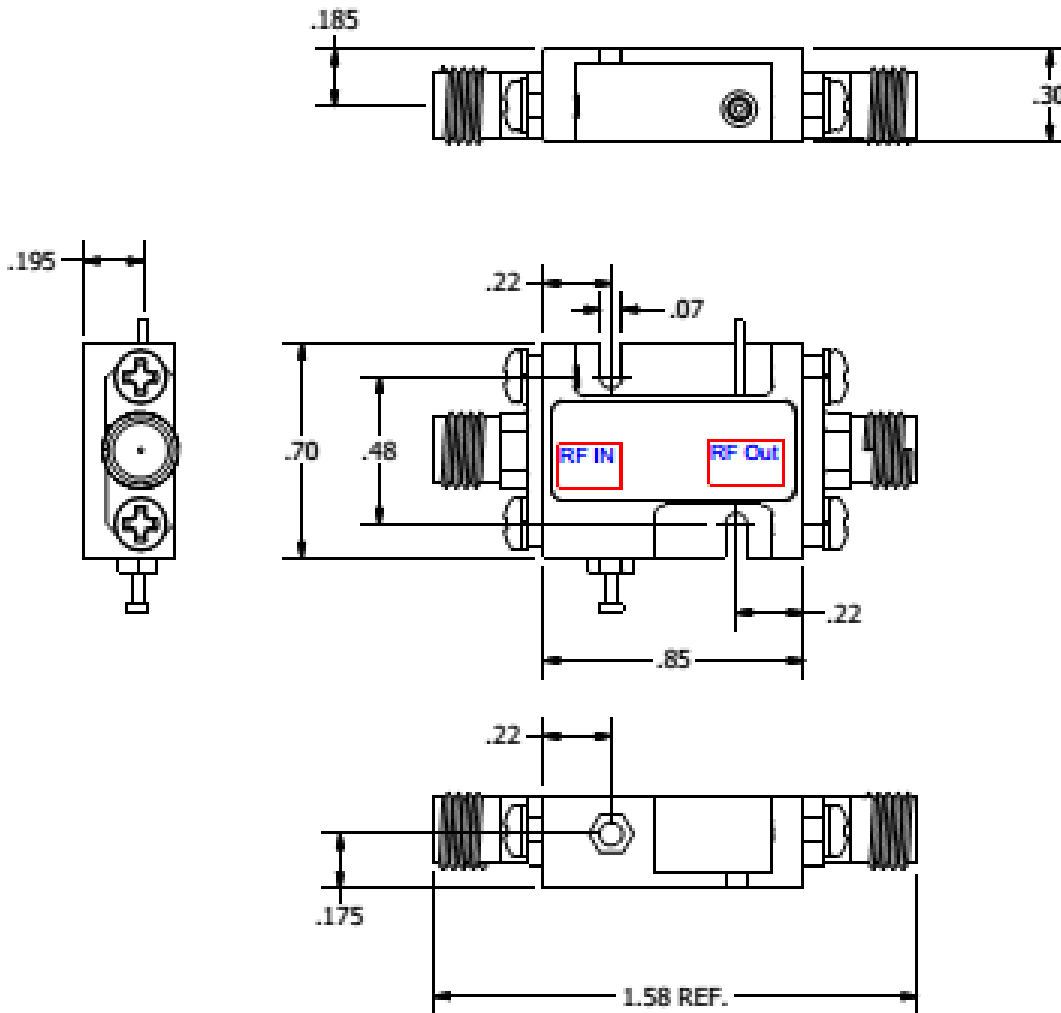
START 3000.000 MHz STOP 13000.000 MHz

Typical Noise Figure @ 25°C

Agilent 15:58:15 Aug 9, 2013



Package Outline: M110 SMA Connectorized (inches)



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

Model Number	Description	Hermeticity	Package
AMT-A0067	SMA Female	Non-Hermetic	Outline: M110

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.

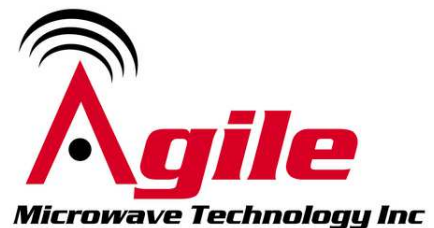
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital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

**ISO 9001:2015
Certified Company**



Phone: (984) 228-8001

info@agilemwt.com

www.agilemwt.com

AMTI reserves the right to change at any time without notice the design, specifications, function/form or availability of its products described herein. The buyer/customer has the responsibility to validate the performance for their applications. No liability is assumed as result of use of this product and no patent licenses are implied. AMTI reserves all rights.