

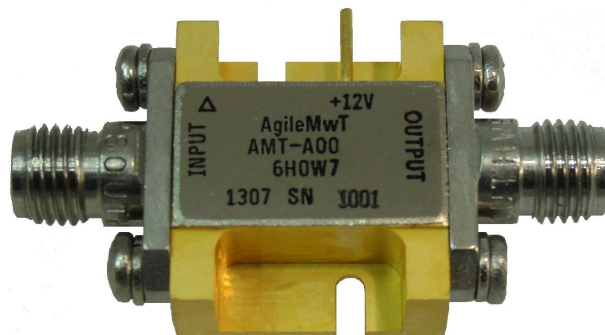
AMT-A0036 1.5 GHz to 6 GHz Low Noise Amplifier with 1W Limiter

Data Sheet



Features

- 1.5 GHz to 6 GHz Frequency Range
- Typical Noise Figure < 1.3 dB
- Typical Gain 32 dB
- Gain Flatness < ± 1 dB Typical
- +30dBm Integrated Limiter
- Internally Regulated
- Operates from a Single Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0036 is a Low Noise amplifier with very low noise figure over the full frequency range and Integrated 1W Limiter. The performance is achieved through the use of AMTI's proprietary technology. The amplifier I/Os are Internally matched to 50 Ohms. The AMT-A0036 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	-55	+85
Storage Temperature - Case	T _{MS}	° C	-55	+150
RF Input power (CW)	P _{in}	dBm		+30
Die T _{Junction}	T _J	° C		+150
Positive Supply Voltage	V _{+SS}	V		+12.5

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	1.5		6
Gain	Small Signal	dB	30	32	34
Gain Flatness		dB		±1	±1.5
Input Power Protection	CW, without damage	dBm	+30		
Output Power (P1dB)	1 dB compression point @ 4 GHz	dBm	14	15	
OIP3	OIP3 measured @ 4 GHz Two tone F1-F2= 10MHz	dB		25	
OIP2	@ 4 GHz	dB		35	
Noise Figure		dB		1.3	1.6
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.2:1
RF Output Impedance	Reference to 50 ohms			1:5:1	1.8:1
Stability Factor K	Unconditionally Stable		1		
Stability Factor B1	Unconditionally Stable		0		
Supply Voltage Positive:		V		+12	
Supply Current Positive:		mA		120	150

Notes:

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

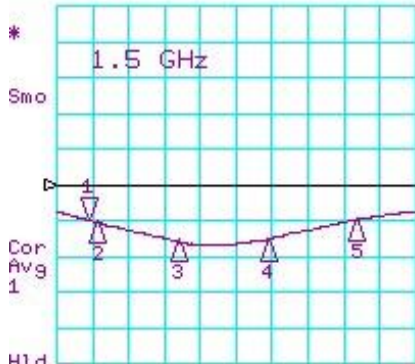
Customized configurations of the above specifications are available

S-Parameters Typical @ 23°C

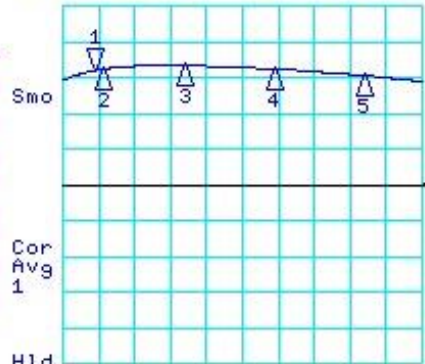
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CH1 LOG 10 dB/ REF 0 dB
S11 1:-9.7490 dB 1.500 000 000 GHz

CH2 LOG 10 dB/ REF 0 dB
S21 1: 32.013 dB 1.500 000 000 GHz



CH1 Markers
2:-10.321 dB
1.65000 GHz
3:-15.837 dB
3.00000 GHz
4:-15.340 dB
4.50000 GHz
5:-9.7440 dB
6.00000 GHz



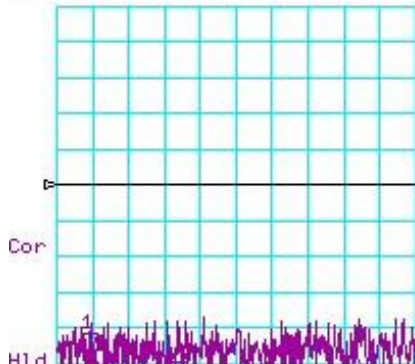
CH2 Markers
2: 32.491 dB
1.65000 GHz
3: 33.358 dB
3.00000 GHz
4: 32.487 dB
4.50000 GHz
5: 30.646 dB
6.00000 GHz

H1d
START 1000.000 MHz STOP 7000.000 MHz

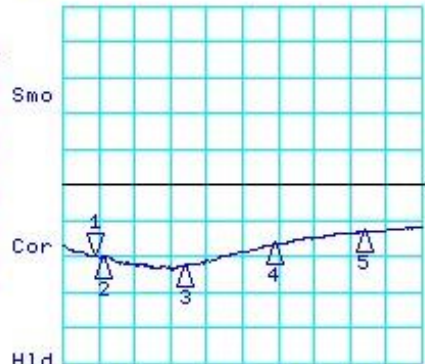
H1d
START 1000.000 MHz STOP 7000.000 MHz

CH3 LOG 10 dB/ REF 0 dB
S12 1:-47.721 dB 1.500 000 000 GHz

CH4 LOG 10 dB/ REF 0 dB
S22 1:-19.991 dB 1.500 000 000 GHz



CH3 Markers
2:-52.118 dB
1.65000 GHz
3:-43.651 dB
3.00000 GHz
4:-52.165 dB
4.50000 GHz
5:-48.301 dB
6.00000 GHz



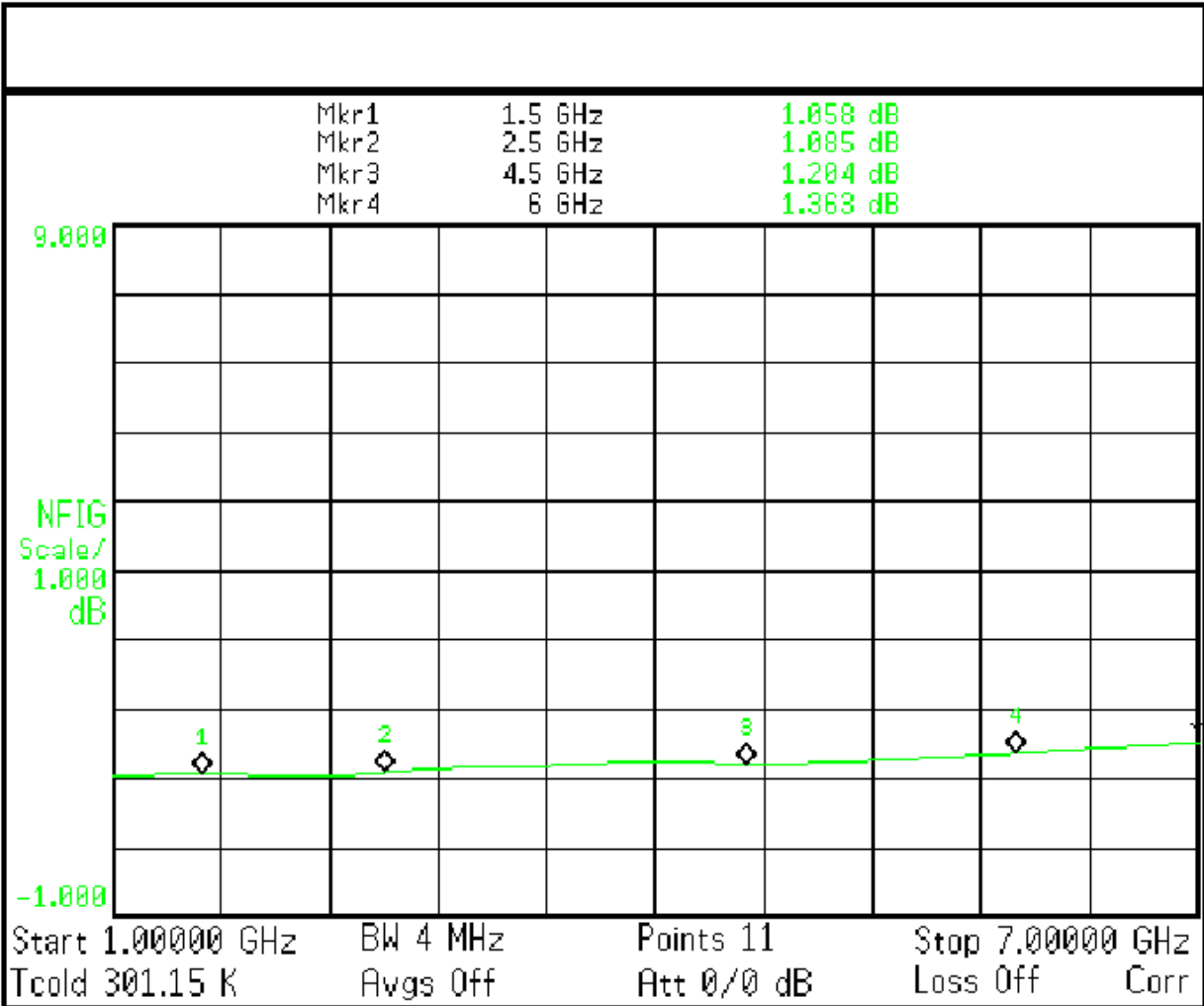
CH4 Markers
2:-20.164 dB
1.65000 GHz
3:-22.506 dB
3.00000 GHz
4:-16.586 dB
4.50000 GHz
5:-13.136 dB
6.00000 GHz

H1d
START 1000.000 MHz STOP 7000.000 MHz

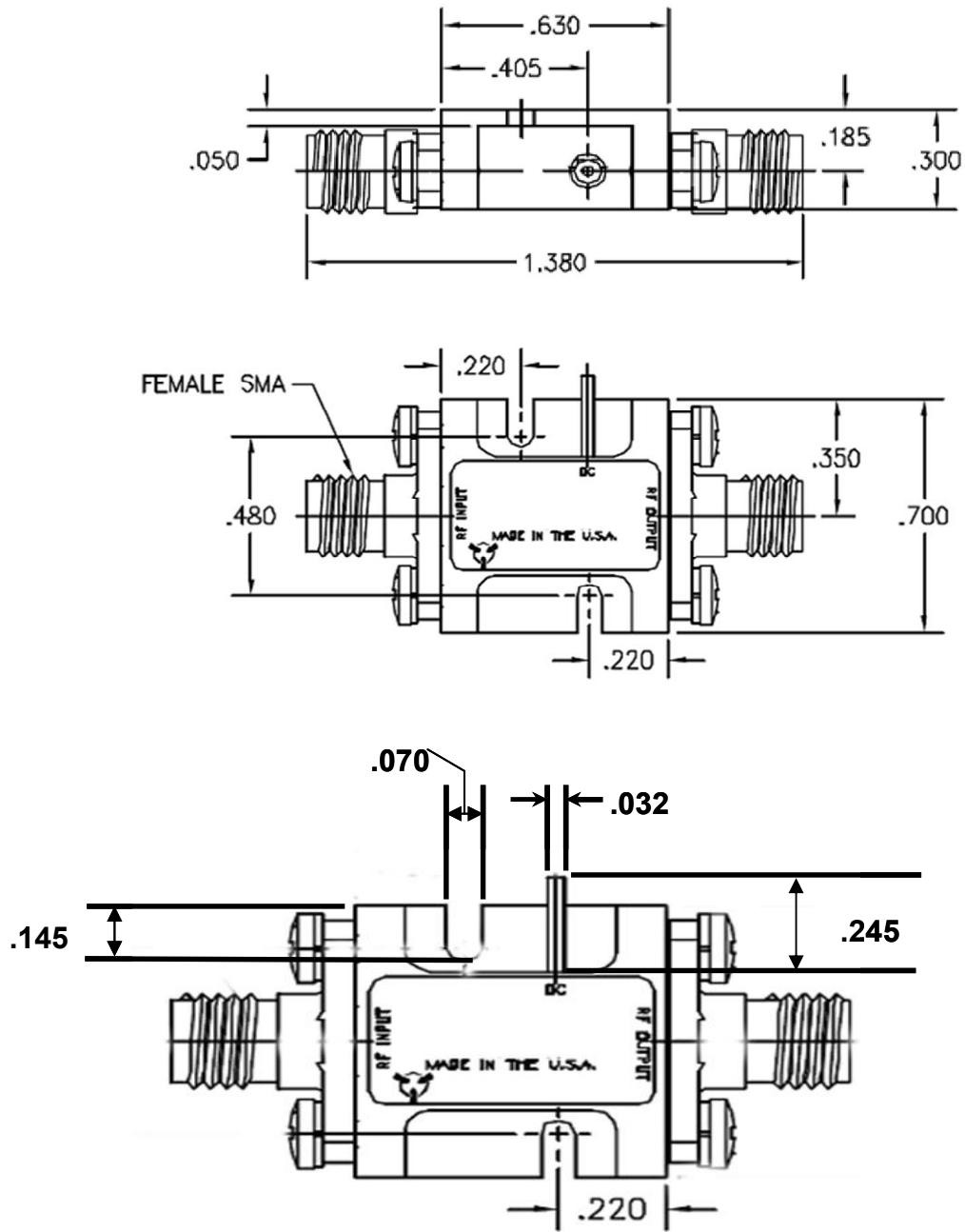
H1d
START 1000.000 MHz STOP 7000.000 MHz

Noise Figure Plot Typical @ 23°C

Agilent



Package Outline: M004 SMA Connectorized (inches)



Model Number	Description	Hermeticity	Package
AMT-A0036	SMA Female	Non-Hermetic	Outline: M004
AMT-A0036-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.

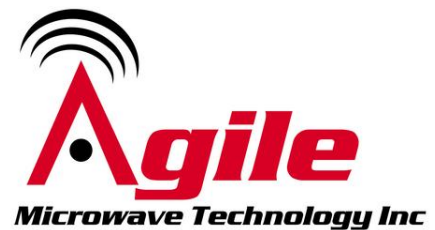
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