

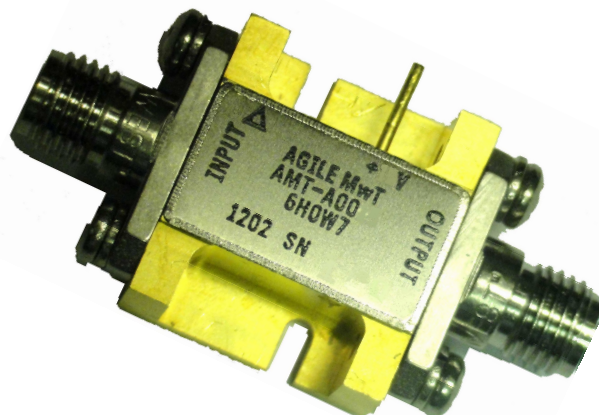
AMT-A0071 13 GHz to 18 GHz Low Noise Amplifier with 1W Limiter

Data Sheet



Features

- 13 GHz to 18 GHz Frequency Range
- Typical Noise Figure < 1.8 dB
- Typical Gain 29 dB
- Gain Flatness < ± 0.5 dB
- +30dBm Integrated Limiter
- Internally Regulated
- Operates from a Single Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0071 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-A0071 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}	$^{\circ}C$	-55	+150
RF Input power (CW)	P_{in}	dBm		+30
Die $T_{Junction}$	T_J	$^{\circ}C$		+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	13		18
Gain	Small Signal	dB	26	29	
Gain Flatness		dB		±2	
Input Power	CW, without damage	dBm	+30		
Output Power (P1dB)	1 dB compression point @ 17.2 GHz	dBm		5	
OIP3	OIP3 measured @ 17.2 GHz Two tone F1-F2=10MHz	dB		15	
Noise Figure		dB		1.8	2.2
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.2:1
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:		V		+8 to +12	
Supply Current Positive:		mA		85	100

Notes:

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

Customized configurations of the above specifications are available

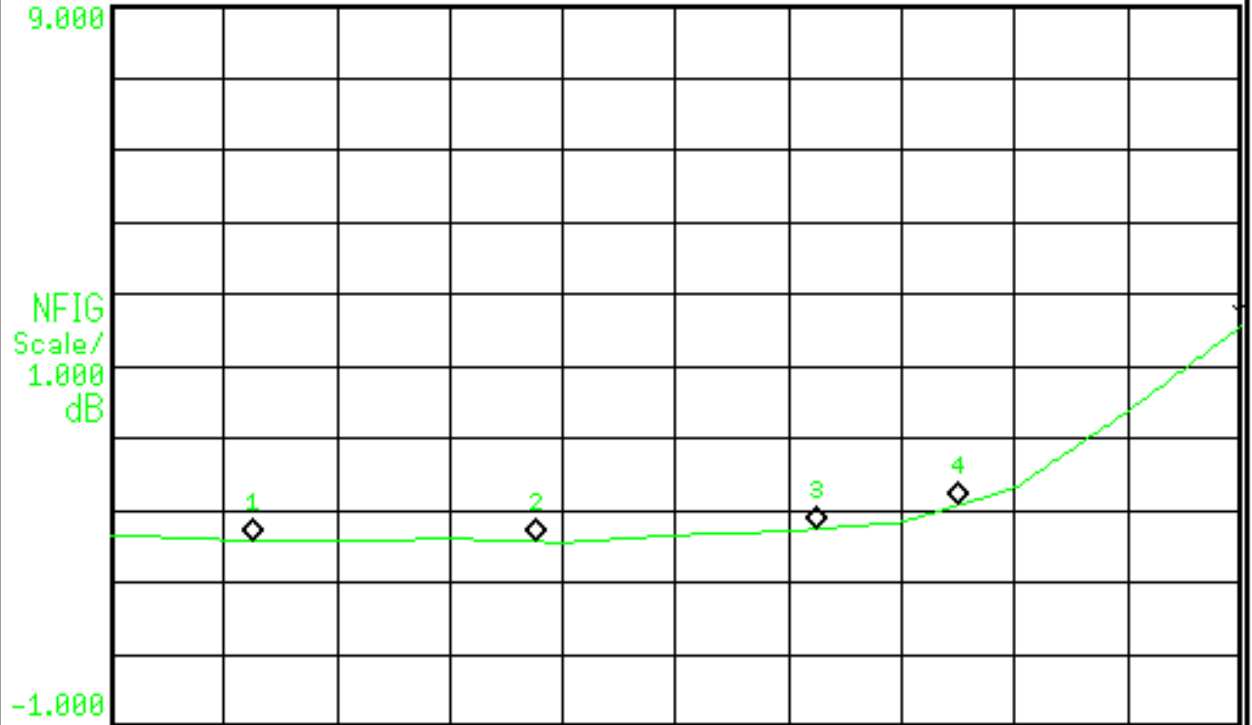
Typical Performance

Noise Figure @ 23C

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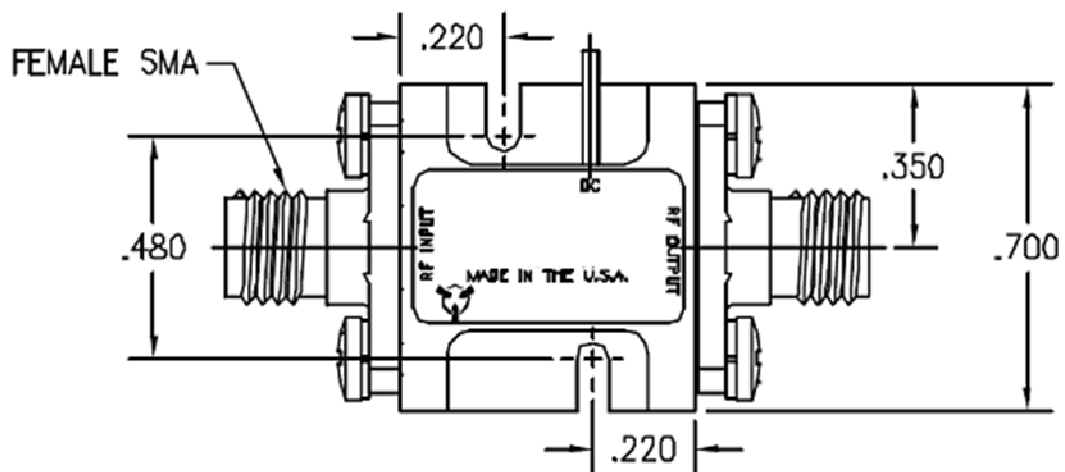
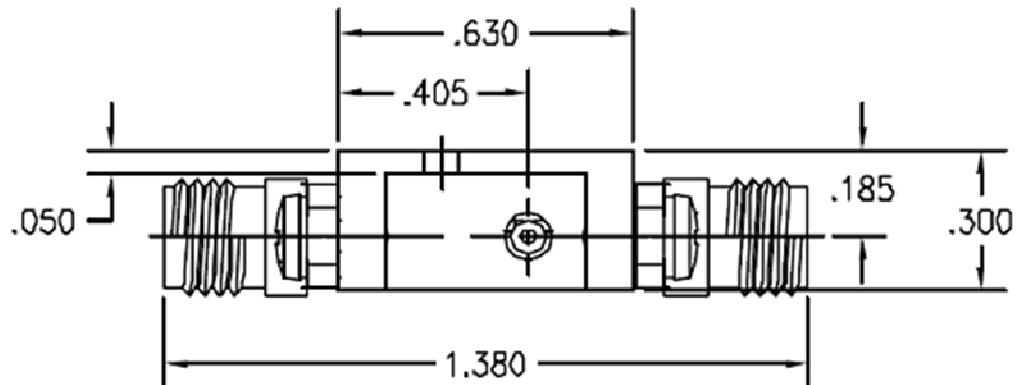
Marker Frequency 17.00000000 GHz

Mkr1	13 GHz	1.585 dB	33.155 dB
Mkr2	15 GHz	1.565 dB	29.787 dB
Mkr3	17 GHz	1.739 dB	28.676 dB
Mkr4	18 GHz	2.071 dB	28.531 dB



Start 12.00000 GHz BW 4 MHz Points 11 Stop 20.00000 GHz
Tcold 302.55 K Avgs 2 Att --/0 dB Loss Off Corr

Package Outline: M004 SMA Connectorized (inches)



Model Number	Description	Hermeticity	Package
AMT-A0071	SMA Female	Non-Hermetic	Outline: M004
AMT-A0071-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.

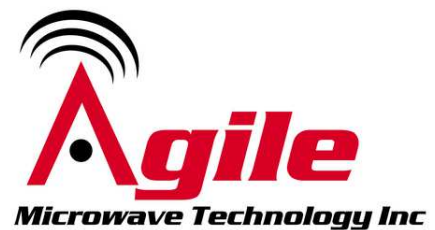
Contact Information:

**101 Bloomingdale Road
Hicksville, NY 11801**

Phone: (516) 931-1670

Fax: (212) 374-1153

info@agilemwt.com



www.agilemwt.com

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