

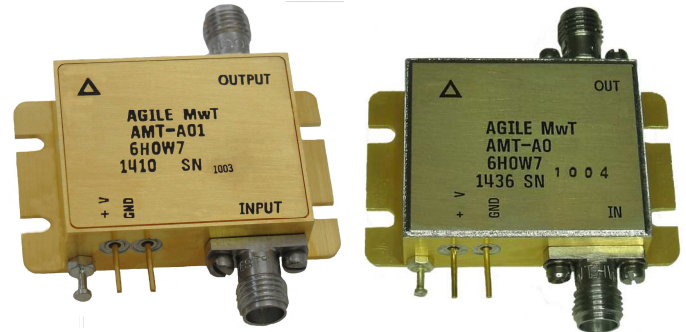
# AMT-A0254 0.1 GHz to 20 GHz Broadband Low Noise, Flat Gain w 4W Protection Limiter



## Data Sheet

### Features

- 0.1 GHz to 20 GHz Frequency Range
- Gain 33 dB Typical
- Gain Flatness  $\pm 1.2$  dB Typical
- 3 dB Typical Noise Figure
- Typical P1dB power > +22 dBm
- Internally Regulated
- Operates from Single +12V Supply
- Unconditionally Stable
- Available in Hermetic Laser sealed version



Laser Sealed Hermetic

### Description

The AMT-A0254 is a Broadband Low Noise amplifier with flat gain and 1W CW Diode protection at input in a compact size. The performance is achieved through the use of AMTI's proprietary matching technology and latest in GaAs technology. The amplifier I/Os are Internally matched to 50 Ohms and DC Blocked. The AMT-A0254 is ideal for use as medium power with low noise for test equipment, Communication systems or where broadband amplification and power are required without adding significant noise in a Hi-Rel communications system for Commercial or Military applications

### Applications

- Test Equipment
- Communication Systems
- EW Systems
- Lab Applications
- Radar

### MAXIMUM RATINGS<sup>1</sup>

### EAR99 NLR

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T <sub>MO</sub>	° C	-40	+85
Storage Temperature - Case	T <sub>MS</sub>	° C	-40	+125
RF Input power (CW)	P <sub>in</sub>	dBm		+36
Die T <sub>Junction</sub>	T <sub>J</sub>	° C		+150
Positive Supply Voltage	V <sub>+SS</sub>	V		+15

### Appropriate Heat sink must be used, 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	0.1		20
Gain	Small Signal	dB	29	33	
Gain Flatness		dB		±1.2	±2.5
Noise Figure	0.3 to 20 GHz, higher below 0.3 GHz and >=18 GHz	dB		3	4.3
Output Power (P1dB)	0.1 to 16 GHz, measured @10GHz	dBm	+19	+22	
Output Power (P1dB)	16 to 20 GHz	dBm	+17	+19	
OIP3	OIP3 @ 10 GHz Two tone F1-F2= 10MHz	dB		28	
RF Input Power	Protection for short period of time	dBm	+36		
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.4:1
RF Output Impedance	Reference to 50 ohms VSWR			1.8:1	2.4:1
Supply Voltage Positive:	Small signal	V		+12	
Supply Current Positive:		mA		280	300

### Notes:

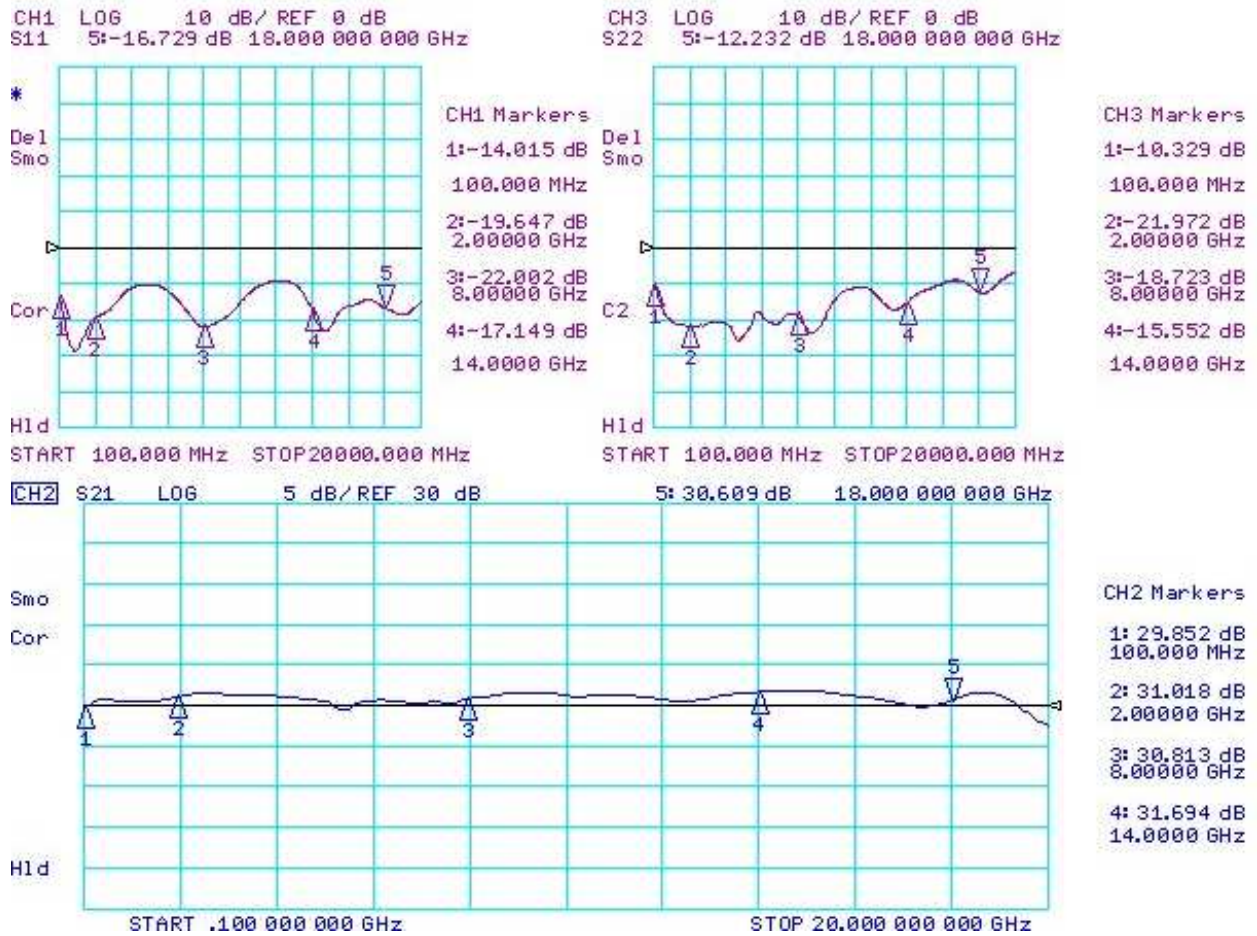
1/ Unconditional Stability

2/ NF uncertainty of 0.1 dB per Agilent/HP equipment manufacturer

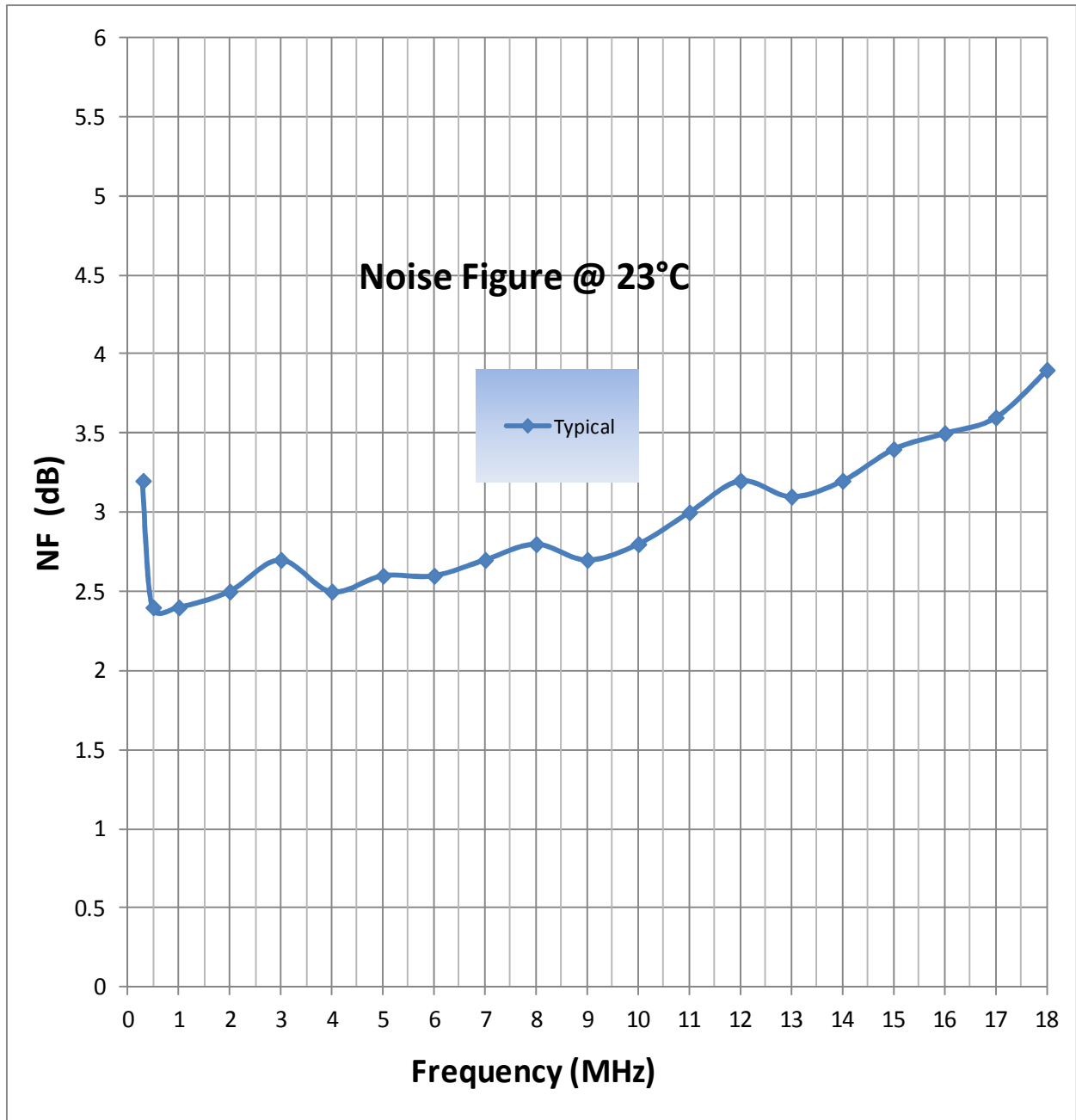
NF Tested to 18 GHz, 18-20 GHz by design

Customized configurations of the above specifications are available

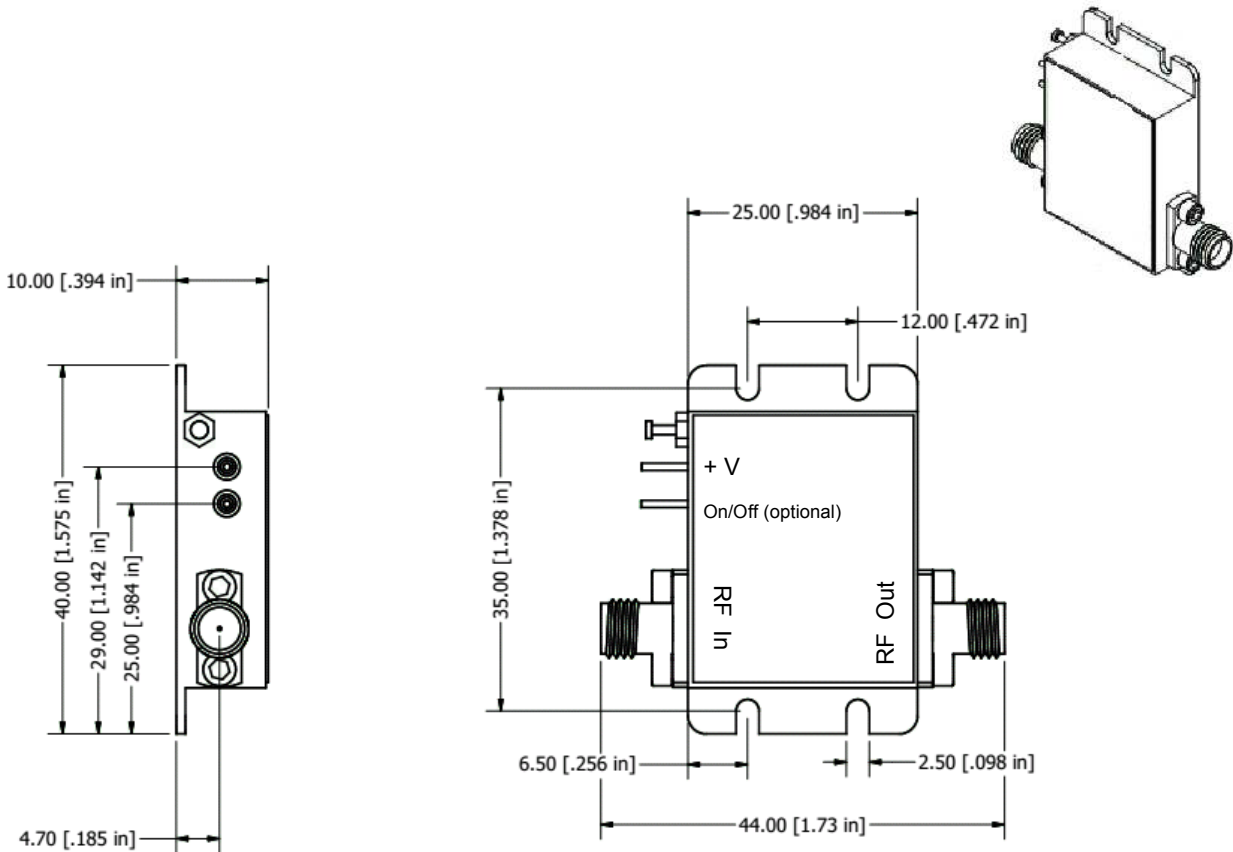
# Typical S-Parameters @ 23°C



### Typical NF @ 23°C



## Package Outline M020: SMA Connectorized mm(inches)



**Field replaceable SMA Connectors, Removable Ground slug**

**Note: The unit must be attached to proper heat sink**

<b>Model Number</b>	<b>Description</b>	<b>Hermeticity</b>	<b>Package</b>
AMT-A0254	SMA Female	Non-Hermetic	Outline: M020
AMT-A0254-H	SMA Female	Hermetic Laser Weld Tested to Leak Rate <math>2.0 \times 10^{-8}</math>	Outline: M020

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.

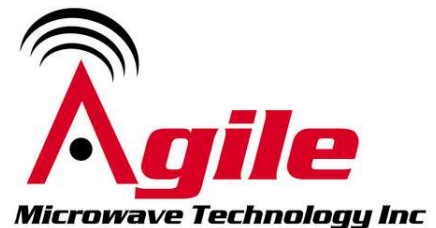
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital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

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