

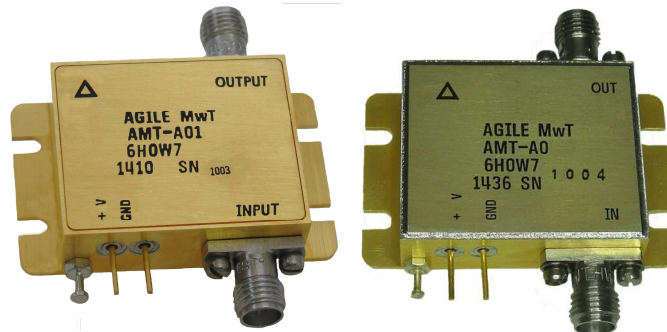
AMT-A0287 0.5 GHz to 18 GHz Broadband LNA with High OIP2

Data Sheet



Features

- 0.5 GHz to 18 GHz Frequency Range
- Gain 24 dB Typical
- Gain Flatness ± 1.5 dB Typical
- 2.7 dB Typical Noise Figure
- Typical OIP2 > 40 dBm at Pout=0 dBm
- Low 2nd Harmonic
- Internally Regulated
- Operates from Single +12V Supply
- Unconditionally Stable
- Available in Hermetic Laser sealed version



Laser Sealed Hermetic

Description

The AMT-A0287 is a Broadband medium power amplifier with Low Noise Figure and High second harmonic 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-A0287 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 RATINGS¹

EAR99 NLR

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	-40	+85
Storage Temperature - Case	T _{MS}	° C	-40	+125
RF Input power (CW)	P _{in}	dBm		+15
Die T _{Junction}	T _J	° C		+150
Positive Supply Voltage	V _{+SS}	V		+15

Appropriate Heat sink must be used

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	0.5		18
Gain ²	Small Signal	dB	20	24	
Gain Flatness ²		dB		±1.5	±2.5
Noise Figure	0.5 to 18 GHz	dB		2.7	4
Output Power (P1dB)	measured @ 10 GHz	dBm	+15	+21	
OIP3	OIP3 @ 10 GHz Two tone F1-F2= 10MHz	dB		28	
OIP2	Pout = 0 dBm		35	40	
OIP2	Pout= 12 dBm		25	30	
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.3:1
RF Output Impedance	Reference to 50 ohms VSWR			1.8:1	2.3:1
Supply Voltage Positive:		V		+12	
Supply Current Positive:	Small signal	mA		250	350

Notes:

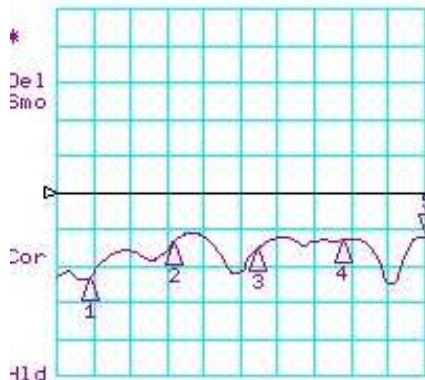
1/ Unconditional Stability

2/ Maybe higher or lower below 2 GHz and above 16 GHz

Customized configurations of the above specifications are available

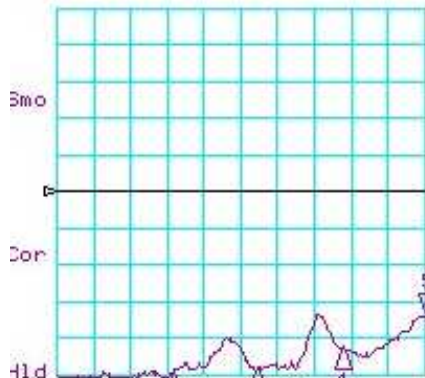
Typical S-Parameters @ 25°C

CH1 LOG 10 dB/ REF 0 dB
S11 5:-11.974 dB 18.000 000 000 GHz



CH1 Markers
1:-23.292 dB
2.00000 GHz
2:-13.708 dB
6.00000 GHz
3:-15.403 dB
10.0000 GHz
4:-13.048 dB
14.0000 GHz
5

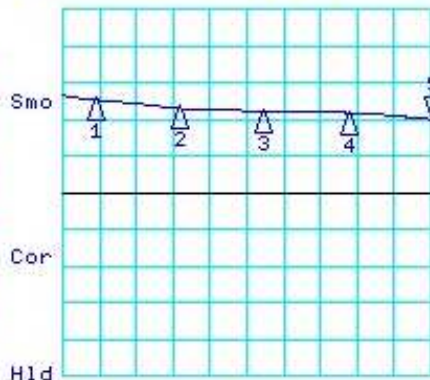
START 500.000 MHz STOP 18000.000 MHz
CH3 LOG 10 dB/ REF -10 dB
S12 5:-44.035 dB 18.000 000 000 GHz



CH3 Markers
1:-62.527 dB
2.00000 GHz
2:-59.479 dB
6.00000 GHz
3:-58.439 dB
10.0000 GHz
4:-52.742 dB
14.0000 GHz
5

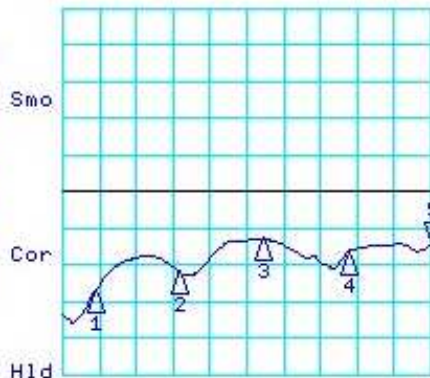
START 500.000 MHz STOP 18000.000 MHz

CH2 LOG 10 dB/ REF 0 dB
S21 5: 20.061 dB 18.000 000 000 GHz



CH2 Markers
1: 25.317 dB
2.00000 GHz
2: 23.026 dB
6.00000 GHz
3: 22.162 dB
10.0000 GHz
4: 21.781 dB
14.0000 GHz
5

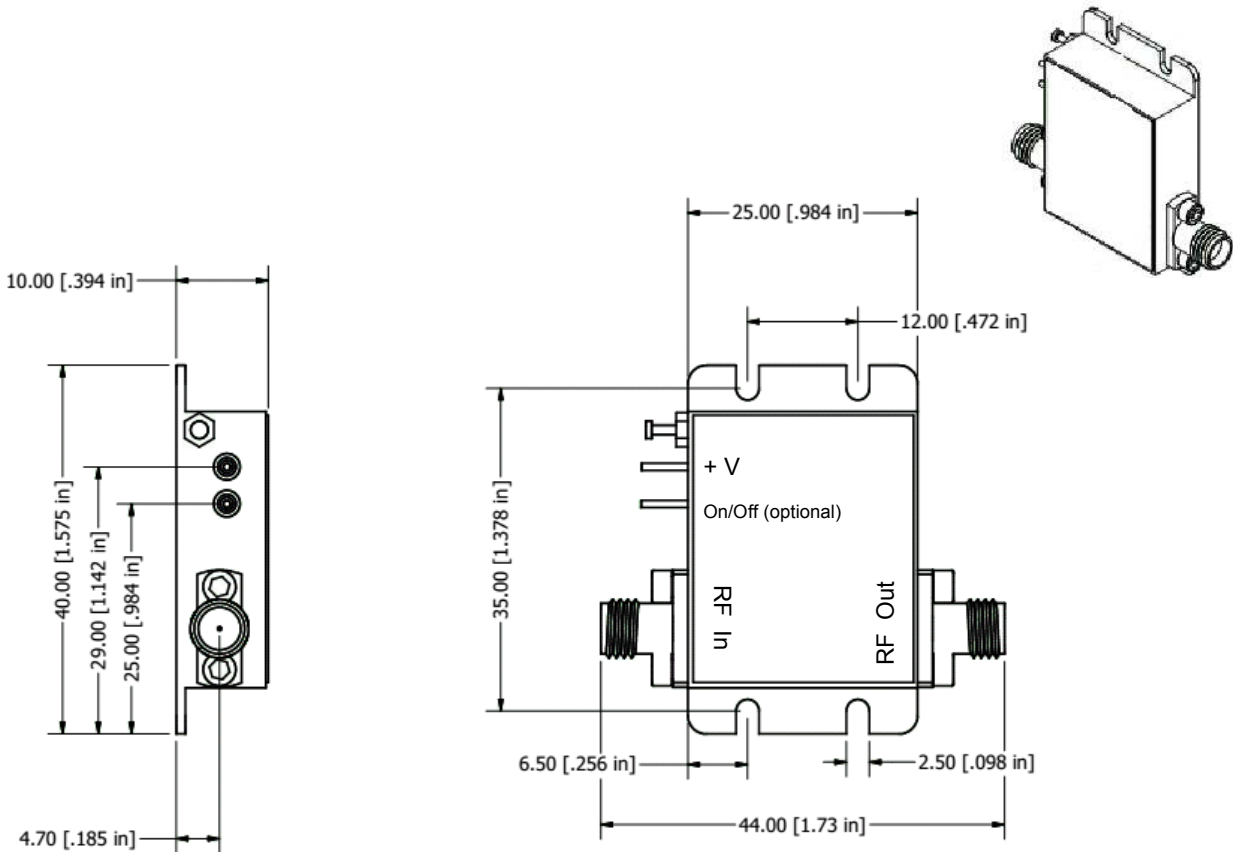
START 500.000 MHz STOP 18000.000 MHz
CH4 LOG 10 dB/ REF 0 dB
S22 5:-14.487 dB 18.000 000 000 GHz



CH4 Markers
1:-27.270 dB
2.00000 GHz
2:-21.766 dB
6.00000 GHz
3:-12.994 dB
10.0000 GHz
4:-16.719 dB
14.0000 GHz
5

START 500.000 MHz STOP 18000.000 MHz

Package Outline M020: SMA Connectorized mm(inches)



Field replaceable SMA Connectors, Removable Ground slug

Note: The unit must be attached to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0287	SMA Female	Non-Hermetic	Outline: M020
AMT-A0287-H	SMA Female	Hermetic Laser Weld Tested to Leak Rate 2.0×10^{-8}	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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