AMT-A0396 3.5 GHz to 9 GHz Broadband Low Noise Amplifier

Data Sheet

Agile Microwave Technology Inc

Features

- 3.5 GHz to 9 GHz Frequency Range
- Typical Noise Figure < 1 dB ,1.5 dB max
- Typical Gain 37 dB
- Gain Flatness < ± 1 dB Typical
- +10.7 dBm P1dB Typical
- Internally Regulated
- Operates from a +8V Single Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology

Description

The AMT-A0396 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-A0396 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 RATINGS[1]

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	° C	-40	+85
Storage Temperature - Case	T_{MS}	° C	-54	+150
RF Input power (CW)	Pin	dBm		+10
Die $T_{Junction}$	T_J	° C		+150
Positive Supply Voltage	V_{+SS}	V		+15

Note: 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.

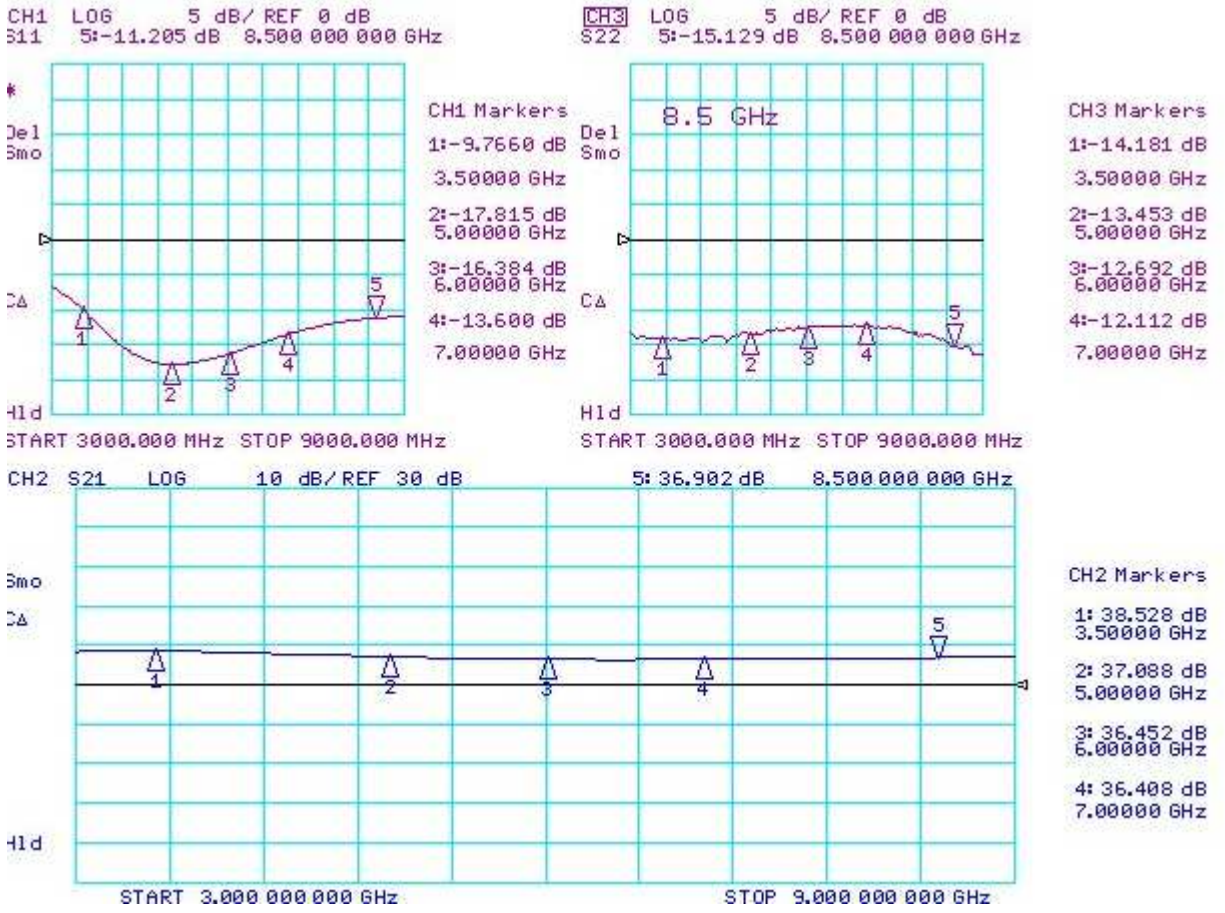
ELECTRICAL SPECIFICATIONS @ 23ºC

Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	3.5		9
Gain	Small Signal	dB	30	37	
Gain Flatness		dB		±1	±1.5
Input Power	CW, without damage	dBm	+10		
Output Power (P1dB)	1 dB compression point @ 6 GHz	dBm		10.7	
OIP3	OPI3 measured @ 6 GHz Two tone F1-F2= 10MHz	dBm		20	
Noise Figure		dB		1	1.5
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.3:1
RF Output Impedance	Reference to 50 ohms			1:8:1	2.3:1
Supply Voltage Positive: Supply Current Positive:		V mA		+8 85	 100

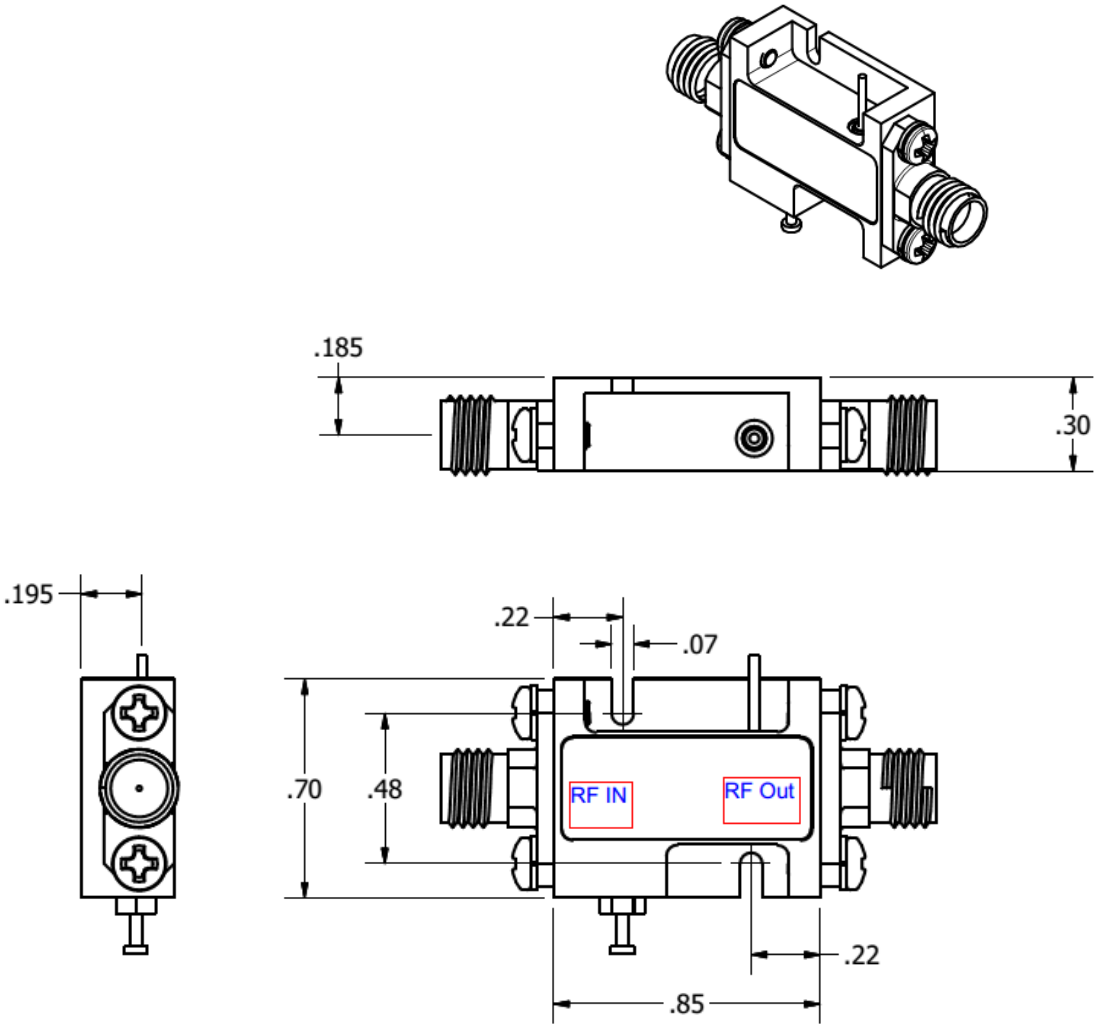
Notes:
1/ Unconditional Stability:

Customized configurations of the above specifications are available

Typical S-Parameters @ 25°C



Package Outline: M110 SMA Connectorized (inches)



Amplifier must be properly attached for heat dissipation
Removeable SMA and Ground slug

Model Number	Description	Hermeticity	Package
AMT-A0396	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:

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ISO 9001:2015
Certified Company

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