AMT-A0312 18 GHz to 40 GHz Broadband Low Noise with Flat Gain

Data Sheet

Agile Microwave Technology Inc

Features

- 18 GHz to 40 GHz Frequency Range
- Typical Gain 24 dB
- Gain Flatness < ± 1 dB typ
- Typical Noise Figure 3.8 dB
- Internally Regulated
- Operates from a Single Supply +12V
- High efficiency less than 175 mA typical
- Unconditionally Stable
- State-of-the-Art GaAs Technology

Photo for Illustration only

Description

The AMT-A0312 is a Broadband Low Noise amplifier with flat gain 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 and DC Blocked. The AMT-A0312 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	-40	+125
RF Input power (CW)	Pin	dBm		+10
Die $T_{Junction}$	T_J	° C		+150
Positive Supply Voltage	V_{+SS}	V		+13

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.

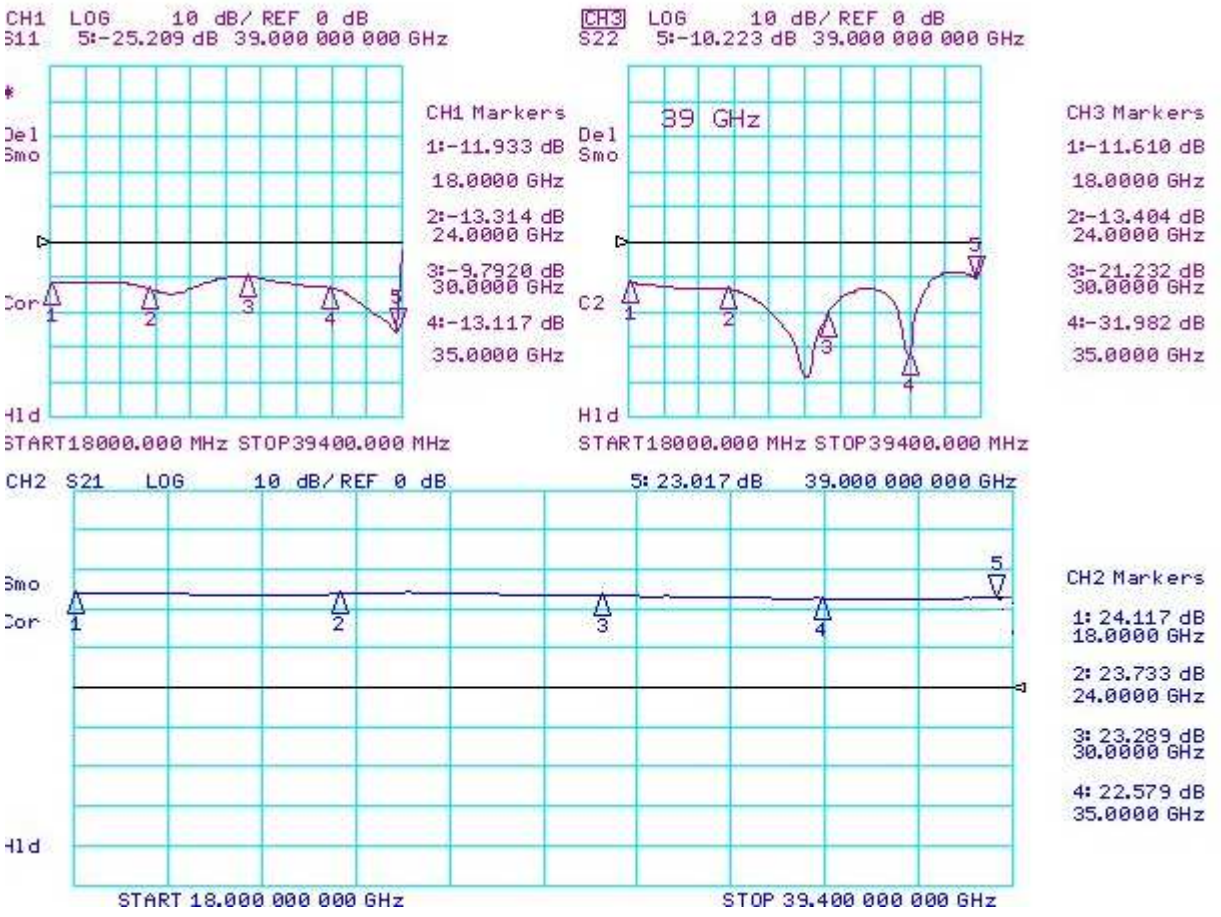
ELECTRICAL SPECIFICATIONS @ 23ºC

Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	18		40
Gain	Small Signal	dB	22	24	
Gain Flatness		dB		±1	± 2
Input Power Survival	CW short period, without damage	dBm	10		
Output Power (P1dB)	1 dB compression point @ 30 GHz	dBm		11	
OIP3		dBm		20	
Noise Figure	18 to 36 GHz	dB		3.8	5
Noise Figure	36 to 40 GHz	dB		4.7	6
RF Input Impedance	Reference to 50 ohms VSWR			1.5:1	2.2:1
RF Output Impedance	Reference to 50 ohms			1:5:1	2.2:1
Supply Voltage Positive: Supply Current Positive:		V mA		+12 175	210

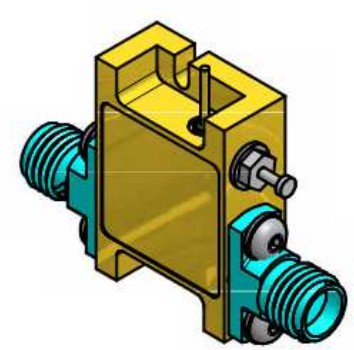
Notes:
1/ Unconditional Stability
2/ All min and max parameters are guaranteed by design

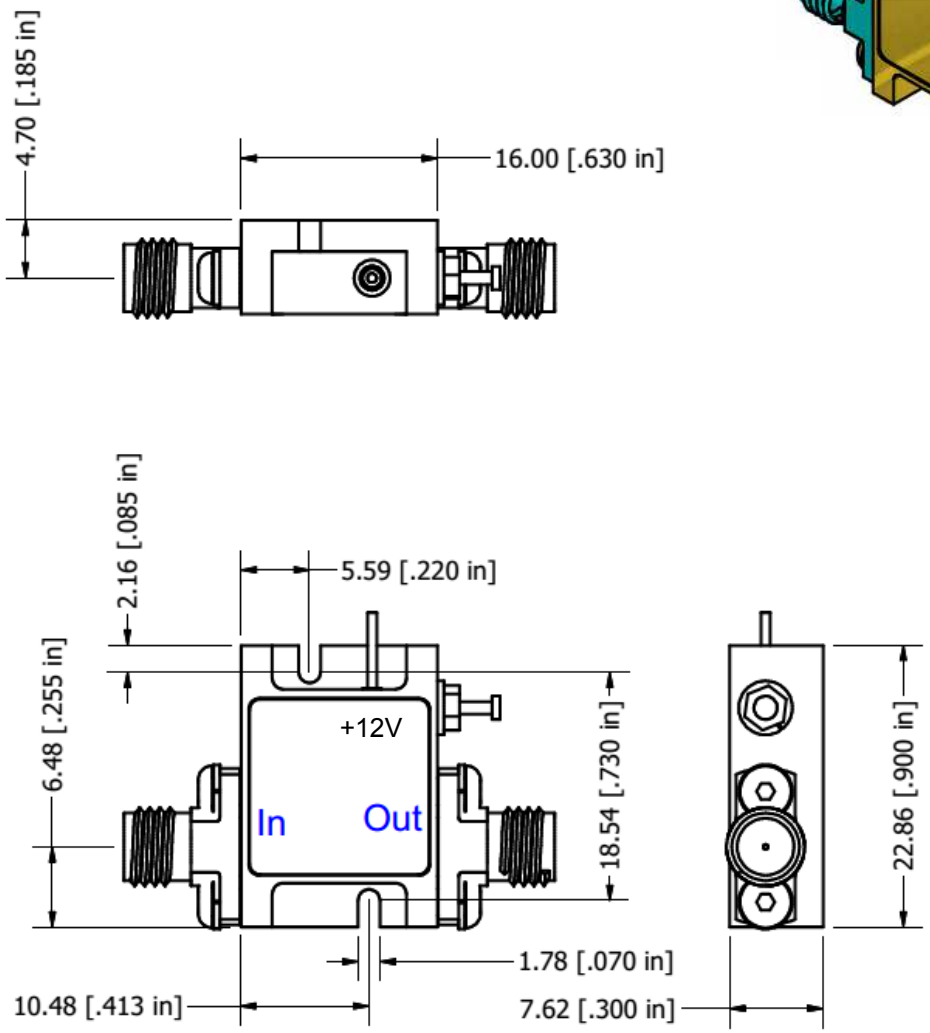
Customized configurations of the above specifications are available

S-Parameters @ 23ºC



Package Outline: M084 K 2.92mm Connectorized





Field replaceable SMA Connectors
Housing material: Aluminum Plating: Gold over Nickel
Note: The unit must be attached to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0312	K Female 2.92 mm	Non-Hermetic	Outline: M084

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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