

AMT-A0162 14 GHz to 18 GHz Medium Power Amplifier

Data Sheet



Features

- 14 GHz to 18 GHz Frequency Range
- Typical P1dB > +20 dBm
- Typical Gain 26 dB
- Gain Flatness < ± 0.6 dB Typical
- Typical Noise Figure < 4.5 dB
- Internally Regulated
- Operates from a Single +10 to +12V Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0162 is a Broadband Medium Power amplifier with P1dB of greater than +20 dBm over the full frequency range . The performance is achieved through the use of AM-TI's proprietary technology. The amplifier I/Os are Internally matched to 50 Ohms . The AMT-A0162 is ideal for use as gain block of receiver system, or where amplification is required with broadband power in a Hi-Rel communications system for Commercial or Military applications

Applications

- Radar
- Communication systems
- Microwave Radio systems
- Test Equipment

MAXIMUM RATINGS¹

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	-0	+75
Storage Temperature - Case	T _{MS}	° C	-40	+125
RF Input power (CW)	P _{in}	dBm		+20
Die T _{Junction}	T _J	° C		+150
Positive Supply Voltage	V _{+SS}	V		+15

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	14		18
Gain	Small Signal	dB	24	26	
Gain Flatness		dB		±0.6	±1
Gain vs Temp Stability	At given Frequency from 0C to +75C	dBpp			3.5
Output Power (P1dB)	1 dB compression point @ 16 GHz	dBm	+19	+20	
OIP3	OIP3 measured @ 16 GHz Two tone F1-F2= 10MHz	dB		29	
Noise Figure		dB		4.5	6.5
RF Input Impedance	Reference to 50 ohms VSWR			1.7:1	2.0:1
RF Output Impedance	Reference to 50 ohms			1:6:1	2.1:1
Supply Voltage Positive:		V		+10 to +12	
Supply Current Positive:	Small signal current	mA		220	240

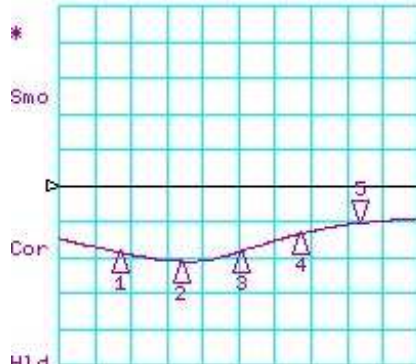
Notes:

1/ Unconditional Stability:

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

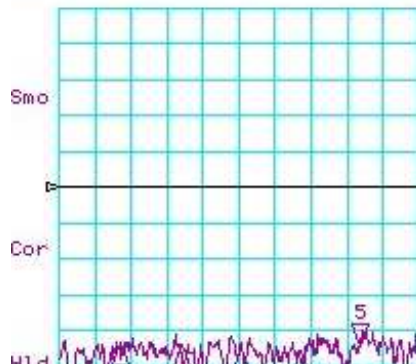
CH1 LOG 10 dB/ REF 0 dB
S11 5:-10.384 dB 18.000 000 000 GHz



CH1 Markers
1:-18.549 dB
14.0000 GHz
2:-20.981 dB
15.0000 GHz
3:-18.326 dB
16.0000 GHz
4:-13.502 dB
17.0000 GHz
5:-10.384 dB
18.0000 GHz

H1d
START13000.000 MHz STOP19000.000 MHz

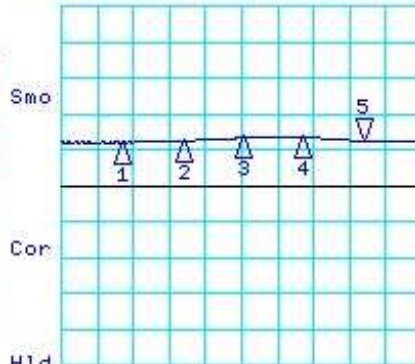
CH3 LOG 10 dB/ REF -10 dB
S12 5:-54.470 dB 18.000 000 000 GHz



CH3 Markers
1:-53.686 dB
14.0000 GHz
2:-54.465 dB
15.0000 GHz
3:-55.660 dB
16.0000 GHz
4:-55.991 dB
17.0000 GHz
5:-54.470 dB
18.0000 GHz

H1d
START13000.000 MHz STOP19000.000 MHz

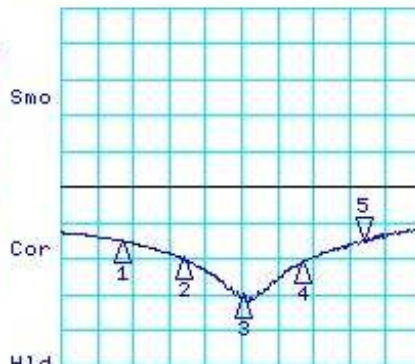
CH2 LOG 5 dB/ REF 20 dB
S21 5:26.302 dB 18.000 000 000 GHz



CH2 Markers
1:26.024 dB
14.0000 GHz
2:26.274 dB
15.0000 GHz
3:26.647 dB
16.0000 GHz
4:26.736 dB
17.0000 GHz
5:26.302 dB
18.0000 GHz

H1d
START13000.000 MHz STOP19000.000 MHz

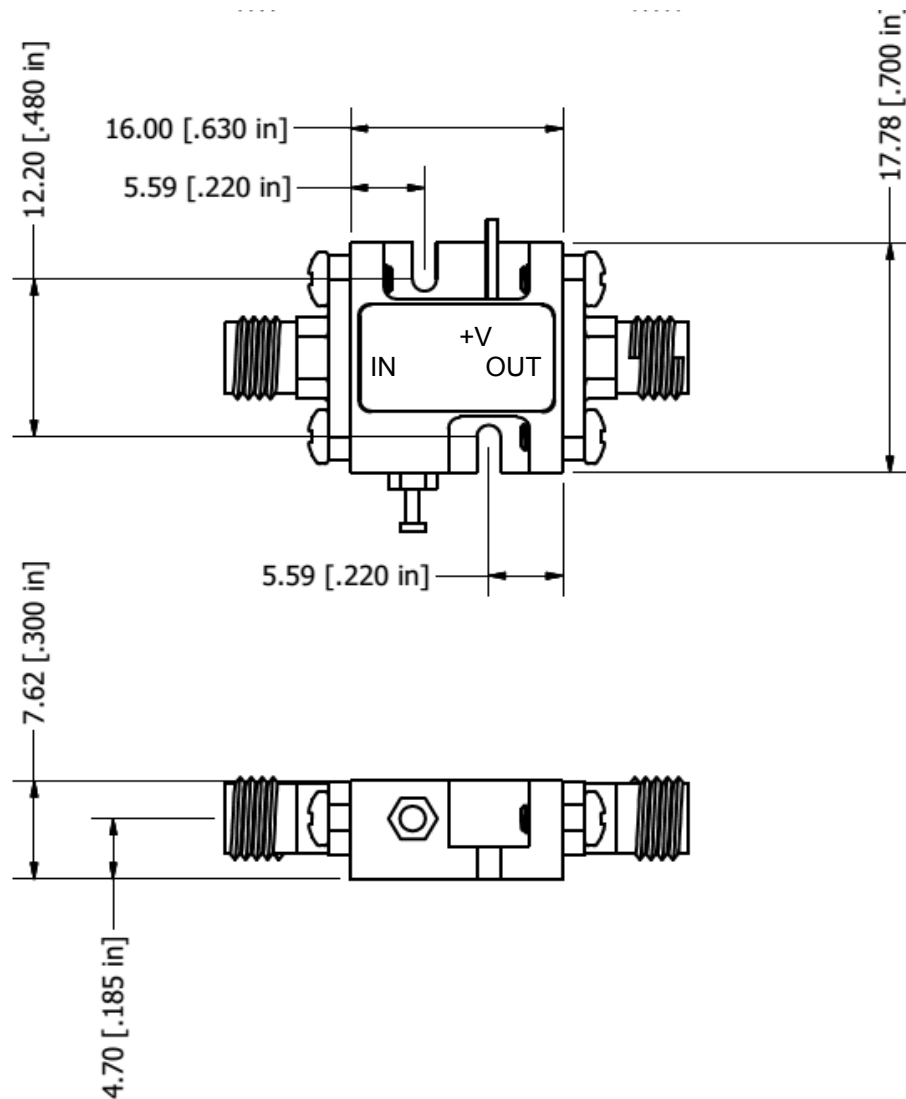
CH4 LOG 10 dB/ REF 0 dB
S22 5:-14.802 dB 18.000 000 000 GHz



CH4 Markers
1:-15.022 dB
14.0000 GHz
2:-20.103 dB
15.0000 GHz
3:-30.806 dB
16.0000 GHz
4:-21.153 dB
17.0000 GHz
5:-14.802 dB
18.0000 GHz

H1d
START13000.000 MHz STOP19000.000 MHz

Package Outline: M088 SMA Connectorized (inches)



Housing: Aluminum Gold over Nickel plated
Removable SMA and Ground Slug

Model Number	Description	Hermeticity	Package
AMT-A0162	SMA Female	Non-Hermetic	Outline: M088

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.

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**ISO 9001:2015
Certified Company**



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