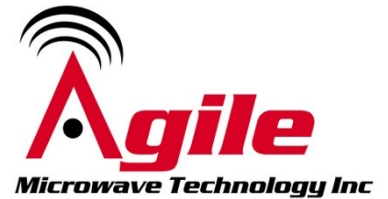


# AMT-A0736 0.3 GHz to 20 GHz Broadband Medium Power with Low Noise Amplifier



## Data Sheet

### Features

- 0.3 GHz to 20 GHz Frequency Range
- Typical P1dB power > +24 to +20 dBm
- Gain 18 dB Typical Positive gain slope
- Gain Flatness  $\pm 1.5$  dB Typical
- 2.7 dB Typical Noise Figure
- Internally Regulated
- Operates from Single +10 to +12V Supply
- Unconditionally Stable
- Compact Housing



### Description

The AMT-A0736 is a +23 dBm P1dB Broadband medium power amplifier 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-A0736 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
- EW Systems
- Lab Applications
- Radar

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

### EAR99 NLR

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case (for -H)	T <sub>MO</sub>	° C	-40 (-54)	+85
Storage Temperature - Case (for -H)	T <sub>MS</sub>	° C	-40 (-65)	+125
RF Input power (CW)	P <sub>in</sub>	dBm		+20
Die T <sub>Junction</sub>	T <sub>J</sub>	° C		+150
Positive Supply Voltage (50mVpp max Ripple)	V <sub>+SS</sub>	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.

## A0736 ELECTRICAL SPECIFICATIONS @ 23°C

Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	0.3		20
Gain	Small Signal	dB	16	18	
Gain Flatness		dB		±1.5	±2
Noise Figure		dB		2.7	6.5
Output Power (P1dB)	1 to 16 GHz	dBm	+20	+23	
OIP3	OIP3 @ 10 GHz Two tone F1-F2= 10MHz	dB		30	
RF Input Impedance	Reference to 50 ohms VSWR 0.3 to 18 GHz			1.5:1	2.2:1
RF Output Impedance	Reference to 50 ohms VSWR 0.3 to 18 GHz			1.5:1	2.2:1
Gain Temperature Coefficient		dB/°C		0.02	
Noise Figure Temperature Coefficient		dB/°C		0.01	
Supply Voltage Positive:	Small signal	V		+12	
Supply Current Positive:		mA		200	250

Notes:

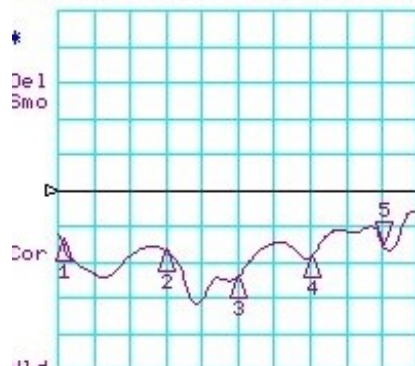
1/ Unconditional Stability

P1dB may be lower from 16 to 20 GHz +19 dBm min

Customized configurations of the above specifications are available

# Typical S-Parameters @ 23°C

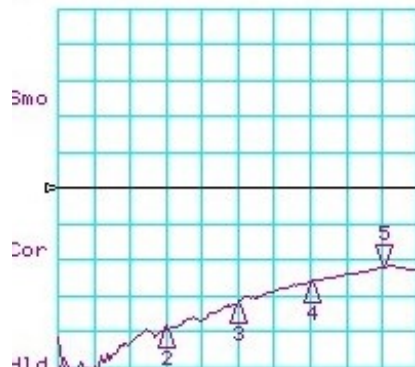
CH1 LOG 10 dB/ REF 0 dB  
S11 5:-14.917 dB 18.000 000 000 GHz



CH1 Markers  
1:-13.990 dB  
300.000 MHz  
2:-16.522 dB  
6.00000 GHz  
3:-24.137 dB  
10.0000 GHz  
4:-18.620 dB  
14.0000 GHz

START 100.000 MHz STOP20000.000 MHz

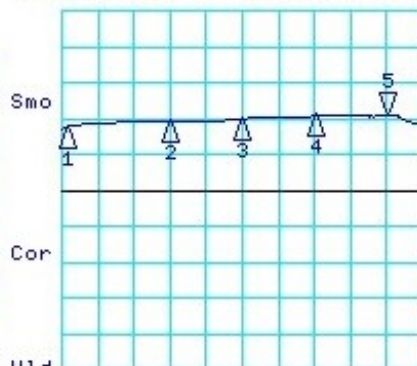
CH3 LOG 10 dB/ REF 0 dB  
S12 5:-22.041 dB 18.000 000 000 GHz



CH3 Markers  
1:-47.777 dB  
300.000 MHz  
2:-38.877 dB  
6.00000 GHz  
3:-32.023 dB  
10.0000 GHz  
4:-26.154 dB  
14.0000 GHz

START 100.000 MHz STOP20000.000 MHz

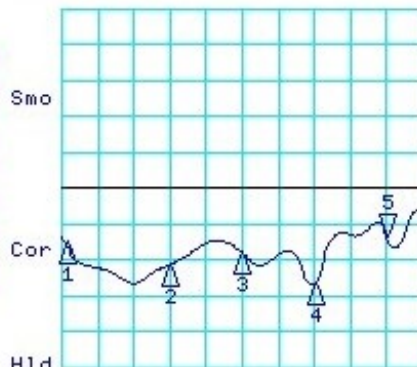
CH2 LOG 10 dB/ REF 0 dB  
S21 5: 21.017 dB 18.000 000 000 GHz



CH2 Markers  
1: 17.705 dB  
300.000 MHz  
2: 19.133 dB  
6.00000 GHz  
3: 20.003 dB  
10.0000 GHz  
4: 20.754 dB  
14.0000 GHz

START 100.000 MHz STOP20000.000 MHz

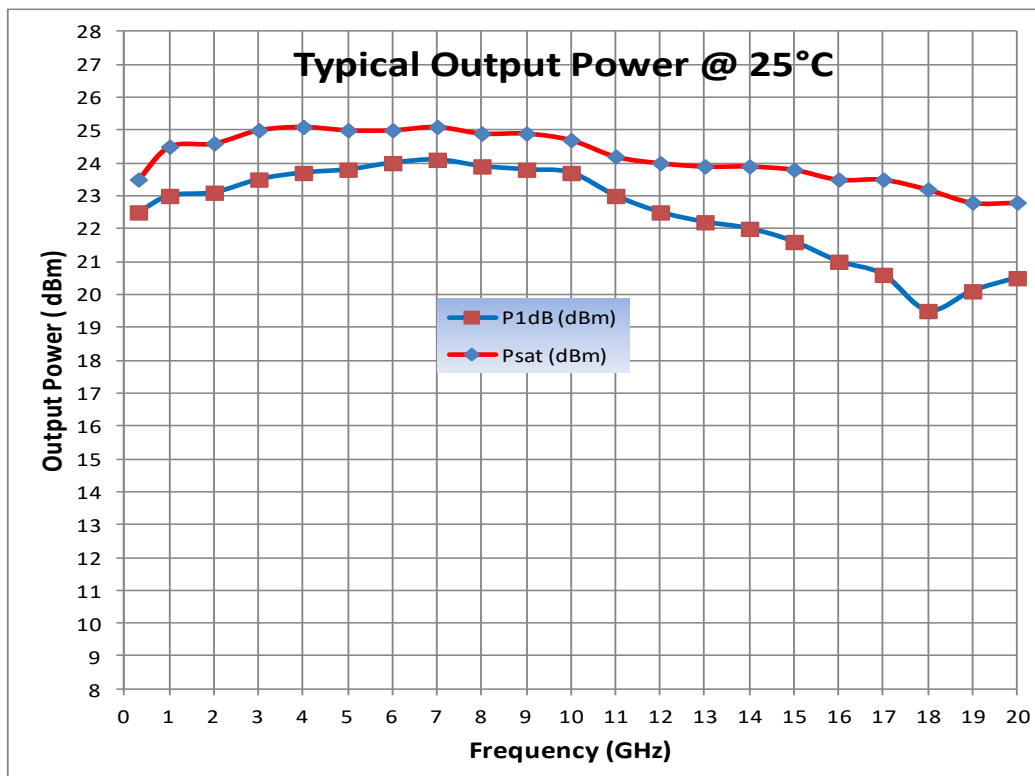
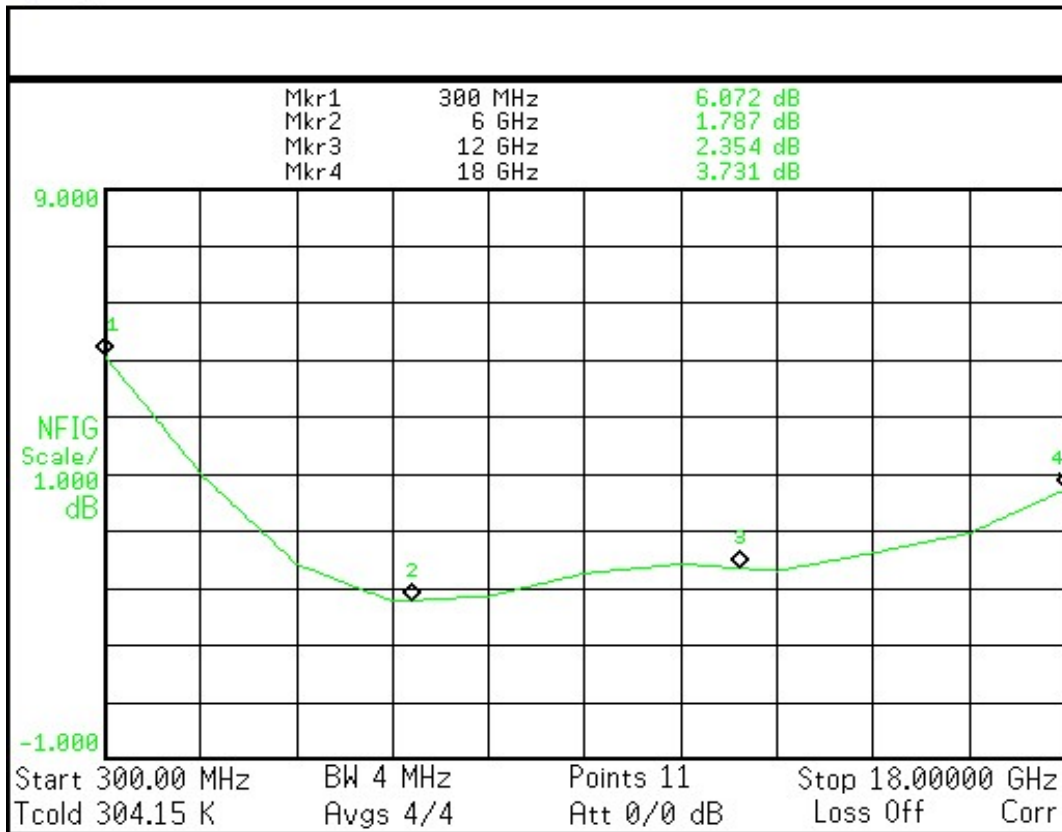
CH4 LOG 10 dB/ REF 0 dB  
S22 5:-13.246 dB 18.000 000 000 GHz



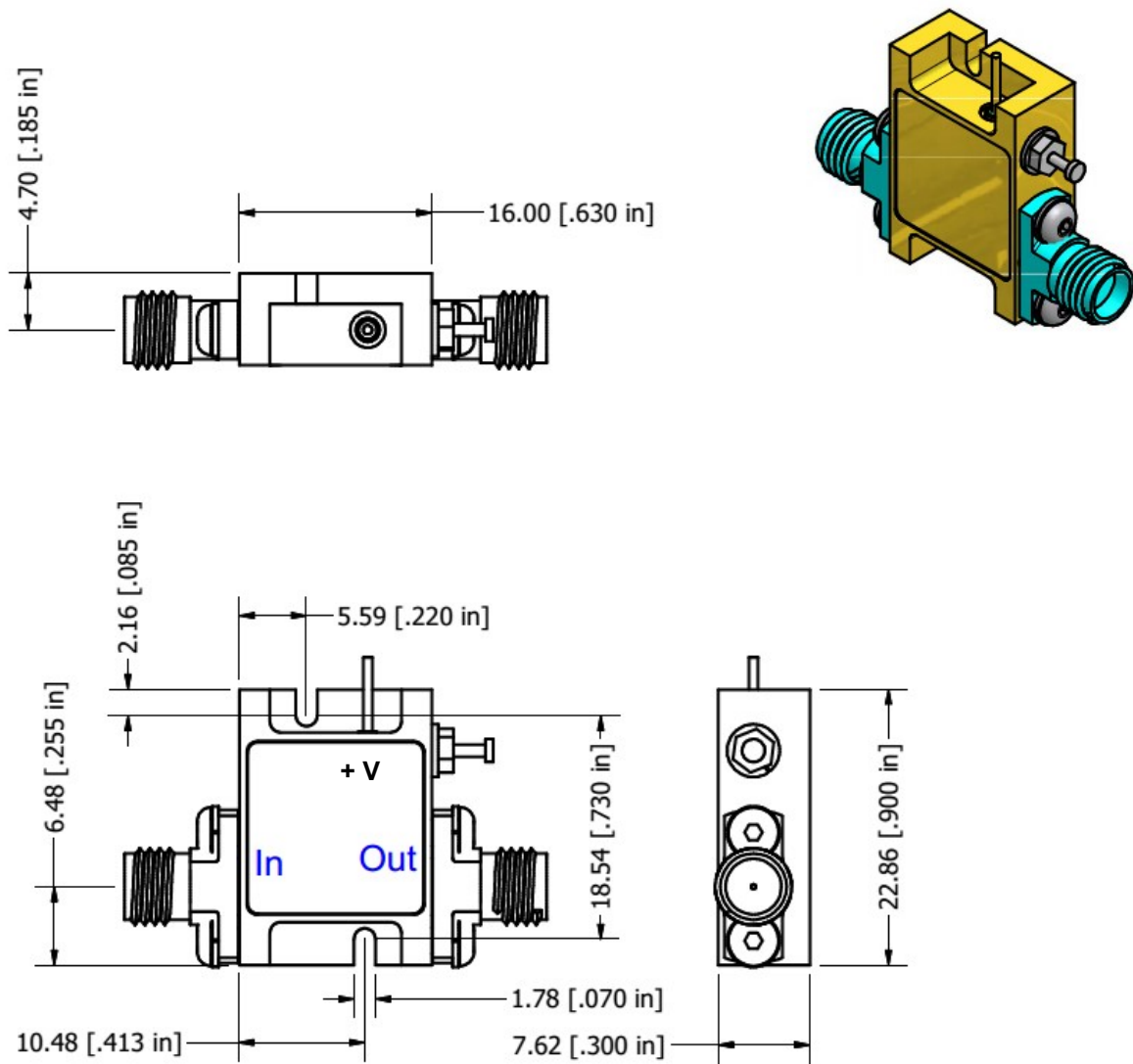
CH4 Markers  
1:-15.388 dB  
300.000 MHz  
2:-21.491 dB  
6.00000 GHz  
3:-17.909 dB  
10.0000 GHz  
4:-26.577 dB  
14.0000 GHz

START 100.000 MHz STOP20000.000 MHz

# Typical Noise Figure @ 23°C



## Package Outline M084: SMA Connectorized mm(inches)



### Field replaceable SMA Connectors, Removable Ground Slug

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

Outline tolerances:  $\pm 0.01$

Model Number	Description	Hermeticity	Package
AMT-A0736	SMA Female	Non-Hermetic	Outline: M084
AMT-A0736-H	SMA Female	Hermetic Fine Leak Test: 2.0 X10-8	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:

**ISO 9001:2015  
Certified Company**

**701 Cascade Pointe Lane  
Cary, NC 27513**

**Phone: (984) 228-8001    [info@agilemwt.com](mailto:info@agilemwt.com)  
[www.agilemwt.com](http://www.agilemwt.com)**



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