

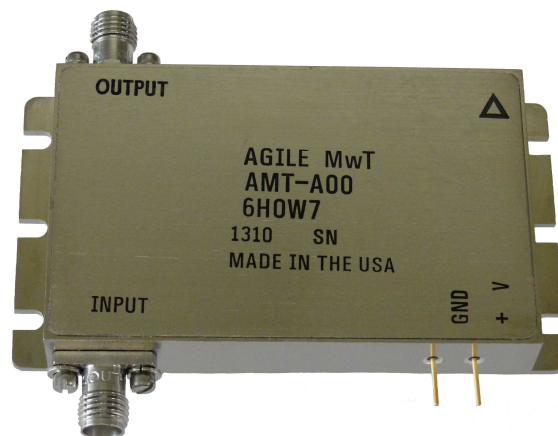
# AMT-A0090 2 GHz to 18 GHz 1W Broadband High Power Amplifier Module

Data Sheet



## Features

- 2 GHz to 18 GHz Frequency Range
- Typical P1dB power > +31 dBm (1.2W)
- Gain 37 dB Typical
- Gain Flatness  $\pm 1.2$  dB Typical
- Internally Regulated
- Low Noise Figure 3 dB Typical
- Operates from Single +15V Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



## Description

The AMT-A0090 is a +31 dBm P1dB Broadband 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 are DC blocked. The AMT-A0090 is ideal for use as extending power range of test equipment, EW systems or where broadband amplification and power are required in a Hi-Rel communications system for Commercial or Military applications

## Applications

- Radar
- Test Equipment
- EW Systems
- Lab Applications

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

EAR99

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T <sub>MO</sub>	° C	-20	+60
Storage Temperature - Case	T <sub>MS</sub>	° C	-55	+125
RF Input power (CW)	P <sub>in</sub>	dBm		+17
Die T <sub>Junction</sub>	T <sub>J</sub>	° C		+150
Positive Supply Voltage	V <sub>+SS</sub>	V		+16

### 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	2		18
Gain	Small Signal	dB	30	37	
Gain Flatness		dB		±1.2	±2.5
Gain Flatness 1 GHz BW		dB		±0.6	±1.4
Noise Figure		dB		3	4.5
Output Power (P1dB)		dBm	29	31	
OIP3	OPI3 measured @ 9 GHz Two tone F1-F2= 10MHz	dB		39	
Spurious		dBm		-70	
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.2:1
RF Output Impedance	Reference to 50 ohms VSWR			1.8:1	2.2:1
Supply Voltage Positive:		V		+15	
Supply Current Positive:	Small signal	mA		760	900

Notes:

1/ Unconditional Stability

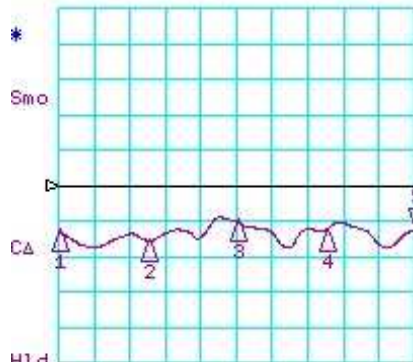
Customized configurations of the above specifications are available

# Typical S-Parameters @ 23°C

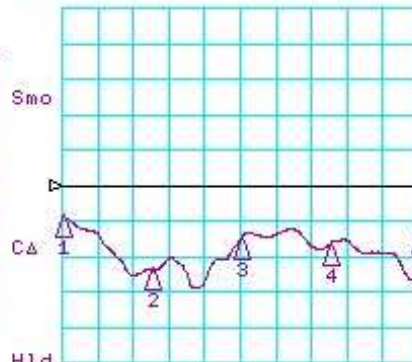
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CH1 LOG 10 dB/ REF 0 dB  
S11 5:-12.411 dB 18.000 000 000 GHz

CH3 LOG 10 dB/ REF 0 dB  
S22 5:-24.927 dB 18.000 000 000 GHz



CH1 Markers  
1:-12.995 dB  
2.00000 GHz  
2:-15.556 dB  
6.00000 GHz  
3:-10.090 dB  
10.0000 GHz  
4:-12.486 dB  
14.0000 GHz

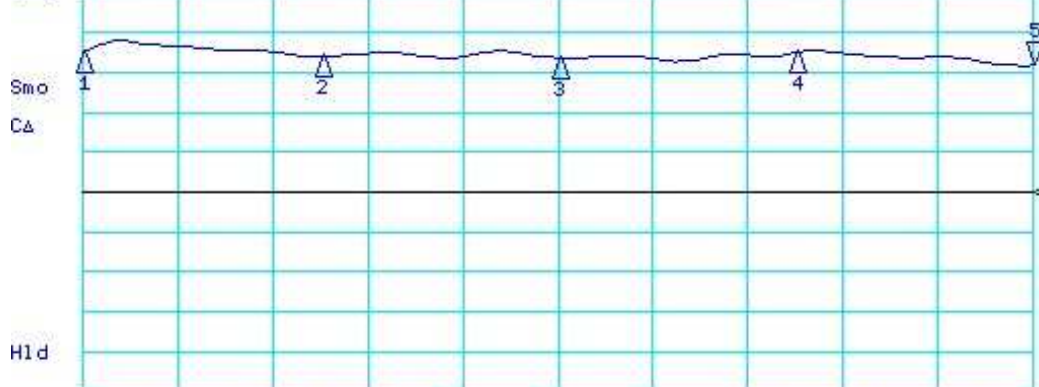


CH3 Markers  
1:-8.7860 dB  
2.00000 GHz  
2:-23.878 dB  
6.00000 GHz  
3:-15.059 dB  
10.0000 GHz  
4:-16.432 dB  
14.0000 GHz

H1d  
START 2000.000 MHz STOP 18000.000 MHz

H1d  
START 2000.000 MHz STOP 18000.000 MHz

CH2 S21 LOG 5 dB/ REF 20 dB 5: 35.910 dB 18.000 000 000 GHz

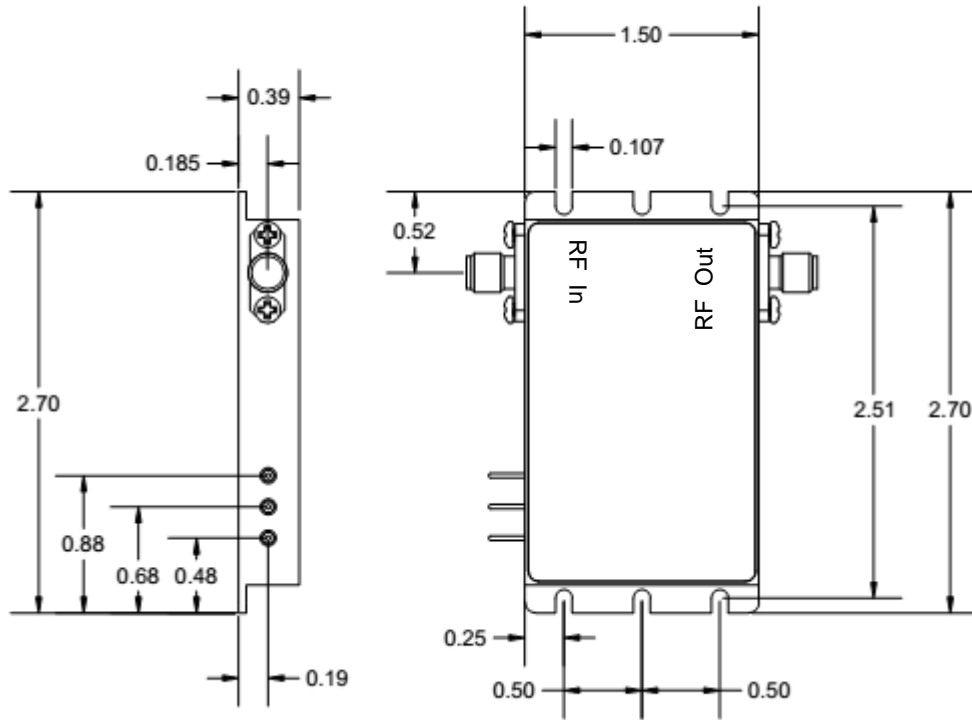


CH2 Markers  
1: 37.646 dB  
2.00000 GHz  
2: 37.023 dB  
6.00000 GHz  
3: 36.868 dB  
10.0000 GHz  
4: 37.469 dB  
14.0000 GHz

START 2.000 000 000 GHz

STOP 18.000 000 000 GHz

## Package Outline M055: SMA Connectorized (inches)



### Field replaceable SMA Connectors

**Note:** The unit must be attached to proper heat sink with thermal interface material ( Thermal Pad or Thermal Grease)

Model Number	Description	Hermeticity	Package
AMT-A0090	SMA Female	Non-Hermetic	Outline: M055

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.

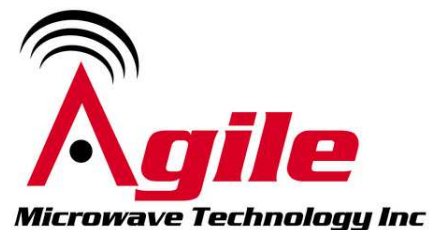
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