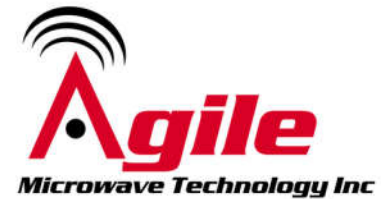


# AMT-A0490 2 GHz to 18 GHz 1W P1dB Broadband High Power Linear Amplifier Module

Data Sheet



## Features

- 2 GHz to 18 GHz Frequency Range
- P1dB power > +31 dBm Typical
- Gain 43 dB Typical
- Gain Flatness  $\pm 1.2$  dB Typical
- OIP3 +42 dBm typical
- Internally Regulated
- Low Noise Figure 3 dB Typical
- Operates from Single +28V Supply
- Unconditionally Stable

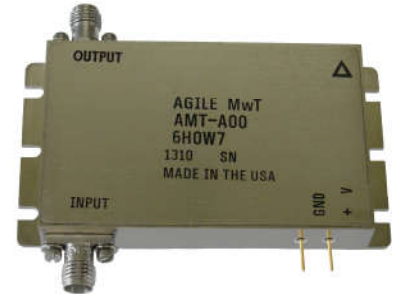


Photo for reference only

## Description

The AMT-A0490 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 GaN & GaAs technology. The amplifier I/Os are Internally matched to 50 Ohms and are DC blocked. The AMT-A0490 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>

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	$T_{MO}$	$^{\circ}C$	-40	+85
Storage Temperature - Case	$T_{MS}$	$^{\circ}C$	-55	+125
RF Input power (CW)	$P_{in}$	dBm		+15
Die $T_{Junction}$	$T_J$	$^{\circ}C$		+175
Positive Supply Voltage	$V_{+SS}$	V		+29

### 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

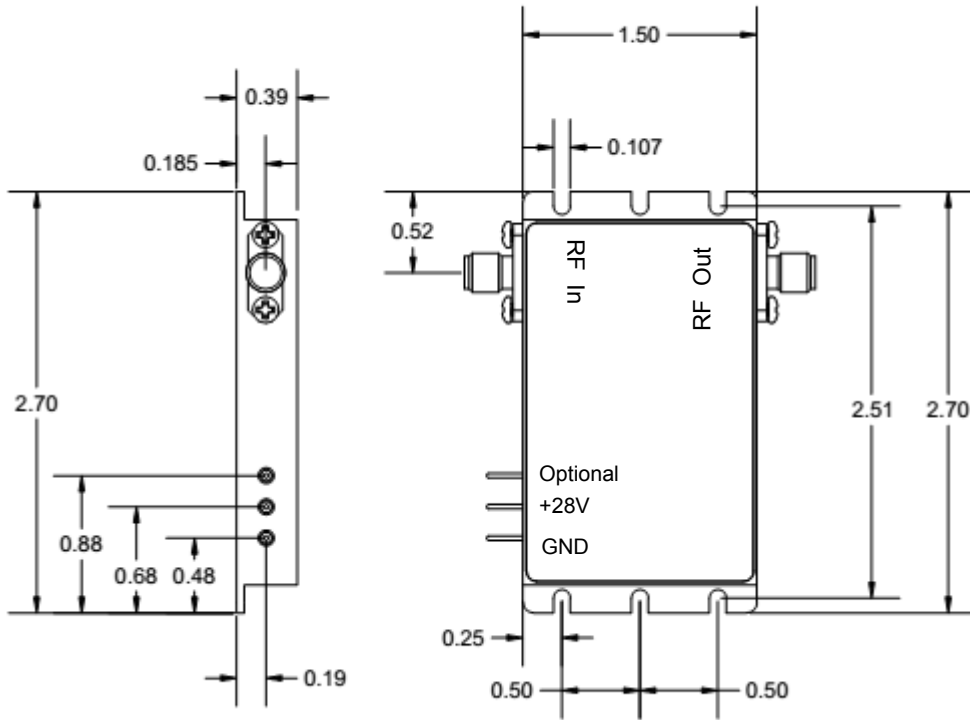
Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	2		18
Gain	Small Signal	dB	40	43	
Gain Flatness		dB		±1.2	±2
Gain Flatness 1 GHz BW		dB		±0.5	±1
Noise Figure		dB		3	5
Output Power (Psat)	Saturated Power	dBm	31	33	
Output Power (P1dB)		dBm	30.5	31	
OIP3	OPI3 measured Two tone F1-F2= 10MHz	dB	39	42	
Group Delay	Measured @ 11-12 GHz	nS			0.75
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		+28	
Supply Current Positive:	Small signal	A		1.2	2

Notes:

1/ Unconditional Stability

Customized configurations of the above specifications are available

## 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-A0490	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 (additional functions are model dependent)
- 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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