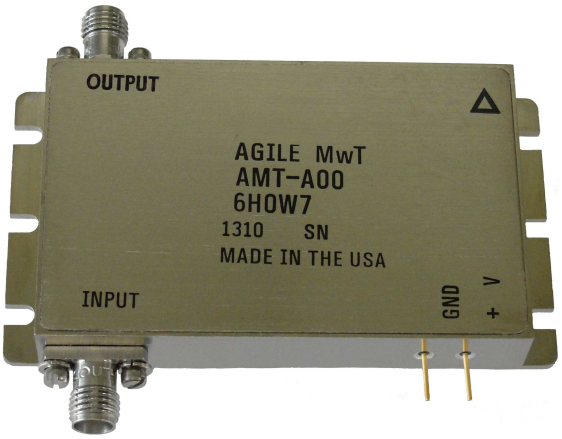
AMT-A0090 2 GHz to 18 GHz 1W P1dB Broadband High Power Amplifier Module

Data Sheet

Features

- 2 GHz to 18 GHz Frequency Range
- Typical P1dB power > +31 dBm (1W)
- Gain 38 dB Typical
- Gain Flatness ± 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 +30 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[1]

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

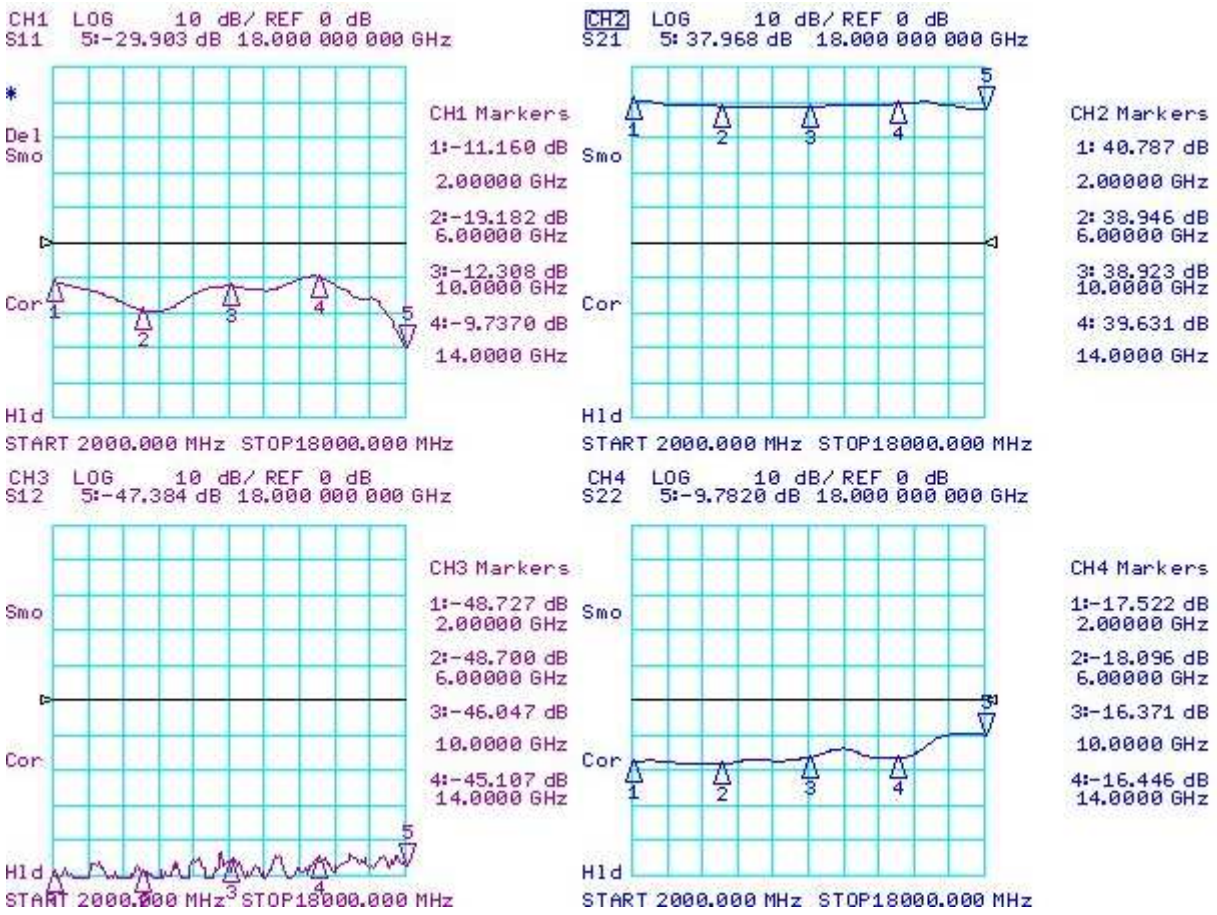
ELECTRICAL SPECIFICATIONS @ 23ºC

Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	2		18
Gain	Small Signal	dB	35	38	
Gain Flatness		dB		±1.2	±2.5
Gain Flatness 1 GHz BW		dB		±0.6	±1.4
Noise Figure		dB		3	4.9
Output Power (Psat)	Saturated Power	dBm	30	32	
Output Power (P1dB)		dBm	29	31	
OIP3	OPI3 measured @ 9 GHz Two tone F1-F2= 10MHz	dB		38	
Spurious		dBm		-70	
RF Input Impedance[2]	Reference to 50 ohms VSWR			1.8:1	2.2:1
RF Output Impedance[2]	Reference to 50 ohms VSWR			1.8:1	2.3:1
Supply Voltage Positive: Supply Current Positive:	Small signal	V mA		+15 705	 1100

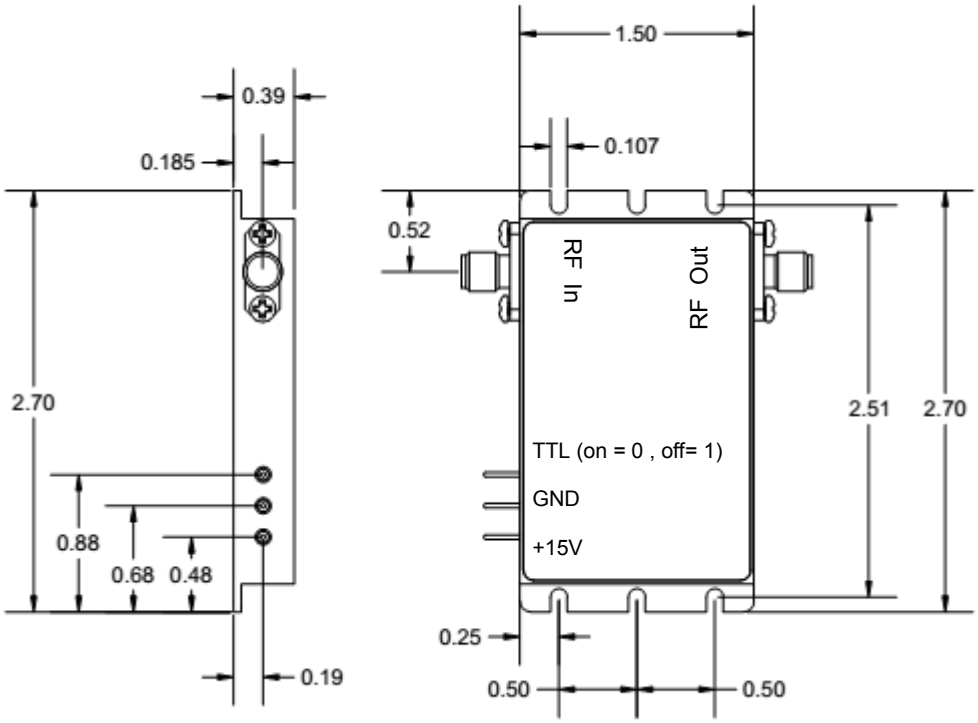
Notes:
1/ Unconditional Stability
2/ Maybe little higher at 18 GHz

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C



Package Outline M055: SMA Connectorized (inches)



Field replaceable SMA Connectors TTL on/off optional

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.

Contact Information:

ISO 9001:2015
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