

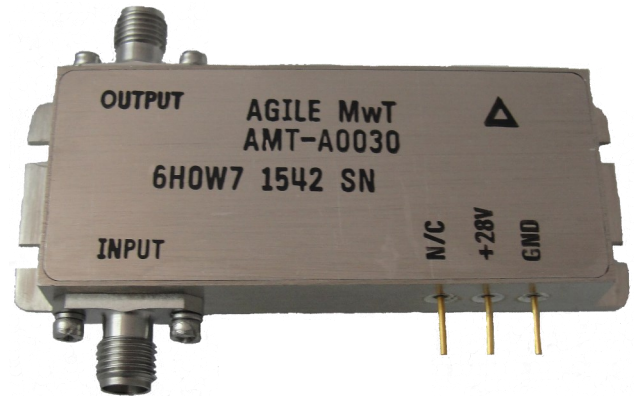
AMT-A0030 2 GHz to 18 GHz 8W 41 dB Gain Broadband High Power Amplifier Module

Data Sheet



Features

- 2 GHz to 18 GHz Frequency Range
- Typical Psat power > +39 dBm
- Gain 41 dB
- High Efficiency
- Internally Regulated
- Operates from a Single +28V Supply
- Unconditionally Stable
- Compact Size
- State-of-the-Art GaN Technology



Description

The AMT-A0030 is a Broadband 8 W power amplifier in a compact size. The performance is achieved through the use of AMTI's proprietary matching technology and latest in GaN technology. The amplifier I/Os are Internally matched to 50 Ohms and are DC blocked. The AMT-A0030 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

- Test Equipment
- EW Systems
- Lab Applications
- Radar

MAXIMUM RATINGS¹

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	0	+65
Storage Temperature - Case	T _{MS}	° C	-20	+125
RF Input power (CW)	Pin	dBm		+20
Die T _{Junction}	T _J	° C		+150
DC Current		A		1.6
Positive Supply Voltage	V _{+SS}	V	+15	+29

Appropriate Heat sink must be used

Do not turn on RF without loading RFout

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	38	41	
Gain Flatness		dB		±1.5	±2
Output Power (Psat)	Saturated Output power	dBm	36	38.5	
OIP3	OIP3 measured @ 5GHz Two tone F1-F2= 10MHz	dB		45	
Noise Figure		dB			8
RF Input Impedance	Reference to 50 ohms VSWR	dB		1.6:1	2.4:1
RF Output Impedance	Reference to 50 ohms VSWR	dB		1.8:1	2.4:1
Supply Voltage Positive:		V		+28	
Supply Current Positive:	Small signal	mA		550	
	Psat	A		1.3	

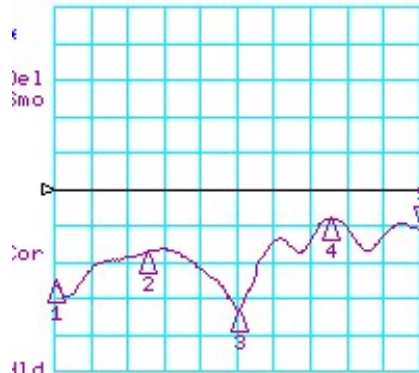
Notes:

1/ Unconditional Stability

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

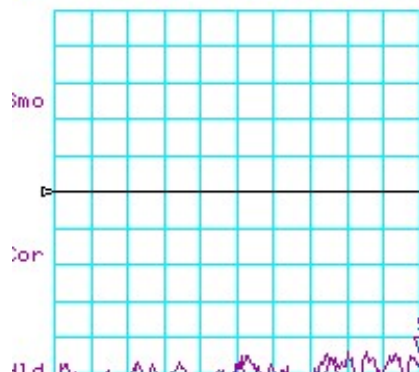
CH1 LOG 10 dB/ REF 0 dB
S11 5: -11.042 dB 17.998 400 000 GHz



CH1 Markers
1: -25.593 dB
2.00000 GHz
2: -17.486 dB
6.00000 GHz
3: -33.062 dB
10.0000 GHz
4: -8.2210 dB
14.0000 GHz

START 2000.000 MHz STOP 18000.000 MHz

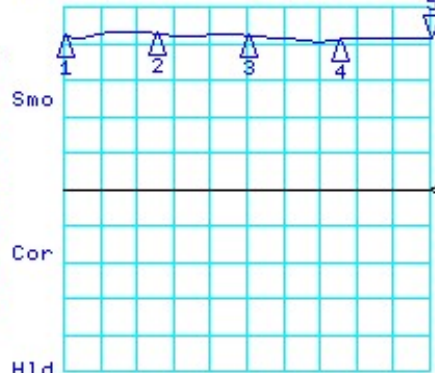
CH3 LOG 10 dB/ REF 0 dB
S12 5: -46.342 dB 17.998 400 000 GHz



CH3 Markers
1: -53.850 dB
2.00000 GHz
2: -50.418 dB
6.00000 GHz
3: -47.476 dB
10.0000 GHz
4: -45.817 dB
14.0000 GHz

START 2000.000 MHz STOP 18000.000 MHz

CH2 LOG 10 dB/ REF 0 dB
S21 5: 41.434 dB 17.998 400 000 GHz



CH2 Markers
1: 42.087 dB
2.00000 GHz
2: 42.837 dB
6.00000 GHz
3: 42.261 dB
10.0000 GHz
4: 41.194 dB
14.0000 GHz

START 2000.000 MHz STOP 18000.000 MHz

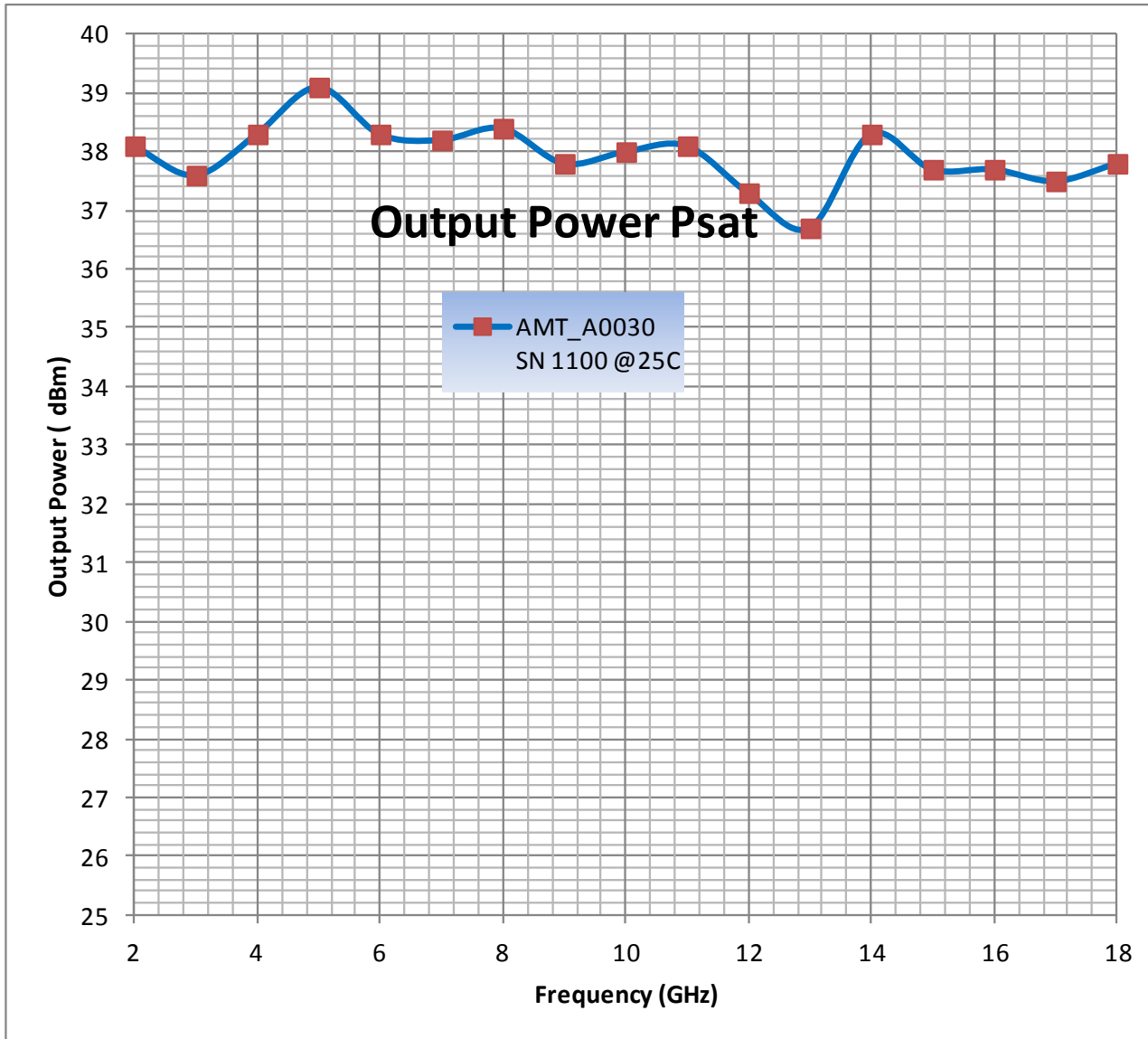
CH4 LOG 10 dB/ REF 0 dB
S22 5: -9.1560 dB 17.998 400 000 GHz



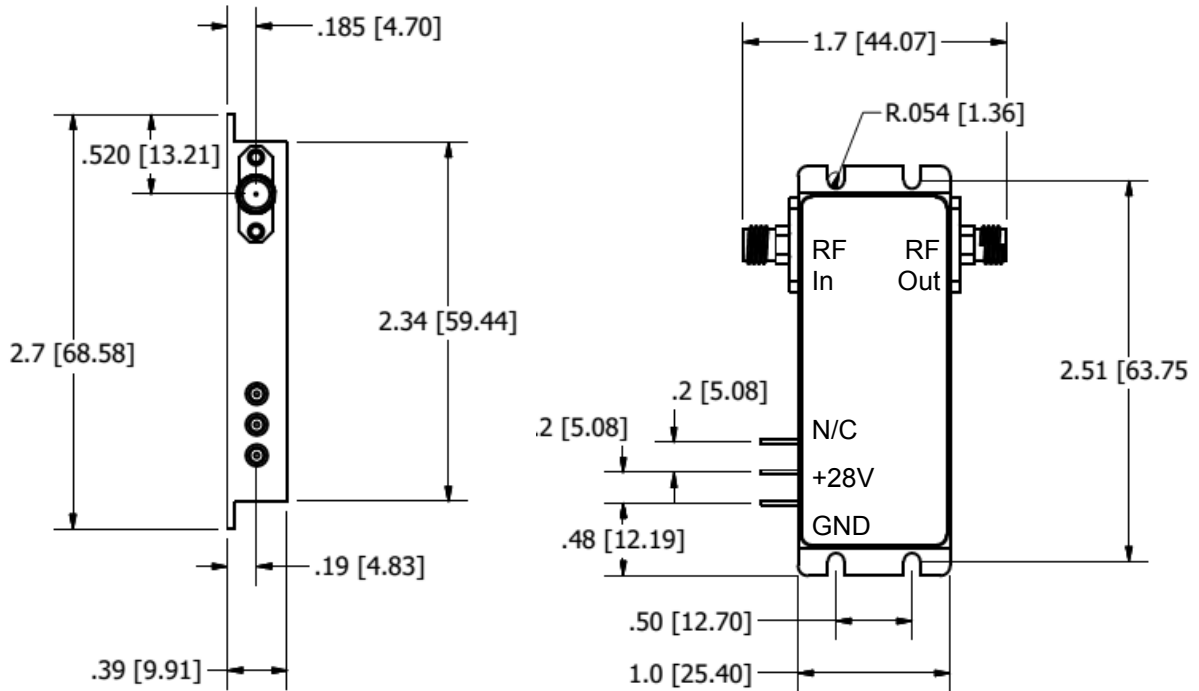
CH4 Markers
1: -10.182 dB
2.00000 GHz
2: -9.8460 dB
6.00000 GHz
3: -12.124 dB
10.0000 GHz
4: -11.950 dB
14.0000 GHz

START 2000.000 MHz STOP 18000.000 MHz

Typical Psat Power @ 23°C



Package Outline: Units are in Inches [mm] SMA Connectorized Inch-



**Field replaceable SMA Connectors
Housing Material Aluminum, Nickel Plated**

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-A0030	SMA Female	Non-Hermetic	Outline: M118

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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