

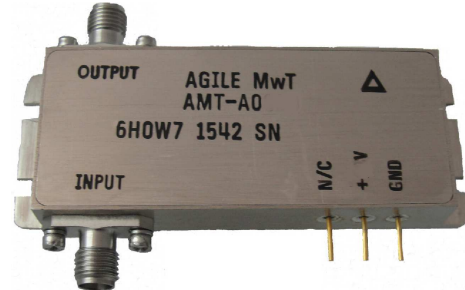
AMT-A0400 27 GHz to 31 GHz 8W 45 dB Gain Broadband High Power Amplifier Module 5G HPA

Data Sheet



Features

- 27 GHz to 31 GHz Frequency Range
- Typical Psat power > +39 dBm
- Gain 45 dB Typical
- High Efficiency
- Internally Regulated
- Operates from a Single +24V Supply
- Unconditionally Stable
- Compact Size
- State-of-the-Art GaN Technology



Description

The AMT-A0400 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-A0400 is ideal for use as extending power range of 5G Transmitter, test equipment, or where broadband amplification and power are required in a Hi-Rel communications system for Commercial or Military applications

Applications

- 5G HPA—Transmitter
- Test Equipment
- Lab Applications
- Radar

MAXIMUM RATINGS¹

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	-40	+75
Storage Temperature - Case	T _{MS}	° C	-40	+125
RF Input power (CW)	P _{in}	dBm		+20
Die T _{Junction}	T _J	° C		+150
DC Current		A		2
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	27		31
Gain	Small Signal	dB	40	45	
Gain Flatness		dB		±1.5	±3
Output Power (Psat)	Saturated Output power	dBm	36	39	
OIP3	OIP3 @ 28 GHz Two tone F1-F2= 10MHz	dB		45	
Noise Figure		dB			10
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		+24	
Supply Current Positive:	Small signal	mA		560	
	Psat	A		1.4	

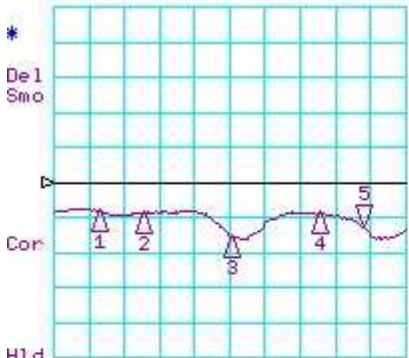
Notes:

1/ Unconditional Stability

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

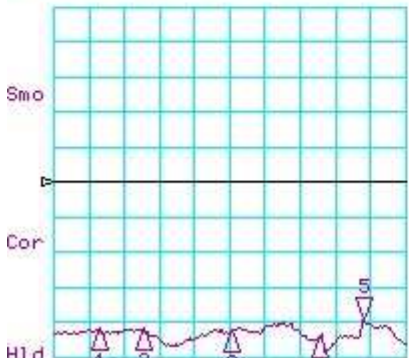
CH1 LOG 10 dB/ REF 0 dB
 S11 5: -12.552 dB 30.500 000 000 GHz



CH1 Markers
 1: -8.1670 dB
 27.5000 GHz
 2: -8.4800 dB
 28.0000 GHz
 3: -15.714 dB
 29.0000 GHz
 4: -8.8890 dB
 30.0000 GHz
 5: -12.552 dB
 30.5000 GHz

H1d
 START 27000.000 MHz STOP 31000.000 MHz

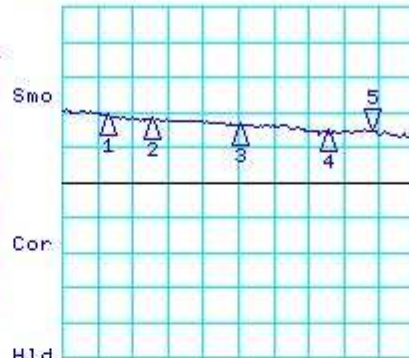
CH3 LOG 10 dB/ REF 0 dB
 S12 5: -39.272 dB 30.500 000 000 GHz



CH3 Markers
 1: -42.184 dB
 27.5000 GHz
 2: -42.031 dB
 28.0000 GHz
 3: -42.583 dB
 29.0000 GHz
 4: -44.628 dB
 30.0000 GHz
 5: -39.272 dB
 30.5000 GHz

H1d
 START 27000.000 MHz STOP 31000.000 MHz

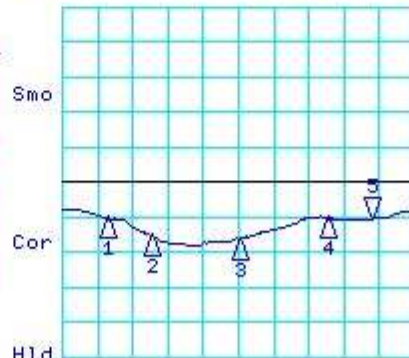
CH2 LOG 10 dB/ REF 30 dB
 S21 5: 44.399 dB 30.500 000 000 GHz



CH2 Markers
 1: 49.224 dB
 27.5000 GHz
 2: 48.321 dB
 28.0000 GHz
 3: 46.238 dB
 29.0000 GHz
 4: 44.723 dB
 30.0000 GHz
 5: 44.399 dB
 30.5000 GHz

H1d
 START 27000.000 MHz STOP 31000.000 MHz

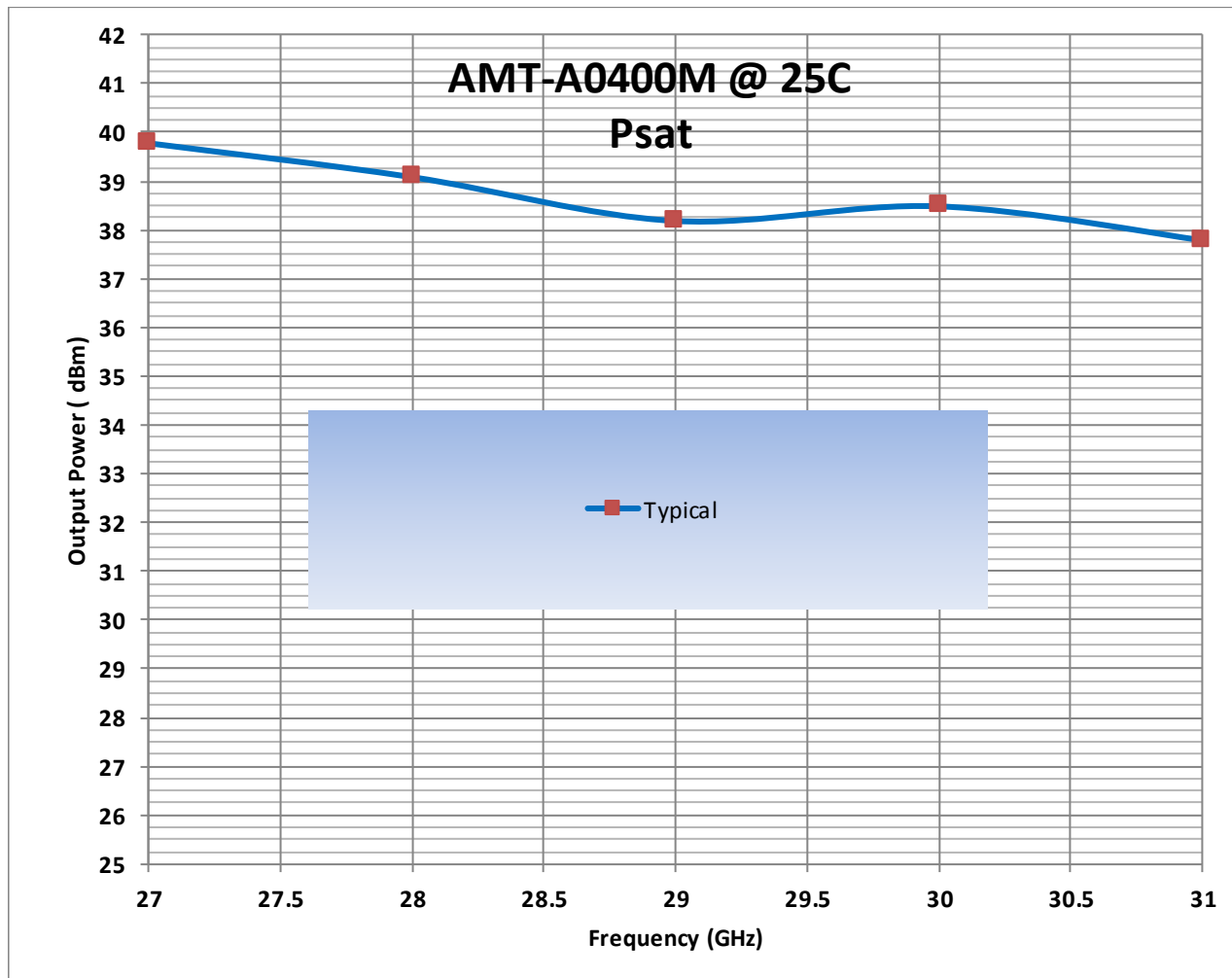
CH4 LOG 10 dB/ REF 0 dB
 S22 5: -10.464 dB 30.500 000 000 GHz



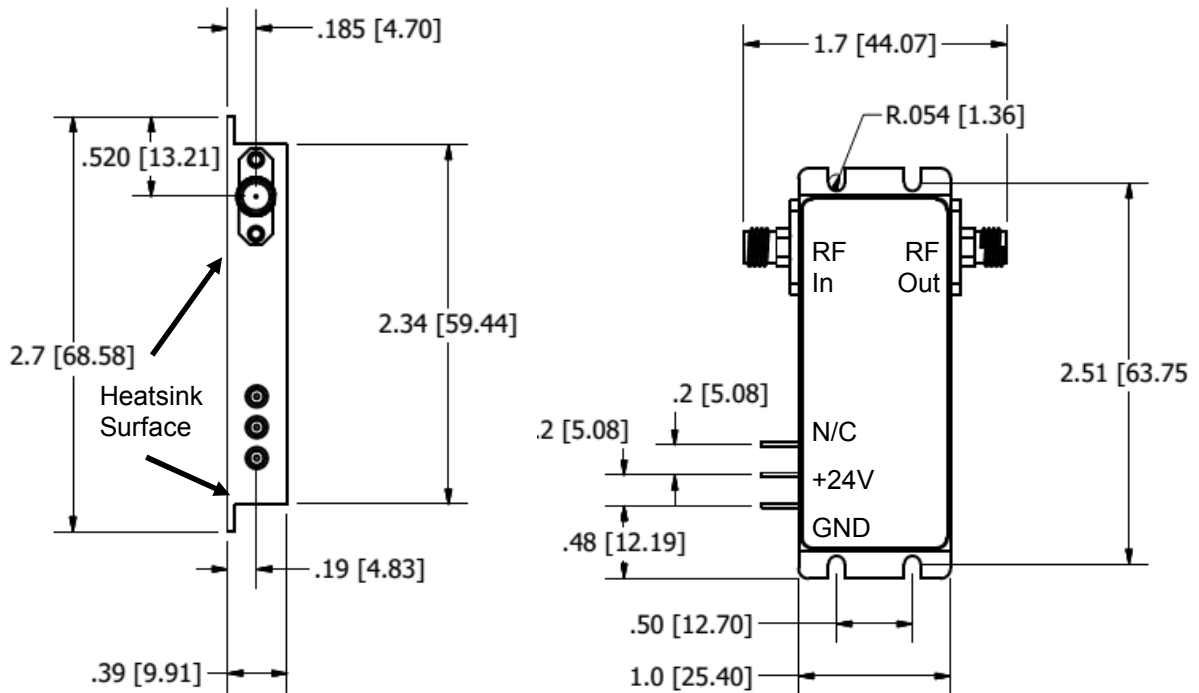
CH4 Markers
 1: -10.145 dB
 27.5000 GHz
 2: -15.186 dB
 28.0000 GHz
 3: -16.186 dB
 29.0000 GHz
 4: -10.266 dB
 30.0000 GHz
 5: -10.464 dB
 30.5000 GHz

H1d
 START 27000.000 MHz STOP 31000.000 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-A0400	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.

Contact Information:

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**ISO 9001:2015
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