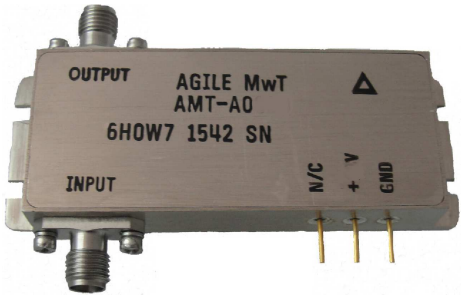
AMT-A0400 27 GHz to 31 GHz 8W 45 dB Gain Broadband High Power Amplifier Module 5G HPA

Data Sheet

Agile Microwave Technology Inc

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 RATINGS[1]

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)	Pin	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.

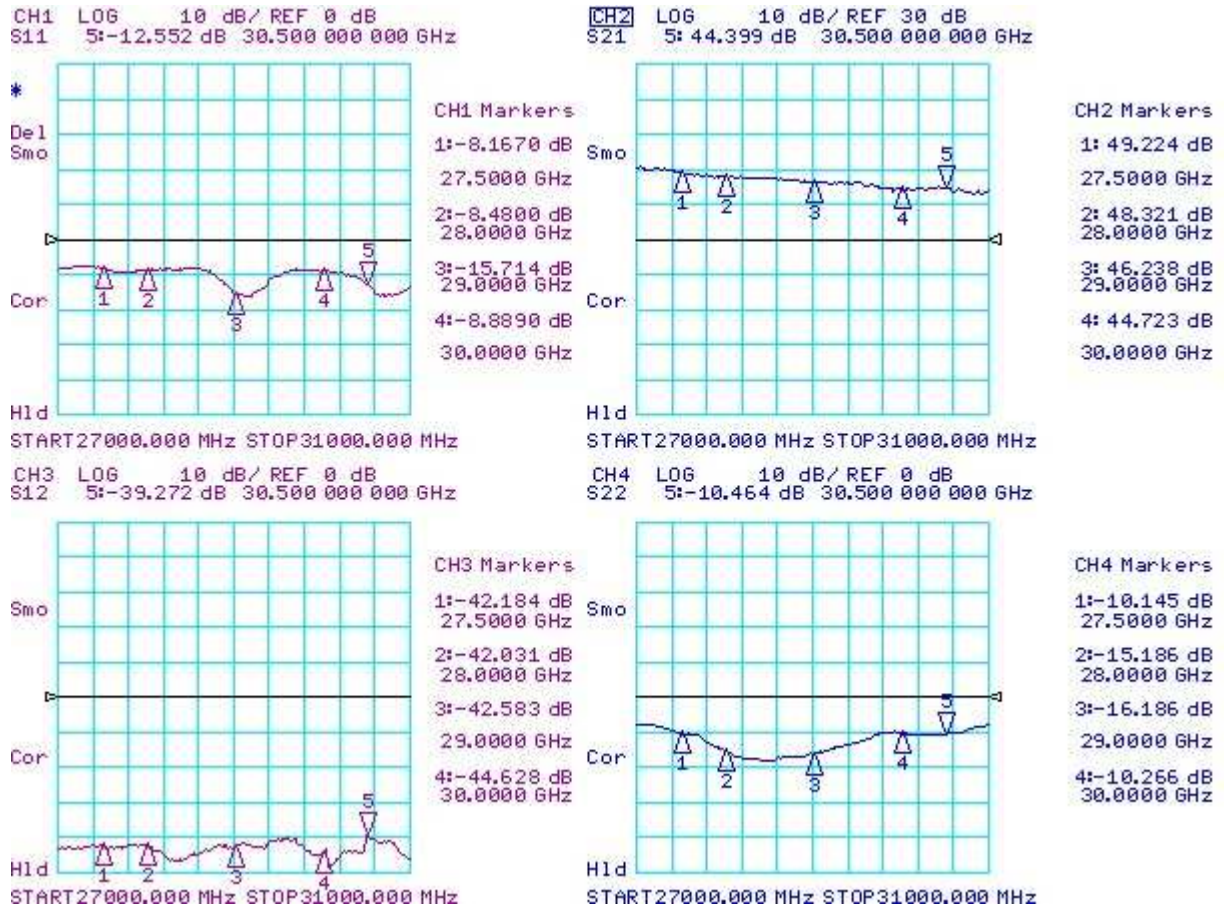
ELECTRICAL SPECIFICATIONS @ 23ºC

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	OPI3 @ 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: Supply Current Positive:	 Small signal Psat	V mA A		+24 560 1.4	

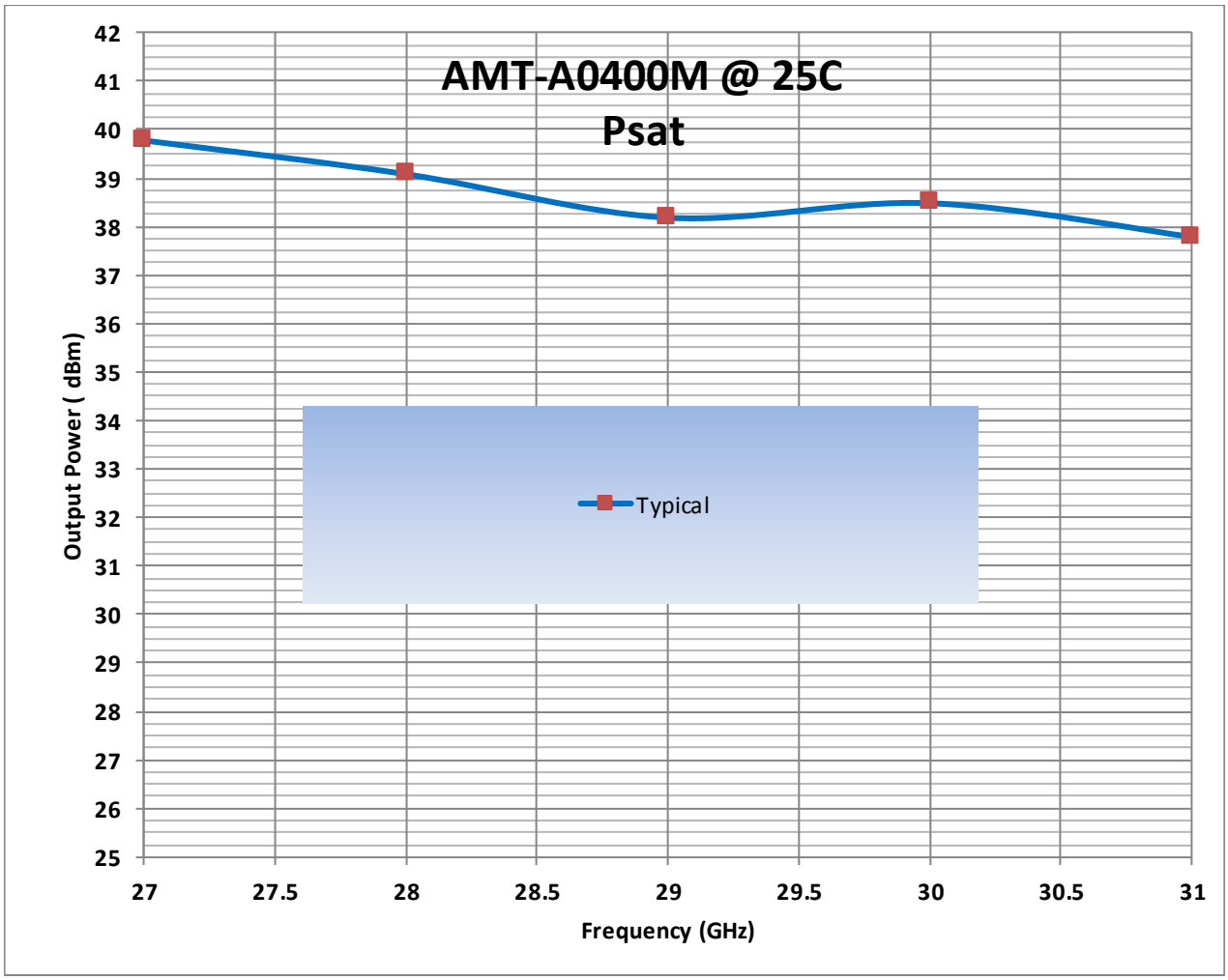
Notes:
1/ Unconditional Stability

Customized configurations of the above specifications are available

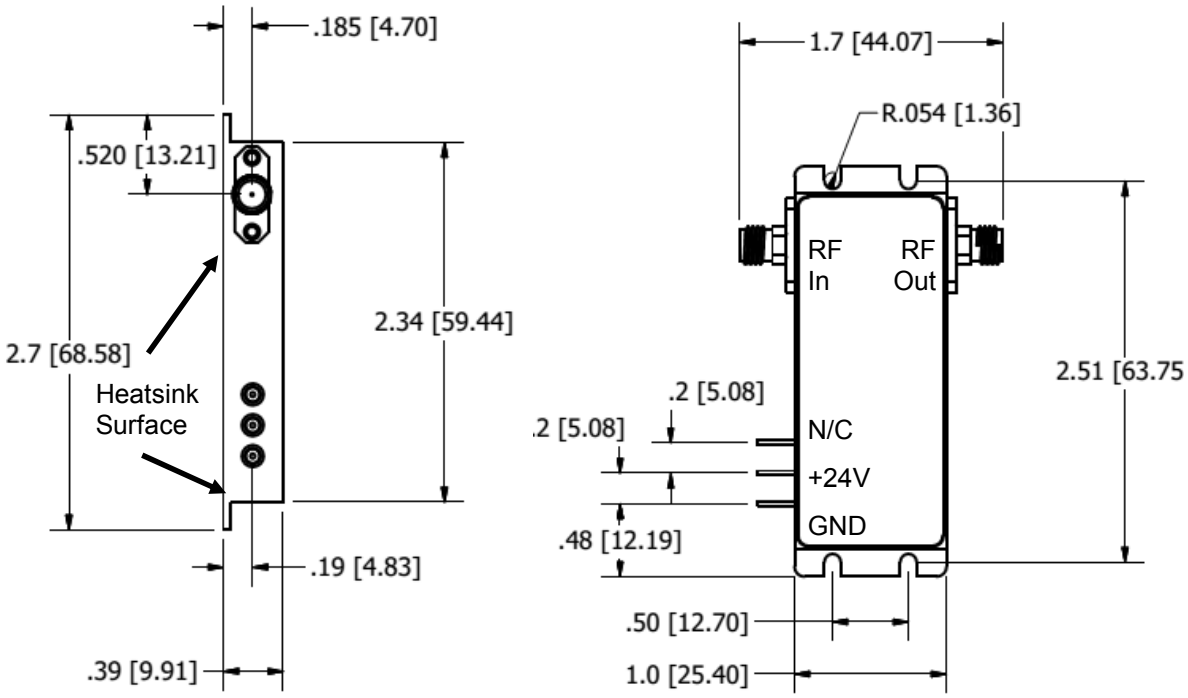
Typical S-Parameters @ 23ºC



Typical Psat Power @ 23ºC



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:

701 Cascade Pointe Lane
Cary, NC 27513
Phone: (984) 228-8001

ISO 9001:2015 CERTIFIED

Agile Microwave Technology Inc

info@agilemwt.com **www.agilemwt.com**