

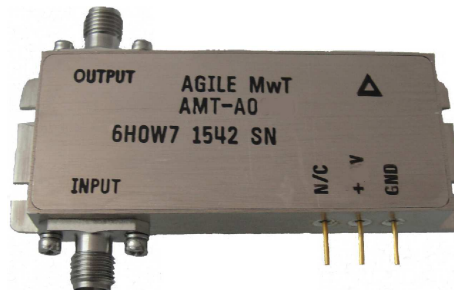
AMT-A0403 4 GHz to 8 GHz 4W 45 dB Gain High Power Amplifier Module

Data Sheet



Features

- 4 GHz to 8 GHz Frequency Range
- Typical P3dB power > +36 dBm
- Gain 45 dB Typical
- Gain Flatness ± 0.5 dB typical
- Noise Figure 2.5 dB typical, 4 dB max
- Internally Regulated
- Operates from a Single +28V Supply
- Unconditionally Stable
- Compact Size



Description

The AMT-A0403 is a 4 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-A0403 is ideal for use as Transmitter, test equipment, or where broadband amplification and power are required in a Hi-Rel communications system for Commercial or Military applications

Applications

- Transmitter
- Test Equipment
- Lab Applications
- Radar

MAXIMUM RATINGS¹

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	$^{\circ}C$	-40	+75
Storage Temperature - Case	T_{MS}	$^{\circ}C$	-40	+125
RF Input power (CW)	P_{in}	dBm		+15
Die $T_{Junction}$	T_J	$^{\circ}C$		+150
DC Current		A		1
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	4		8
Gain	Small Signal	dB	38	45	
Gain Flatness		dB		±0.5	±1.5
Output Power (P2dB)	Saturated Output power	dBm	36	37	
OIP3	OIP3 @ 28 GHz Two tone F1-F2= 10MHz	dB		42	
Noise Figure		dB		2.5	4
RF Input Impedance	Reference to 50 ohms VSWR	dB		1.4:1	2.0:1
RF Output Impedance	Reference to 50 ohms VSWR	dB		1.8:1	2.3:1
Supply Voltage Positive:		V		+28	
Supply Current Positive:	Small signal	mA		600	

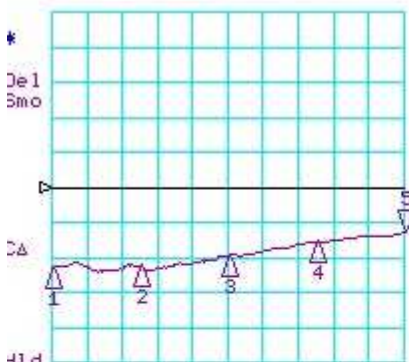
Notes:

1/ Unconditional Stability

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

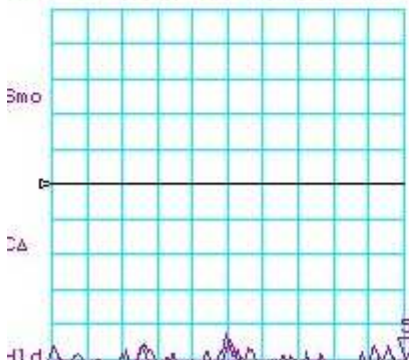
CH1 LOG 10 dB/ REF 0 dB
S11 5: -12.661 dB 8.000 000 000 GHz



CH1 Markers
1: -22.861 dB
4.00000 GHz
2: -22.765 dB
5.00000 GHz
3: -19.370 dB
6.00000 GHz
4: -15.645 dB
7.00000 GHz

START 4000.000 MHz STOP 8000.000 MHz

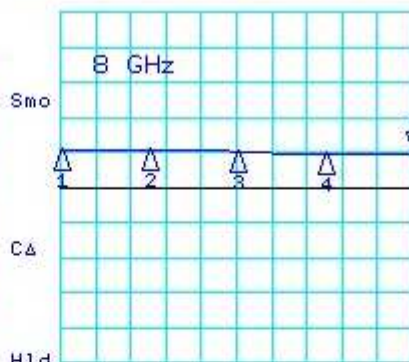
CH3 LOG 10 dB/ REF 0 dB
S12 5: -49.859 dB 8.000 000 000 GHz



CH3 Markers
1: -46.646 dB
4.00000 GHz
2: -46.587 dB
5.00000 GHz
3: -44.668 dB
6.00000 GHz
4: -53.114 dB
7.00000 GHz

START 4000.000 MHz STOP 8000.000 MHz

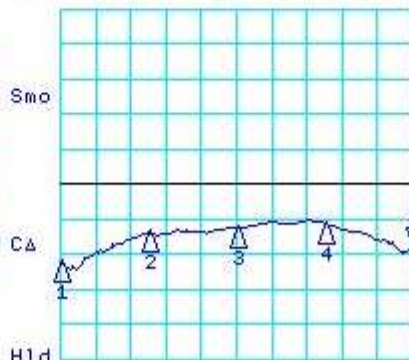
CH2 LOG 10 dB/ REF 35 dB
S21 5: 44.470 dB 8.000 000 000 GHz



CH2 Markers
1: 45.860 dB
4.00000 GHz
2: 45.776 dB
5.00000 GHz
3: 45.239 dB
6.00000 GHz
4: 44.382 dB
7.00000 GHz

START 4000.000 MHz STOP 8000.000 MHz

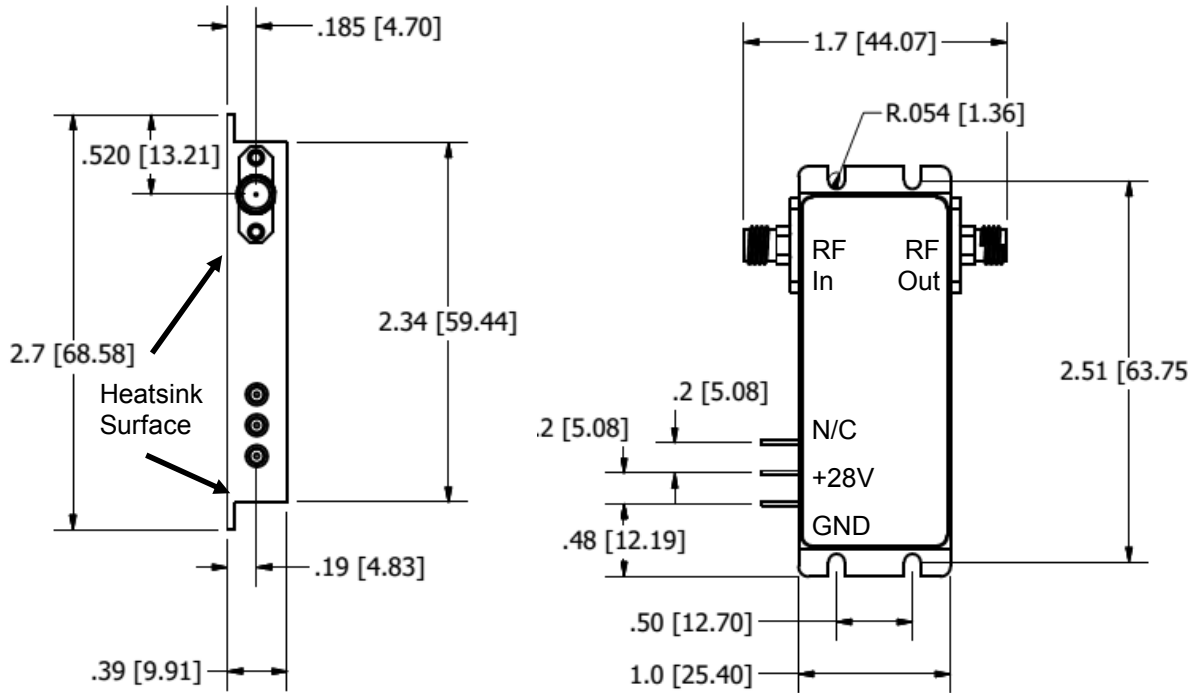
CH4 LOG 10 dB/ REF 0 dB
S22 5: -18.797 dB 8.000 000 000 GHz



CH4 Markers
1: -21.821 dB
4.00000 GHz
2: -13.765 dB
5.00000 GHz
3: -12.400 dB
6.00000 GHz
4: -11.211 dB
7.00000 GHz

START 4000.000 MHz STOP 8000.000 MHz

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-A0403	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.

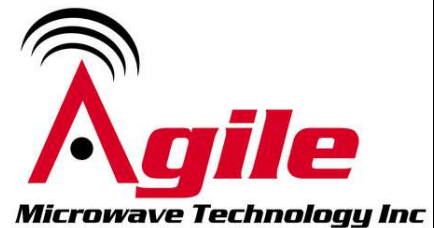
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital 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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