

AMT-A0206 2 GHz to 18 GHz Broadband Medium Power with Low Noise Amplifier

Data Sheet



Features

- 2 GHz to 18 GHz Frequency Range
- Typical P1dB power > +23 dBm
- Gain 18 dB Typical **Positive gain slope**
- Gain Flatness ± 1.2 dB Typical
- 2.7 dB Typical Noise Figure
- Internally Regulated
- Operates from Single +10 Supply
- Unconditionally Stable
- Compact Housing



Description

The AMT-A0206 is a +23 dBm P1dB Broadband medium power amplifier with low NF 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 DC Blocked. The AMT-A0236 is ideal for use as medium power with low noise for test equipment, Communication systems or where broadband amplification and power are required without adding significant noise in a Hi-Rel communications system for Commercial or Military applications

Applications

- Test Equipment
- EW Systems
- Lab Applications
- Radar

MAXIMUM RATINGS¹

EAR99 NLR

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		+20
Die $T_{Junction}$	T_J	$^{\circ}C$		+150
Positive Supply Voltage	V_{+SS}	V		+13

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 @ 23°C

Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	2		18
Gain	Small Signal	dB	16	18	
Gain Flatness		dB		±1.2	±2
Noise Figure		dB		2.7	4.5
Output Power (P1dB)	1 to 16 GHz	dBm	+20	+23	
OIP3	OIP3 @ 10 GHz Two tone F1-F2= 10MHz	dB		30	
RF Input Impedance	Reference to 50 ohms VSWR			1.5:1	2.2:1
RF Output Impedance	Reference to 50 ohms VSWR			1.5:1	2.2:1
Supply Voltage Positive:		V		+10	
Supply Current Positive:	Small signal	mA		180	250

Notes:

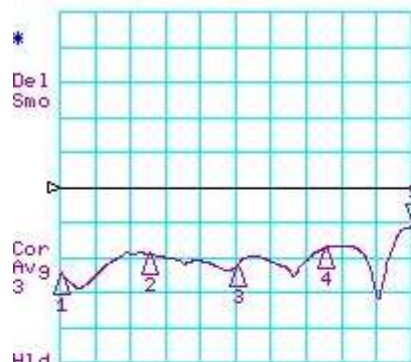
1/ Unconditional Stability

P1dB may be lower from 16 to 20 GHz +19 dBm min

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

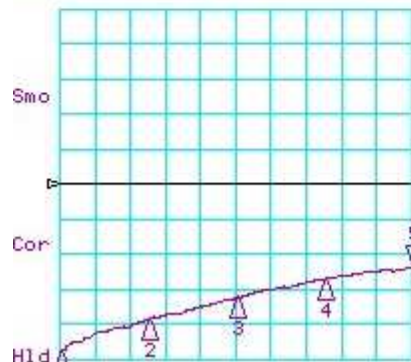
CH1 LOG 10 dB/ REF 0 dB
S11 5: -11.207 dB 18.000 000 000 GHz



CH1 Markers
1: -24.490 dB
2.00000 GHz
2: -18.910 dB
6.00000 GHz
3: -22.647 dB
10.0000 GHz
4: -17.465 dB
14.0000 GHz

H1d
START 2000.000 MHz STOP 18000.000 MHz

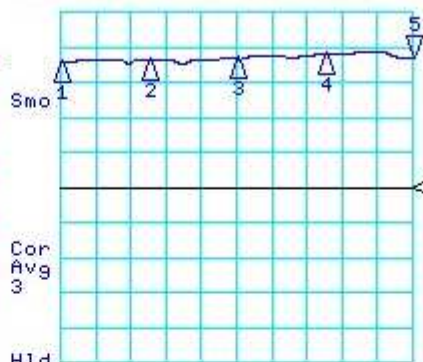
CH3 LOG 10 dB/ REF 0 dB
S12 5: -23.815 dB 18.000 000 000 GHz



CH3 Markers
1: -47.624 dB
2.00000 GHz
2: -38.523 dB
6.00000 GHz
3: -32.319 dB
10.0000 GHz
4: -27.037 dB
14.0000 GHz

H1d
START 2000.000 MHz STOP 18000.000 MHz

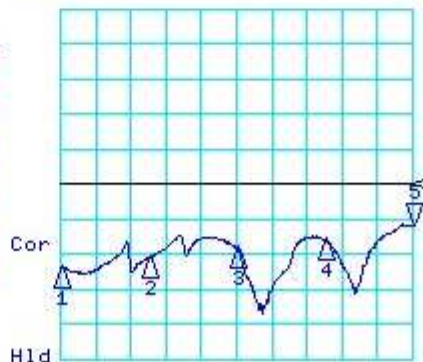
CH2 LOG 5 dB/ REF 0 dB
S21 5: 18.562 dB 18.000 000 000 GHz



CH2 Markers
1: 17.863 dB
2.00000 GHz
2: 18.265 dB
6.00000 GHz
3: 18.368 dB
10.0000 GHz
4: 18.987 dB
14.0000 GHz

H1d
START 2000.000 MHz STOP 18000.000 MHz

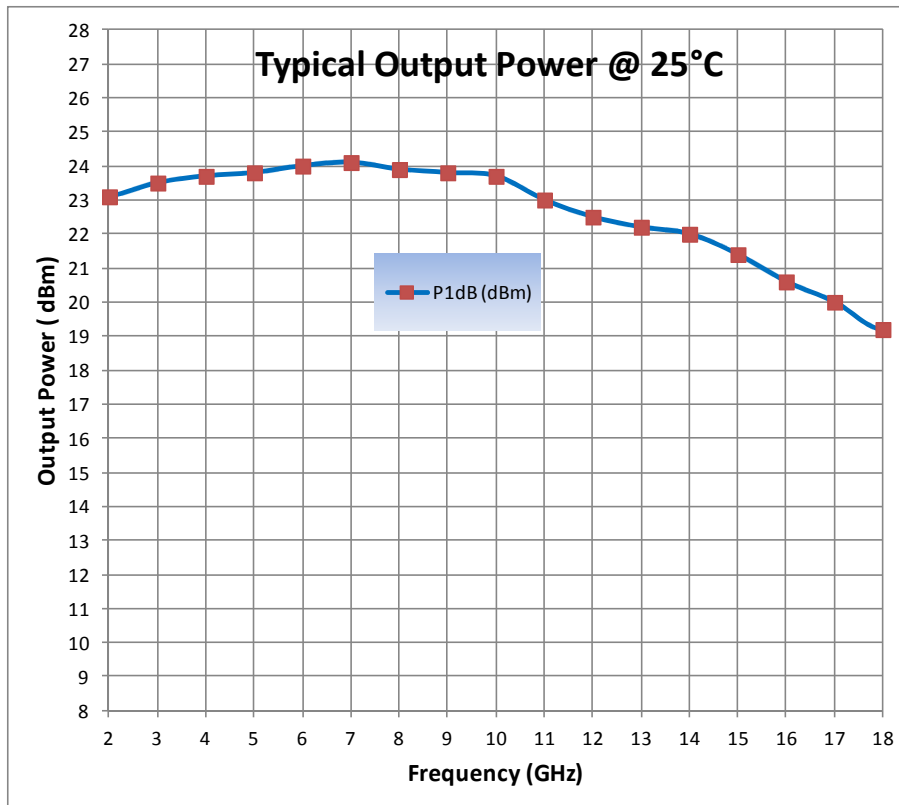
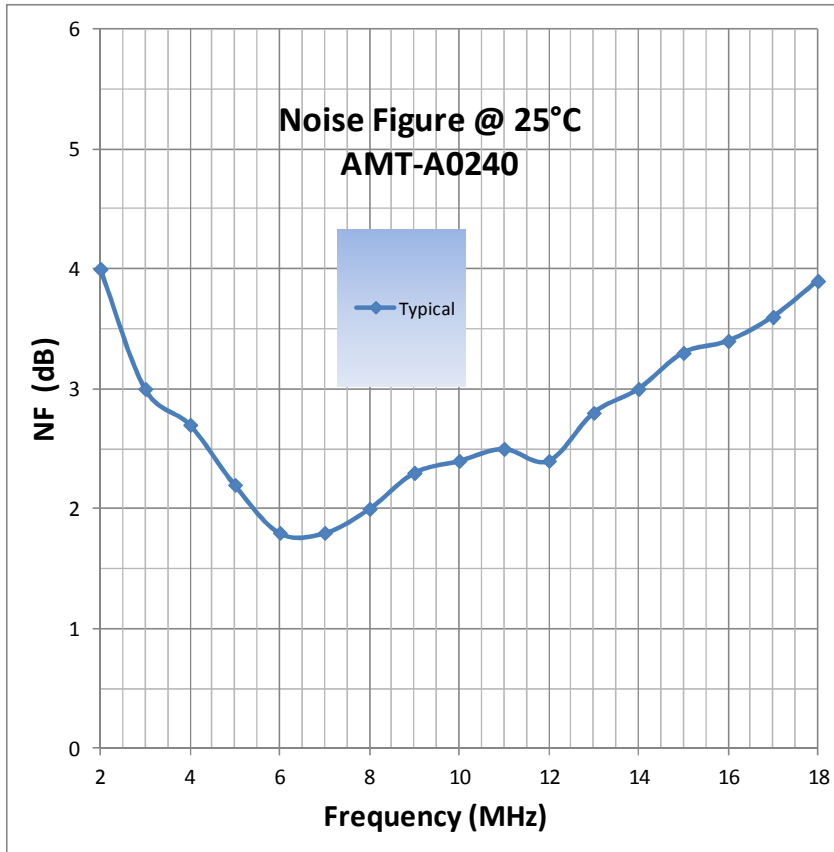
CH4 LOG 10 dB/ REF 0 dB
S22 5: -11.983 dB 18.000 000 000 GHz



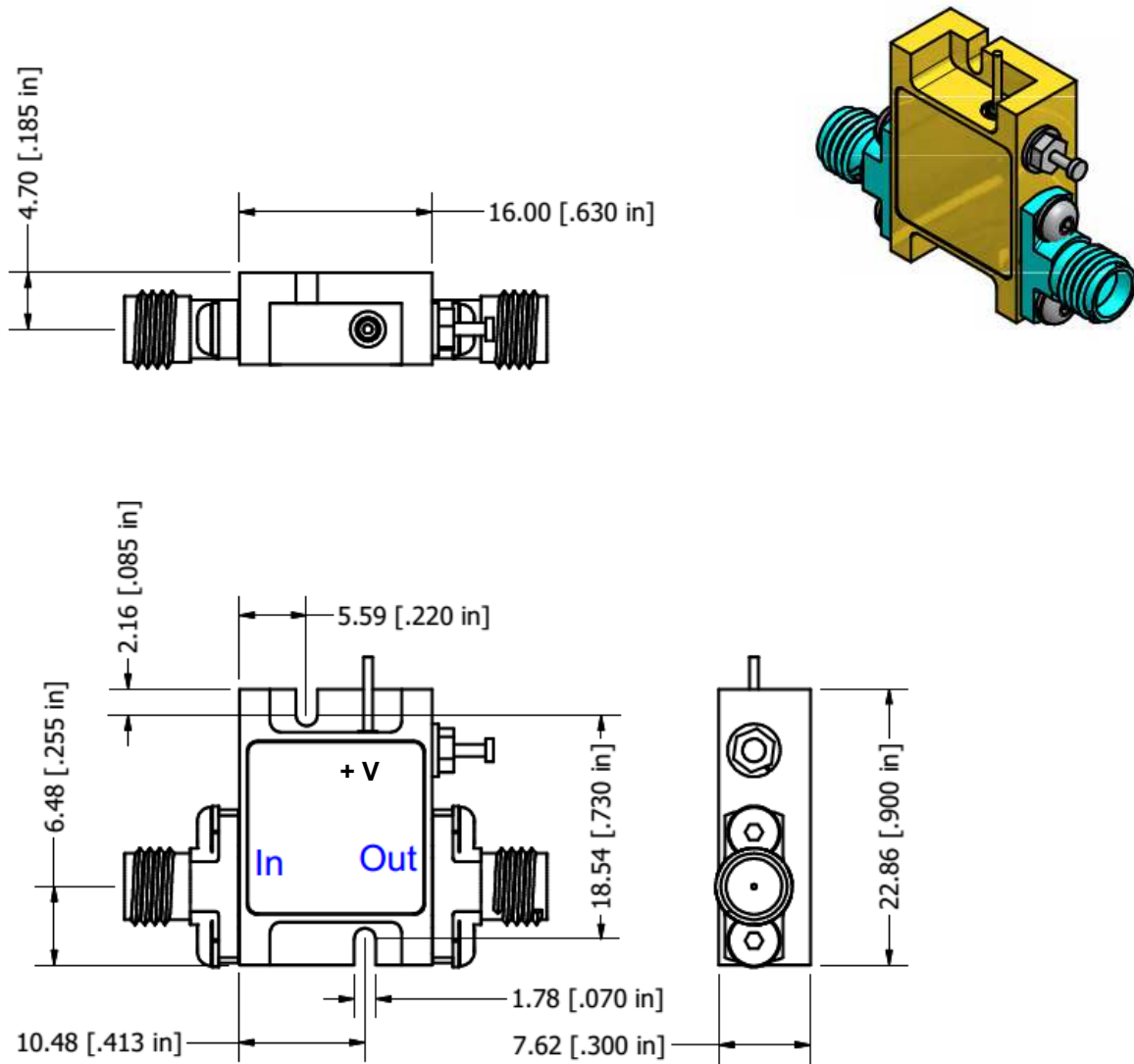
CH4 Markers
1: -23.666 dB
2.00000 GHz
2: -21.025 dB
6.00000 GHz
3: -18.355 dB
10.0000 GHz
4: -15.740 dB
14.0000 GHz

H1d
START 2000.000 MHz STOP 18000.000 MHz

Typical Noise Figure @ 23°C



Package Outline M084: SMA Connectorized mm(inches)



Field replaceable SMA Connectors, Removable Ground Slug

Note: The unit must be attached to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0206	SMA Female	Non-Hermetic	Outline: M084

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.

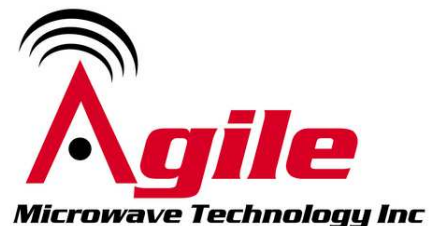
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital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



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