

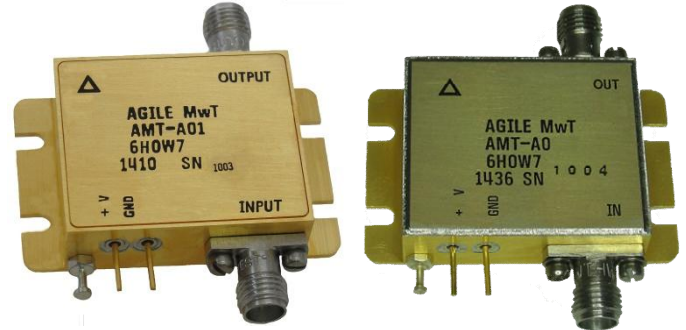
AMT-A0237 0.7 GHz to 20 GHz Broadband Medium Power with Low Noise Figure

Data Sheet



Features

- 0.7 GHz to 20 GHz Frequency Range
- Typical P1dB power > +23 dBm
- Gain 33 dB Typical
- Gain Flatness ± 1.4 dB Typical
- 2.7 dB Typical Noise Figure
- Internally Regulated
- Operates from Single +12V Supply
- Unconditionally Stable
- Available in Hermetic Laser sealed version



Laser Sealed Hermetic

Description

The AMT-A0237 is a +22 dBm P1dB Broadband medium power amplifier 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-A0221 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}	° C	-40	+75
Storage Temperature - Case	T _{MS}	° C	-40	+125
RF Input power (CW)	P _{in}	dBm		+15
Die T _{Junction}	T _J	° 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	0.7		20
Gain	Small Signal	dB	30	35	
Gain Flatness		dB		±1.4	±2.5
Noise Figure	1 to 20 GHz, maybe higher below 1 GHz	dB		2.7	5
Output Power (P1dB)	1 to 16 GHz, measured @10GHz	dBm	+20	+23	
Output Power (P1dB)	16 to 20 GHz	dBm	+19	+20	
OIP3	OPI3 @ 10 GHz Two tone F1-F2= 10MHz	dB		30	
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.3:1
RF Output Impedance	Reference to 50 ohms VSWR			1.8:1	2.3:1
Supply Voltage Positive:		V		+12	
Supply Current Positive:	Small signal	mA		340	400

Notes:

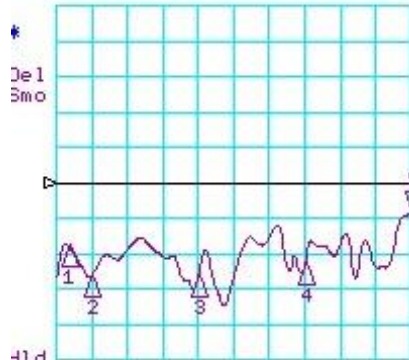
1/ Unconditional Stability

NF Tested to 18 GHz, 18-20 GHz by design

Customized configurations of the above specifications are available

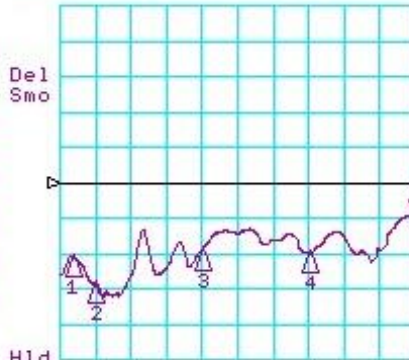
Typical S-Parameters @ 23°C

CH1 LOG 10 dB/ REF 0 dB
 S11 5:-8.8150 dB 20.000 000 000 GHz



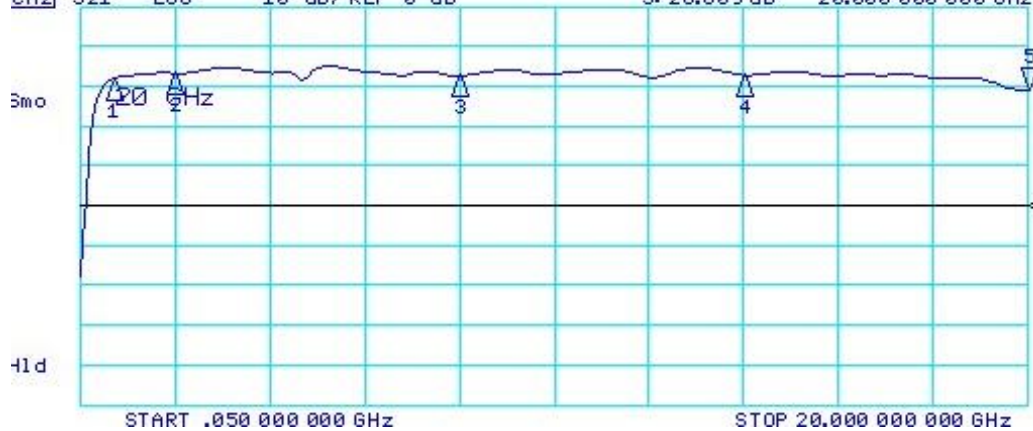
CH1 Markers
 1:-17.872 dB
 700.750 MHz
 2:-26.468 dB
 2.00000 GHz
 3:-26.695 dB
 8.00000 GHz
 4:-22.940 dB
 14.0000 GHz

CH3 LOG 10 dB/ REF 0 dB
 S22 5:-10.936 dB 20.000 000 000 GHz



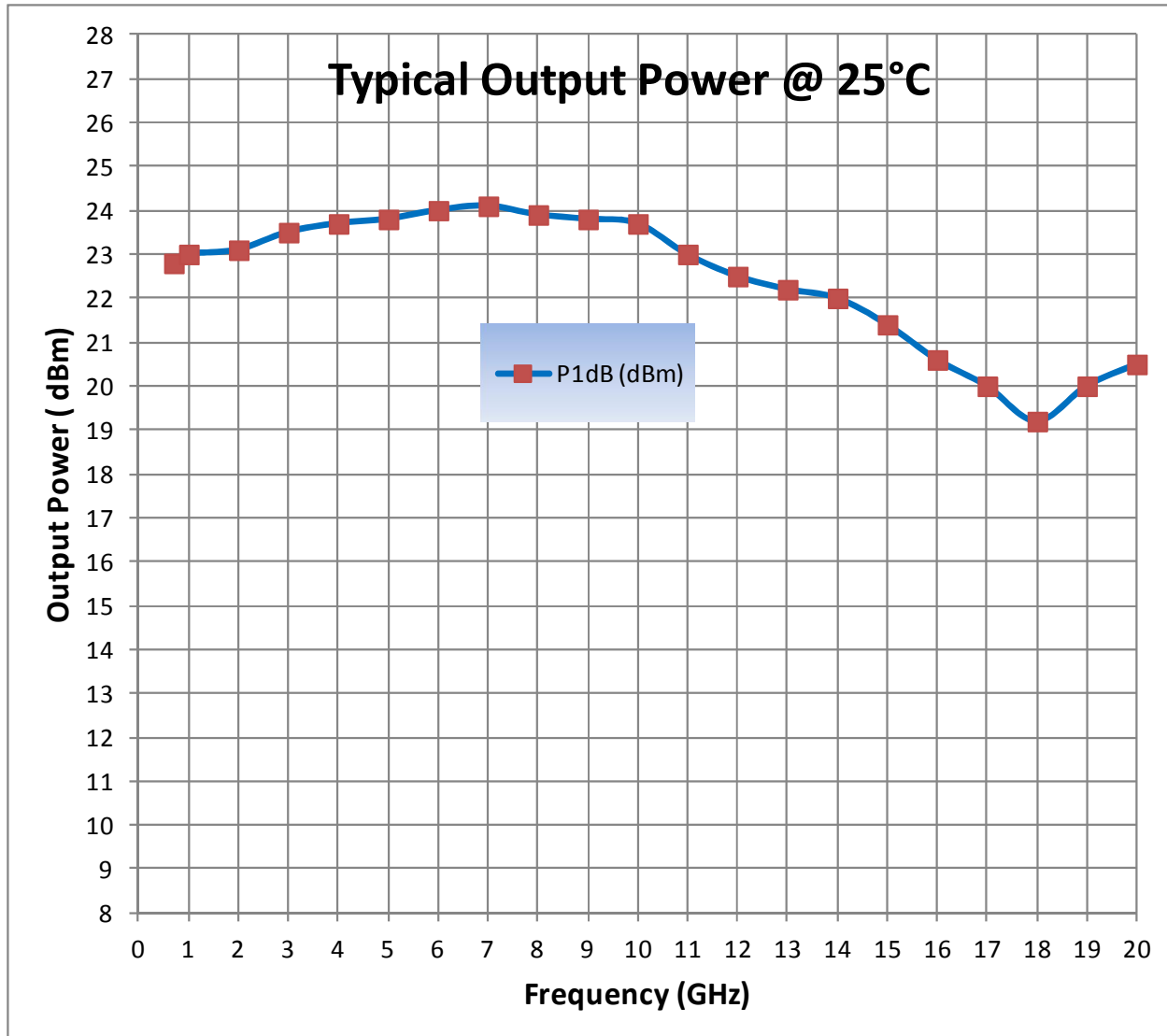
CH3 Markers
 1:-20.846 dB
 700.750 MHz
 2:-28.285 dB
 2.00000 GHz
 3:-19.058 dB
 8.00000 GHz
 4:-19.719 dB
 14.0000 GHz

CH2 S21 LOG 10 dB/ REF 0 dB 5: 28.809 dB 20.000 000 000 GHz

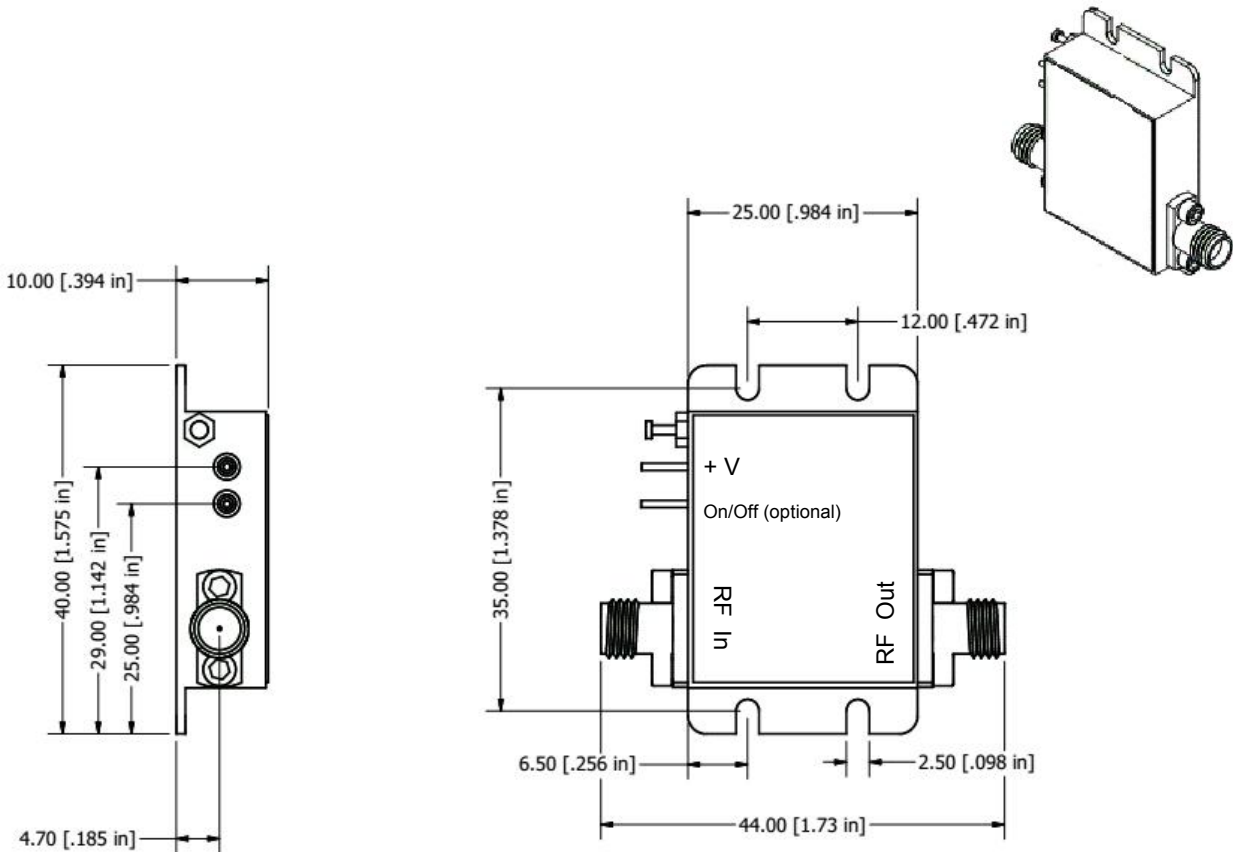


CH2 Markers
 1: 31.672 dB
 700.750 MHz
 2: 33.152 dB
 2.00000 GHz
 3: 32.660 dB
 8.00000 GHz
 4: 32.792 dB
 14.0000 GHz

Typical P1dB @ 23°C



Package Outline M020: 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-A0237	SMA Female	Non-Hermetic	Outline: M020
AMT-A0237-H	SMA Female	Hermetic Laser Weld Tested to Leak Rate $<2.0 \times 10^{-8}$	Outline: M020

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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