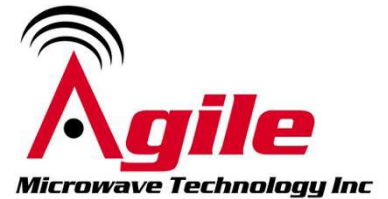


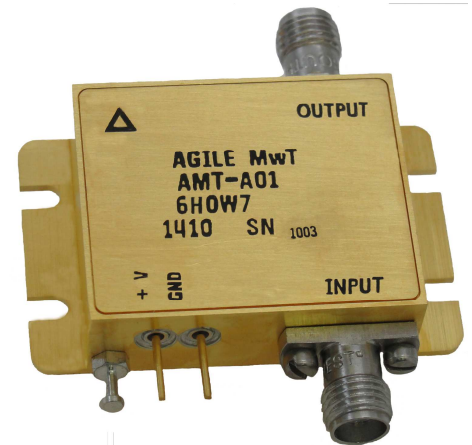
AMT-A0220 1 GHz to 18 GHz Broadband Medium Power with Low Noise Amplifier

Data Sheet



Features

- 1 GHz to 18 GHz Frequency Range
- Typical P1dB power > +22 dBm
- Gain 35 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



Description

The AMT-A0220 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-A0220 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		+15
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	1		18
Gain	Small Signal	dB	30	35	
Gain Flatness		dB		±1.4	±2.5
Noise Figure		dB		2.7	5
Output Power (P1dB)	1 to 16 GHz	dBm	+20	+22	
OIP3	OIP3 @ 10 GHz Two tone F1-F2= 10MHz	dB		32	
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.2:1
RF Output Impedance	Reference to 50 ohms VSWR			1.8:1	2.2:1
Supply Voltage Positive:		V		+12	
Supply Current Positive:	Small signal	mA		340	400

Notes:

1/ Unconditional Stability

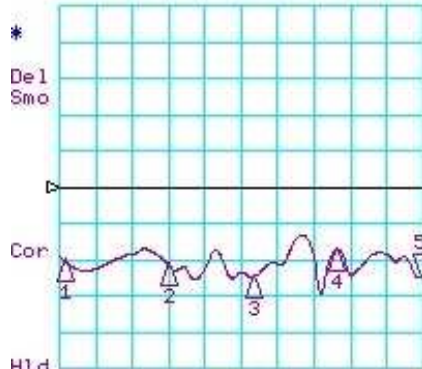
P1dB may be lower from 16 to 18 GHz +19 dBm min

Customized configurations of the above specifications are available

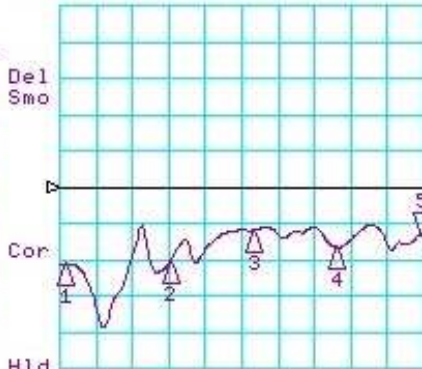
Typical S-Parameters @ 23°C

CH1 LOG 10 dB/ REF 0 dB
 S11 5: -24.815 dB 18.000 000 000 GHz

CH3 LOG 10 dB/ REF 0 dB
 S22 5: -13.082 dB 18.000 000 000 GHz



CH1 Markers
 1: -20.129 dB
 1.00000 GHz
 2: -21.604 dB
 6.00000 GHz
 3: -24.598 dB
 10.00000 GHz
 4: -17.496 dB
 14.00000 GHz
 5: -24.815 dB
 18.00000 GHz

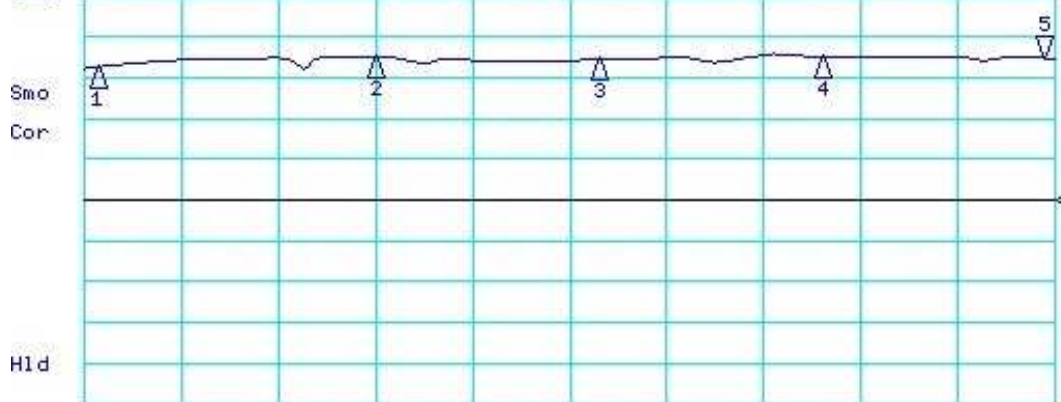


CH3 Markers
 1: -21.064 dB
 1.00000 GHz
 2: -20.894 dB
 6.00000 GHz
 3: -11.907 dB
 10.00000 GHz
 4: -16.588 dB
 14.00000 GHz
 5: -13.082 dB
 18.00000 GHz

H1d
 START 800.000 MHz STOP 18200.000 MHz

H1d
 START 800.000 MHz STOP 18200.000 MHz

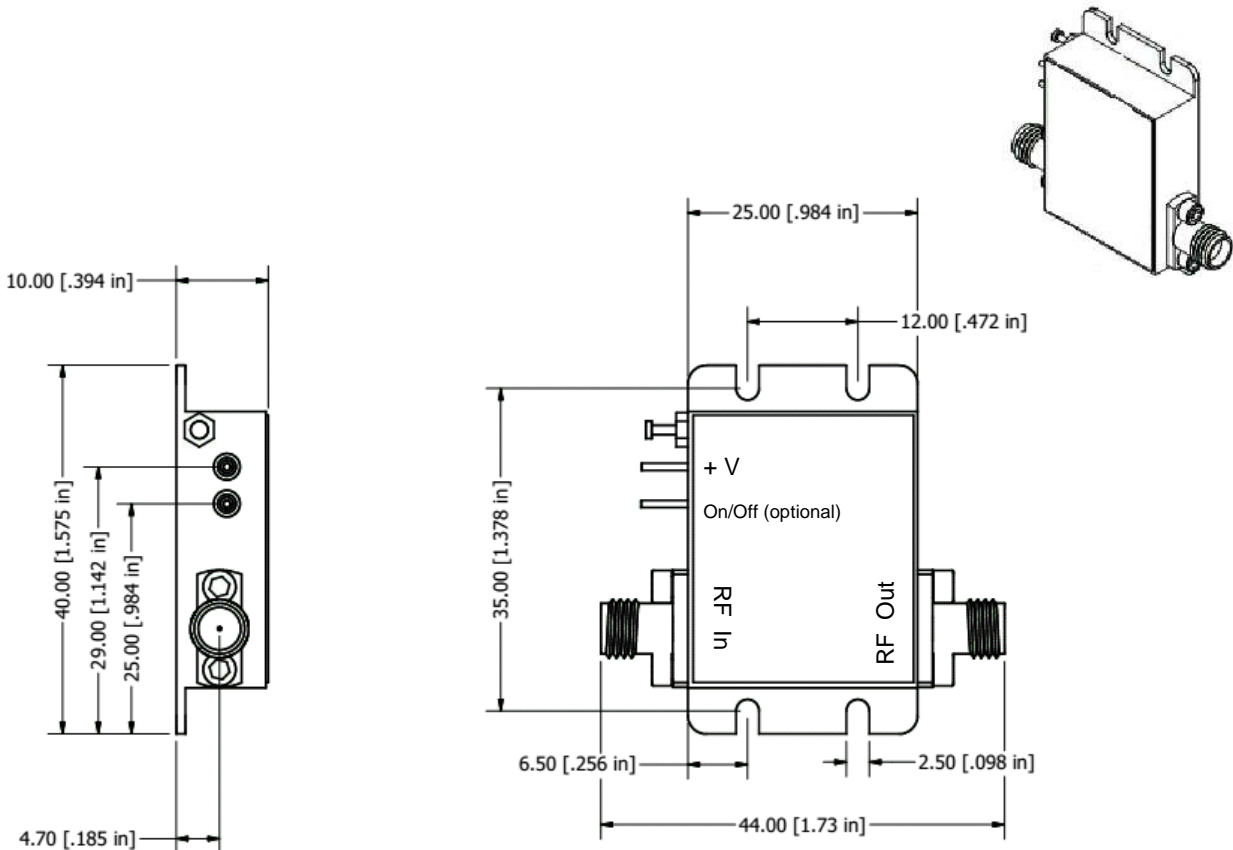
CH2 S21 LOG 10 dB/ REF 0 dB 5: 34.780 dB 18.000 000 000 GHz



CH2 Markers
 1: 32.639 dB
 1.00000 GHz
 2: 35.276 dB
 6.00000 GHz
 3: 34.624 dB
 10.00000 GHz
 4: 35.098 dB
 14.00000 GHz
 5: 34.780 dB
 18.00000 GHz

START .800 000 000 GHz STOP 18.200 000 000 GHz

Package Outline M020: SMA Connectorized mm(inches)



Field replaceable SMA Connectors

Note: The unit must be attached to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0220	SMA Female	Non-Hermetic	Outline: M020
AMT-A0220-H	SMA Female	Hermetic	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.

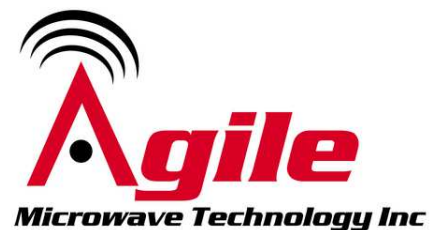
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