

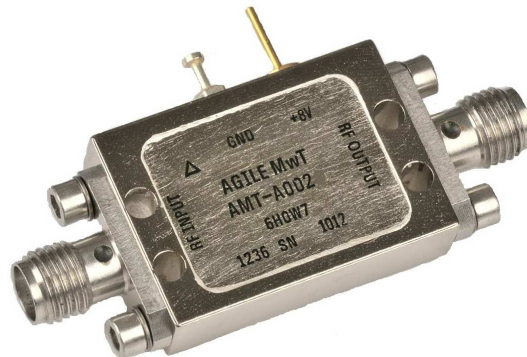
AMT-A0025 700 MHz to 1100 MHz Low Noise Medium power Amplifier

Data Sheet



Features

- 700 MHz to 1100 MHz Frequency Range
- Typical Noise Figure < 0.4 dB
- Gain 44 dB
- Gain Flatness < ± 1.5 dB
- P1dB > +21 dBm
- Internally matched
- Internal DC Regulator
- Operates from a Single +8V Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0025 is a Low Noise with Medium Power amplifier with very low noise figure over the full frequency range. The performance is achieved through the use of AMT's proprietary technology. The amplifier I/Os are Internally matched to 50 Ohms and are DC blocked. The AMT-A0025 is ideal for use as Front End of receiver system, or where amplification is required without adding excessive noise in a Hi-Rel communications system for Commercial or Military applications

Applications

- Receiver front end,
- Communication systems
- Microwave Radio systems
- Test Equipment

MAXIMUM RATINGS¹

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	-40	+85
Storage Temperature - Case	T _{MS}	° C	-40	+125
RF Input power (CW)	P _{in}	dBm		+8
Die T _{Junction}	T _J	° C		+150
Positive Supply Voltage	V _{+SS}	V		+8.5

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		MHz	700		1100
Gain	Small Signal	dB	40	44	
Gain Flatness		dB		±1	±1.8
Output Power (P1dB)	1 dB compression point @950 MHz	dBm	+20	+21	
OIP3	OIP3 measured @ 950 MHz Two tone F1-F2= 10MHz	dB		+31	
Noise Figure		dB		0.4	0.5
RF Input Impedance ²	Reference to 50 ohms VSWR			1.8:1	2.3:1
RF Output Impedance ²	Reference to 50 ohms			1.8:1	2.3:1
Stability Factor K	Unconditionally Stable		>1		
Stability Factor B1	Unconditionally Stable		>0		
Supply Voltage Positive:		V		+8V	
Supply Current Positive:		mA		150	165

Notes:

1/ Unconditional Stability: ($K > 1$) and ($B1 > 0$)

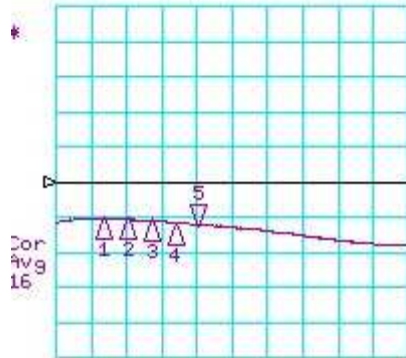
2/ May be higher at near 700 MHz

Customized configurations of the above specifications are available

Typical Performance @ 23°C

S-Parameters

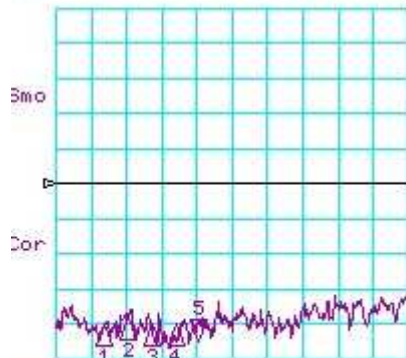
CH1 LOG 10 dB/ REF 0 dB
S11 5: -12.515 dB 1.100 000 000 GHz



CH1 Markers
1: -10.377 dB
700.000 MHz
2: -10.755 dB
800.000 MHz
3: -11.203 dB
900.000 MHz
4: -11.800 dB
1.00000 GHz

START 500.000 MHz STOP 2000.000 MHz

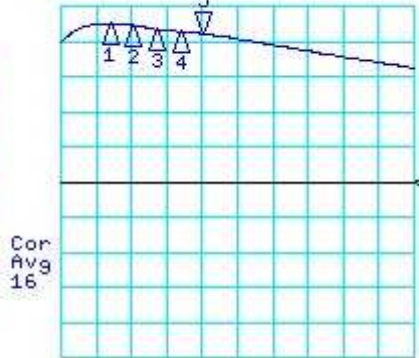
CH3 LOG 10 dB/ REF -30 dB
S12 5: -75.042 dB 1.100 000 000 GHz



CH3 Markers
1: -70.376 dB
700.000 MHz
2: -68.789 dB
800.000 MHz
3: -70.326 dB
900.000 MHz
4: -70.500 dB
1.00000 GHz

START 500.000 MHz STOP 2000.000 MHz

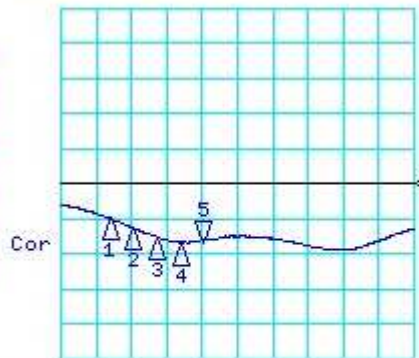
CH2 LOG 10 dB/ REF 0 dB
S21 5: 42.035 dB 1.100 000 000 GHz



CH2 Markers
1: 44.963 dB
700.000 MHz
2: 44.515 dB
800.000 MHz
3: 43.375 dB
900.000 MHz
4: 42.757 dB
1.00000 GHz

START 500.000 MHz STOP 2000.000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 5: -16.731 dB 1.100 000 000 GHz



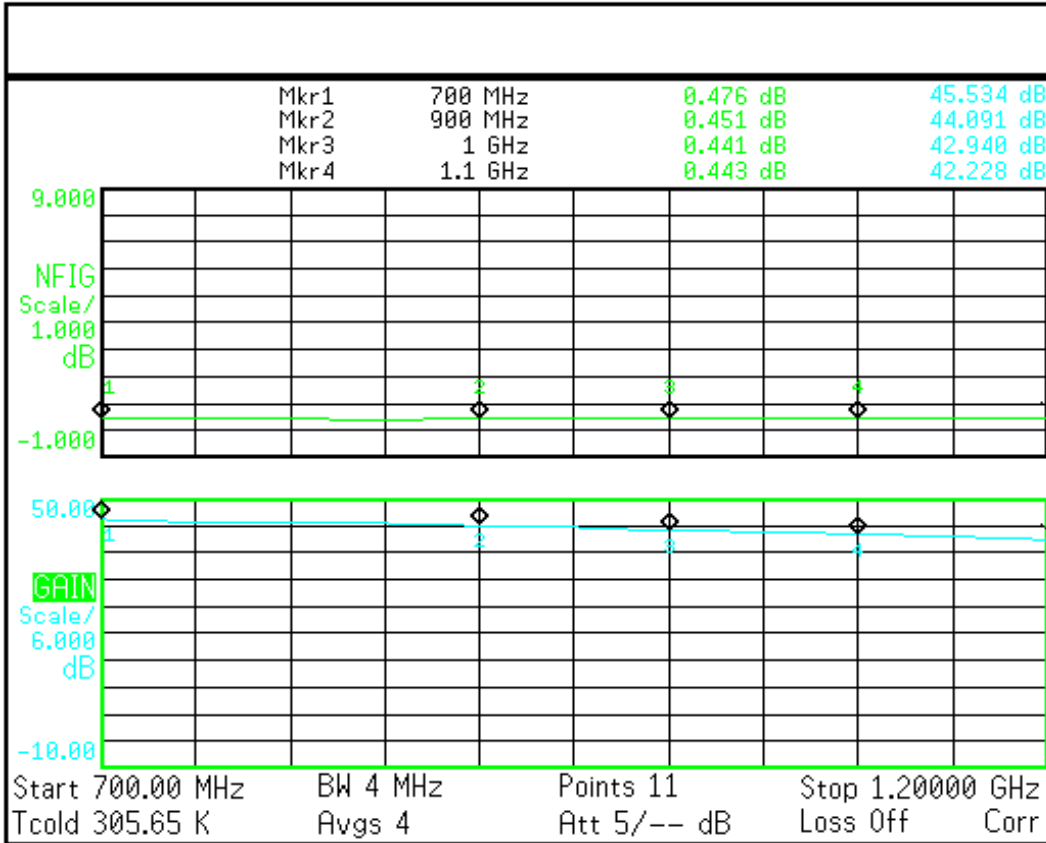
CH4 Markers
1: -9.9820 dB
700.000 MHz
2: -12.863 dB
800.000 MHz
3: -15.648 dB
900.000 MHz
4: -17.432 dB
1.00000 GHz

START 500.000 MHz STOP 2000.000 MHz

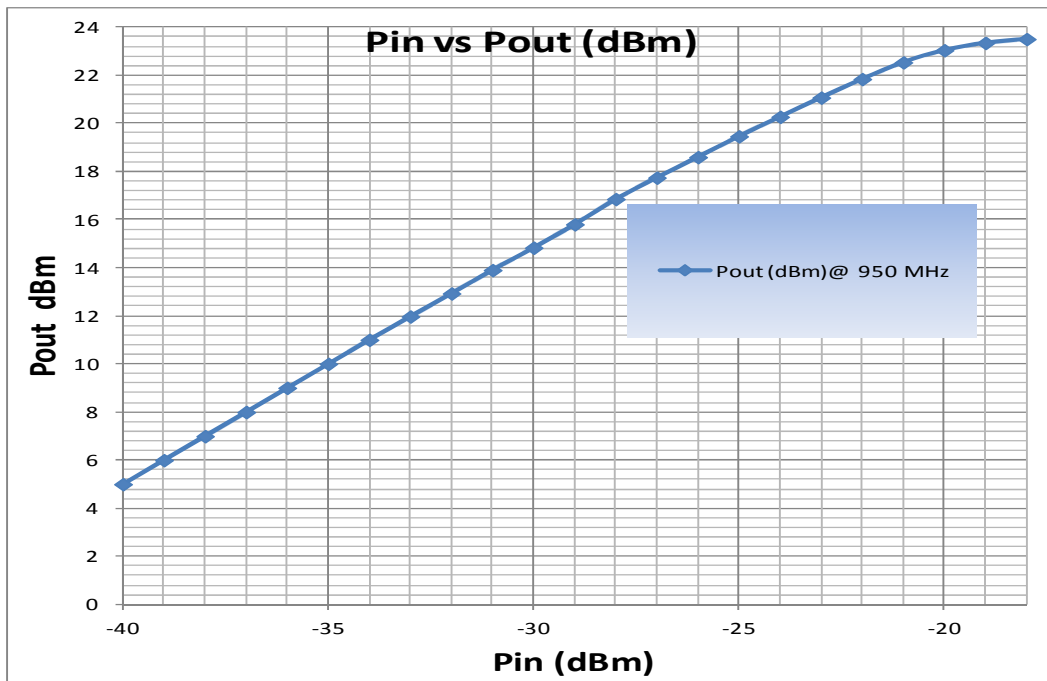
Typical Performance

Noise Figure @ 23C

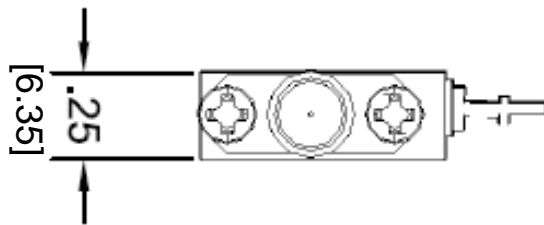
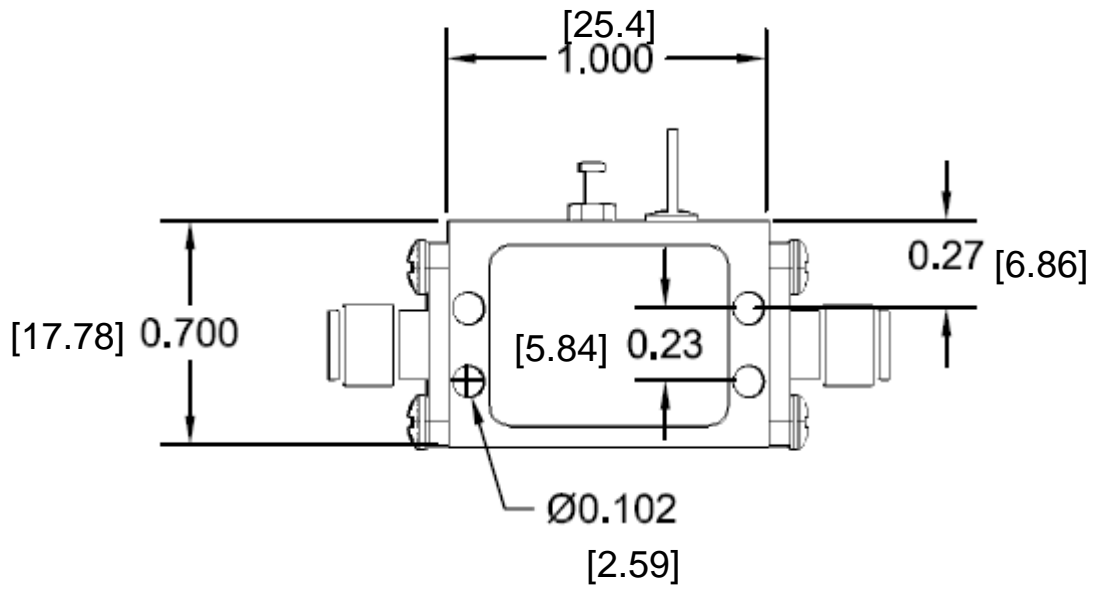
Agilent



Typical Performance Power Input / Power Output @ 23C



Package Outline: SMA Connectorized inches [mm]



Model Number	Description	Hermeticity	Package
AMT-A0025	SMA Female	Non-Hermetic	Outline: M007

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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