

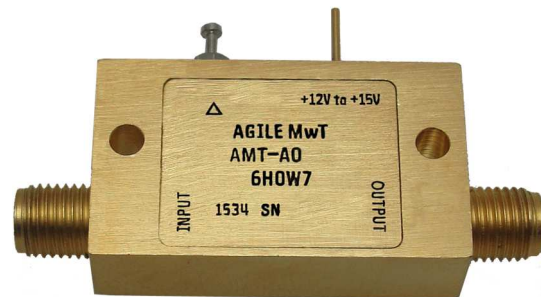
AMT-A0322 0.4 GHz to 6 GHz Positive Gain Slope Amplifier with EMI sheilding

Data Sheet



Features

- 0.4 GHz to 6 GHz Frequency Range
- Gain 18-22 dB @ 400 MHz, 28-32 dB @ 6GHz
- Gain Flatness from slope $\pm 2.5\text{ dB}$ max
- Typical Noise Figure <math>< 5\text{ dB}</math> 8dB max
- **+20 dBm P1dB minimum**
- Internally Regulated
- High EMI performance
DC to RF leakage -90 dBc typ -70 dBc max
- Operates from a Single +15V Supply
- Unconditionally Stable



Description

The AMT-A0322 is a Broadband amplifier with Positive Gain Slope with low EMI leakage over the full frequency range. The performance is achieved through the use of AMTI's proprietary technology. The amplifier I/Os are Internally matched to 50 Ohms . The AMT-A0322 is ideal for use in communication system, or where amplification with gain balancing is required without adding excessive noise in a Hi-Rel communications system for Commercial or Military applications

Applications

- Communication systems
- Microwave Radio systems
- Test Equipment
- Point to Point Radios

MAXIMUM RATINGS¹

Do NOT apply DC to RF Input

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	$^{\circ}\text{C}$	-40	+85
Storage Temperature - Case	T_{MS}	$^{\circ}\text{C}$	-54	+95
RF Input power (CW)	P_{in}	dBm		+12
Die $T_{Junction}$	T_J	$^{\circ}\text{C}$		+150
Positive Supply Voltage	V_{+SS}	V		+16

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	0.4		6
Gain @ 400 MHz	Small Signal	dB	18		22
Gain @ 6 GHz	Small Signal	dB	28		32
Gain Flatness from Slope	Variations from linear slope	dB		±1	±2.5
Output Power (P1dB) ²	1 dB compression point	dBm	20	24	
Noise Figure ²		dB		3	8
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.3:1
RF Output Impedance	Reference to 50 ohms			1:8:1	2.3:1
EMI Leakage	DC supply pin to RFout	dBc	-70	-90	
Supply Voltage Positive:		V		+15	
Supply Current Positive:		mA		140	250

Notes:

1/ Unconditional Stability

2/ Above 500 MHz

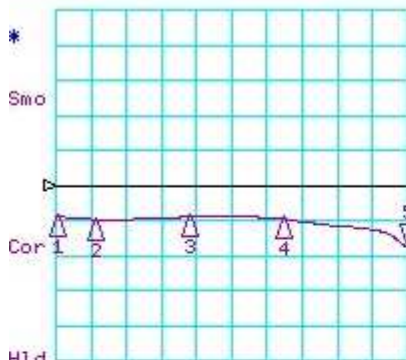
High EMI shielding

Measured NF has standard (Agilent/HP equipment) uncertainty of 0.15 dB

Customized configurations of the above specifications are available

Typical S-Parameters @ 25C

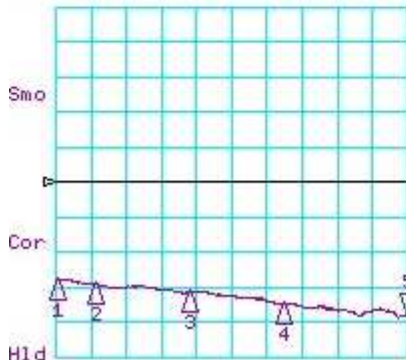
CH1 LOG 10 dB/ REF 0 dB
S11 5: -17.480 dB 5.975 920 000 GHz



CH1 Markers
1: -8.8290 dB
400.000 MHz
2: -9.6910 dB
1.00000 GHz
3: -8.9370 dB
2.50000 GHz
4: -9.5000 dB
4.00000 GHz

H1d
START 400.000 MHz STOP 6000.000 MHz

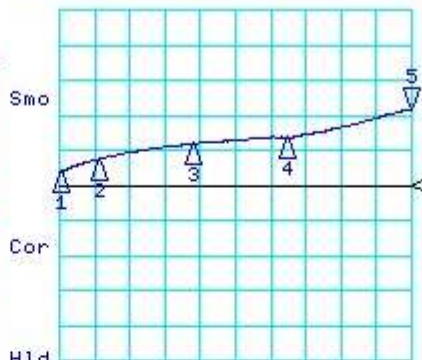
CH3 LOG 10 dB/ REF -10 dB
S12 5: -47.799 dB 5.975 920 000 GHz



CH3 Markers
1: -38.098 dB
400.000 MHz
2: -39.169 dB
1.00000 GHz
3: -41.494 dB
2.50000 GHz
4: -44.741 dB
4.00000 GHz

H1d
START 400.000 MHz STOP 6000.000 MHz

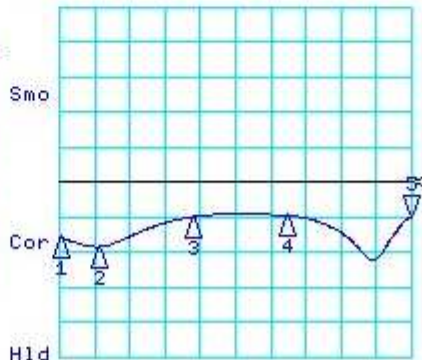
CH2 LOG 5 dB/ REF 18 dB
S21 5: 28.768 dB 5.975 920 000 GHz



CH2 Markers
1: 19.827 dB
400.000 MHz
2: 21.763 dB
1.00000 GHz
3: 23.988 dB
2.50000 GHz
4: 24.805 dB
4.00000 GHz

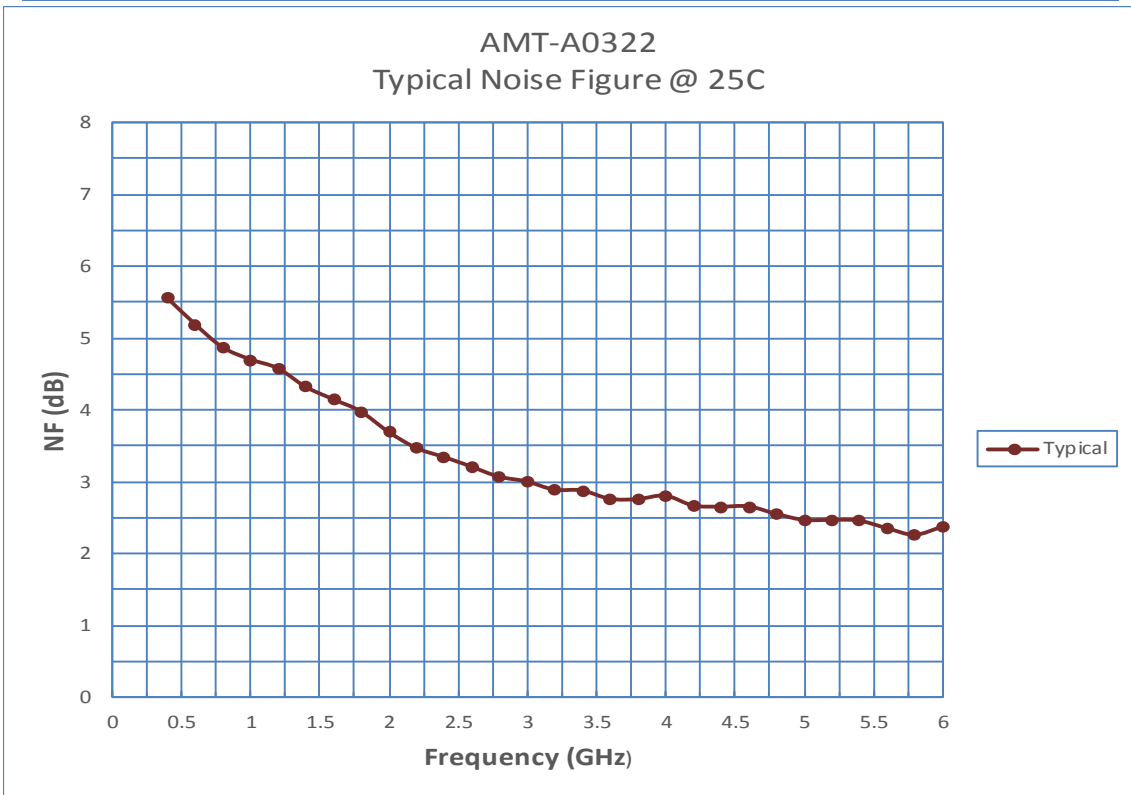
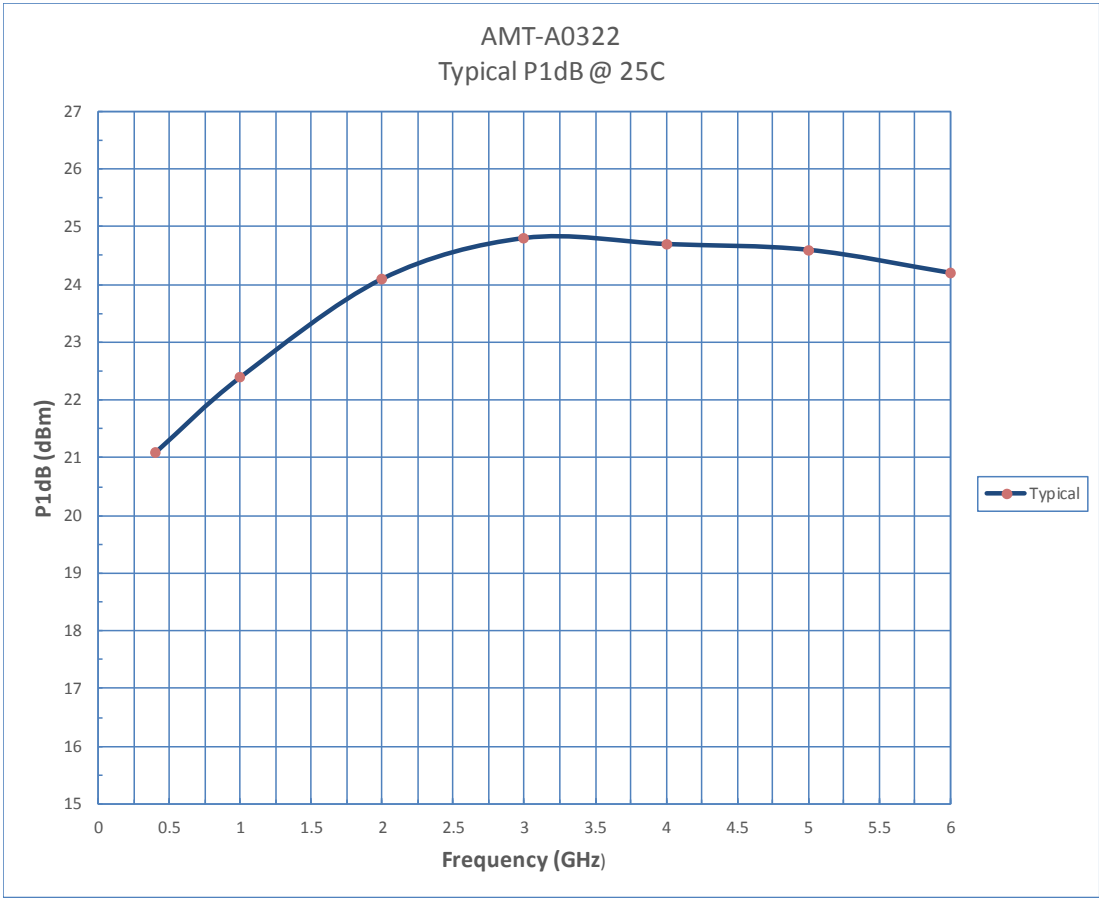
H1d
START 400.000 MHz STOP 6000.000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 5: -9.9180 dB 5.975 920 000 GHz

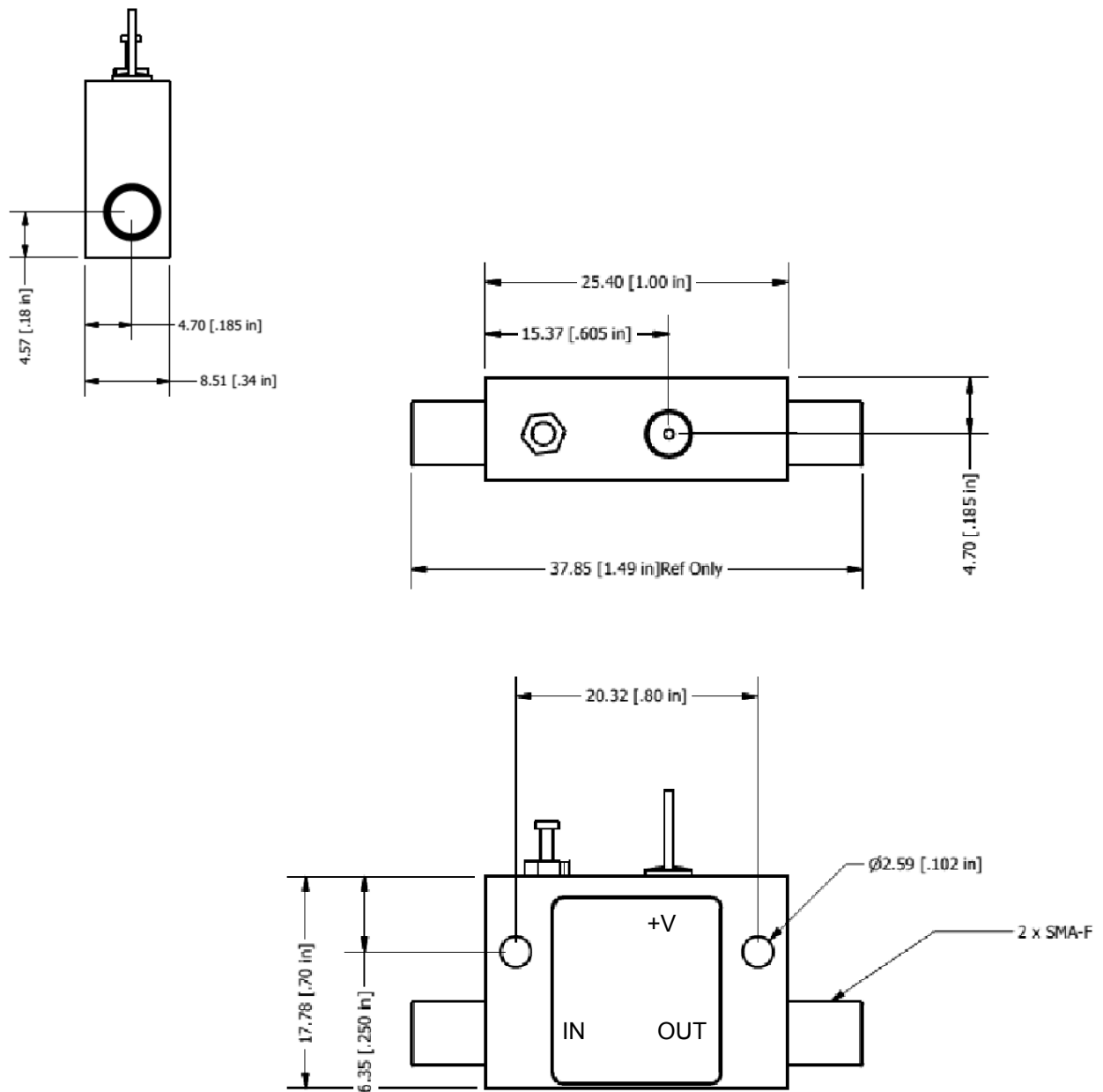


CH4 Markers
1: -15.785 dB
400.000 MHz
2: -18.434 dB
1.00000 GHz
3: -9.9340 dB
2.50000 GHz
4: -9.6990 dB
4.00000 GHz

H1d
START 400.000 MHz STOP 6000.000 MHz



Package Outline: SMA-F Connectorized mm [Inches]



Model Number	Description	Hermeticity	Package
AMT-A0322	SMA Female Non-removable	Non-Hermetic	Outline: M101

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:

**701 Cascade Pointe Lane
Cary, NC 27513**

**ISO 9001:2015
Certified Company**



Phone: (984) 228-8001

info@agilemwt.com

www.agilemwt.com

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