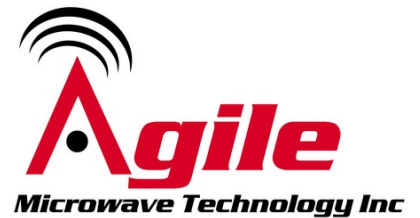


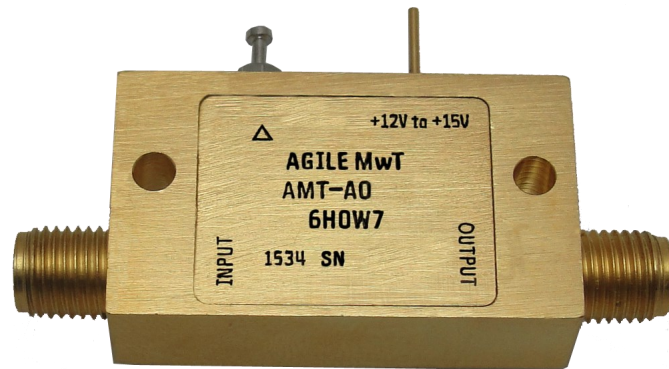
AMT-A0281 0.4 GHz to 6 GHz Broadband Low Noise w/ medium power Amplifier

Data Sheet



Features

- 0.4 GHz to 6 GHz Frequency Range
- Gain 46 dB Typical
- Gain Flatness ± 1 dB Typical
- Typical Noise Figure <math>< 3</math> dB
- +25 dBm P1dB Typical, +23 dBm min
- Internally Regulated
- **High EMI performance**
DC to RF leakage -90 dBc typ -70 dBc max
- Operates from a Single +15V Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0281 is a Broadband Low Noise amplifier 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-A0281 is ideal for use communication system, or where amplification is required without adding excessive noise in a Hi-Rel communications system for Com-

Applications

- Communication systems
- Microwave Radio systems
- Test Equipment

MAXIMUM RATINGS¹

Do NOT apply DC to RF Input

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	° C	-40	+85
Storage Temperature - Case	T_{MS}	° C	-54	+85
RF Input power (CW)	P_{in}	dBm		+16
Die $T_{Junction}$	T_J	° 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	Small Signal	dB	45	46	50
Gain Flatness		dB		±1	±2
Input Power	CW, without damage	dBm	+16		
Output Power (P1dB)	1 dB compression point @ 4 GHz	dBm	23	25	
Noise Figure		dB		2.8	5
EMI Leakage	DC supply pin to RFout	dBc	-70		
RF Input Impedance ²	Reference to 50 ohms VSWR			1.5:1	2.2:1
RF Output Impedance ²	Reference to 50 ohms			1:8:1	2.2:1
Supply Voltage Positive:		V		+15	
Supply Current Positive:		mA		245	400

Notes:

1/ Unconditional Stability

High EMI shielding

Customized configurations of the above specifications are available

Typical S-Parameters @ 25C

CH1 LOG 10 dB/ REF 0 dB
S11 5: -17.594 dB 6.000 000 000 GHz

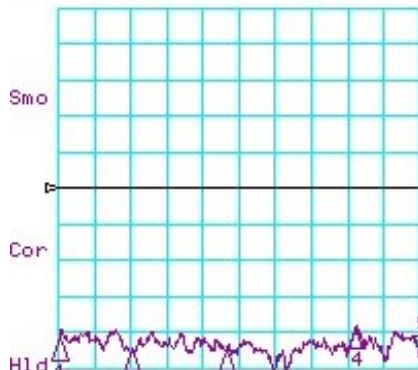


CH1 Markers

- 1: -16.461 dB
400.000 MHz
- 2: -22.804 dB
1.50000 GHz
- 3: -33.130 dB
3.00000 GHz
- 4: -25.114 dB
5.00000 GHz
- 5: -17.594 dB
6.00000 GHz

START 400.000 MHz STOP 6000.000 MHz

CH3 LOG 10 dB/ REF -10 dB
S12 5: -57.316 dB 6.000 000 000 GHz

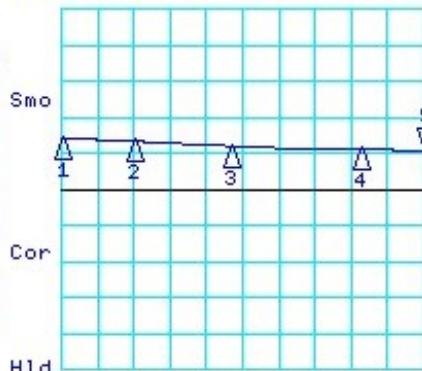


CH3 Markers

- 1: -51.794 dB
400.000 MHz
- 2: -55.383 dB
1.50000 GHz
- 3: -55.397 dB
3.00000 GHz
- 4: -48.658 dB
5.00000 GHz
- 5: -57.316 dB
6.00000 GHz

START 400.000 MHz STOP 6000.000 MHz

CH2 LOG 5 dB/ REF 40 dB
S21 5: 45.215 dB 6.000 000 000 GHz

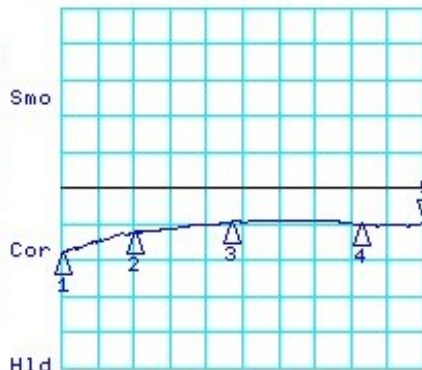


CH2 Markers

- 1: 46.942 dB
400.000 MHz
- 2: 46.747 dB
1.50000 GHz
- 3: 45.989 dB
3.00000 GHz
- 4: 45.679 dB
5.00000 GHz
- 5: 45.215 dB
6.00000 GHz

START 400.000 MHz STOP 6000.000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 5: -9.3940 dB 6.000 000 000 GHz

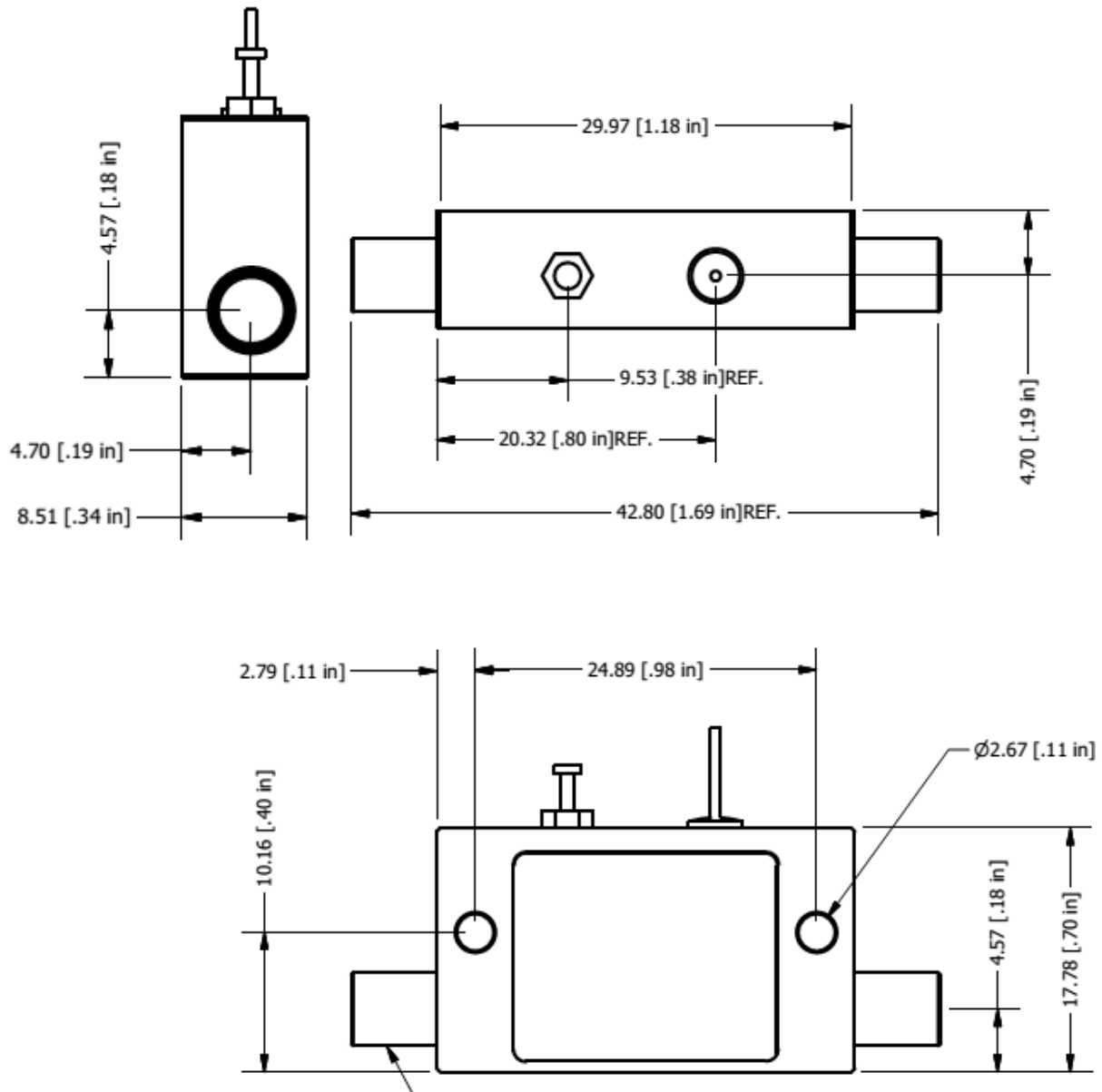


CH4 Markers

- 1: -17.916 dB
400.000 MHz
- 2: -12.599 dB
1.50000 GHz
- 3: -9.4540 dB
3.00000 GHz
- 4: -10.172 dB
5.00000 GHz
- 5: -9.3940 dB
6.00000 GHz

START 400.000 MHz STOP 6000.000 MHz

Package Outline: SMA-F Connectorized mm [Inches]



Model Number	Description	Hermeticity	Package
AMT-A0281	SMA Female Non-removable	Non-Hermetic	Outline: M122

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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