

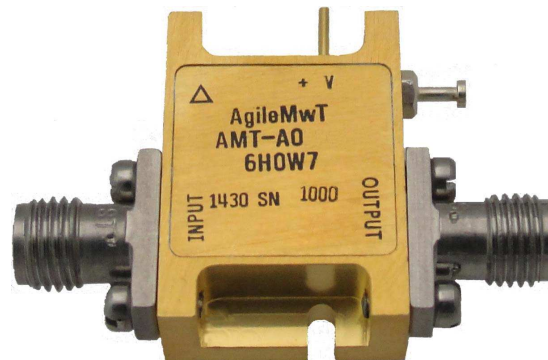
AMT-A0276 5 GHz to 20 GHz Low Noise with Medium Power Amplifier

Data Sheet



Features

- 5 GHz to 20 GHz Frequency Range
- Typical Gain 30 dB
- Gain Flatness $< \pm 1.5$ dB
- P1dB +18 dBm Typical
- Typical Noise Figure 2.3 dB
- Internally Regulated
- Operates from a Single Supply +10v TO +12V
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0276 is a Medium Power Low Noise amplifier with flat gain 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 and DC Blocked. The AMT-A0276 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,
- Radar
- Communication systems
- Microwave Radio systems
- Test Equipment

MAXIMUM RATINGS¹

EAR99 NLR

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		+0
Die $T_{Junction}$	T_J	° C		+150
Positive Supply Voltage	V_{+SS}	V		+15

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	5		20
Gain	Small Signal	dB	26.5	30	
Gain Flatness		dB		±1.2	± 2.5
Input Power Survival	CW short period, without damage	dBm	0		
Output Power (P1dB)	1 dB compression point @ 16 GHz	dBm	15	18	
OIP3	OPI3 measured @ 16 GHz Two tone F1-F2= 10MHz	dB		26	
Noise Figure		dB		2.3	3
RF Input Impedance	Reference to 50 ohms VSWR			1.6:1	2.2:1
RF Output Impedance	Reference to 50 ohms			1:8:1	2.2:1
Supply Voltage Positive:		V		+10 to +12	
Supply Current Positive:		mA		230	260

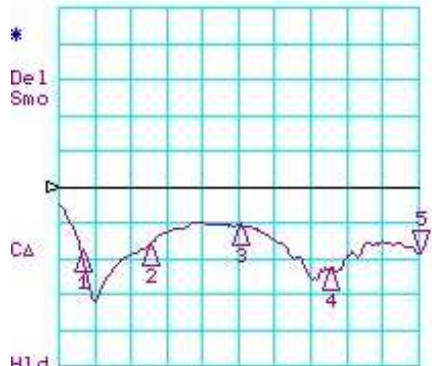
Notes:

- 1/ Unconditional Stability
- 2/ All min and max parameters are guaranteed by design

Customized configurations of the above specifications are available

ELECTRICAL SPECIFICATIONS @ 23°C

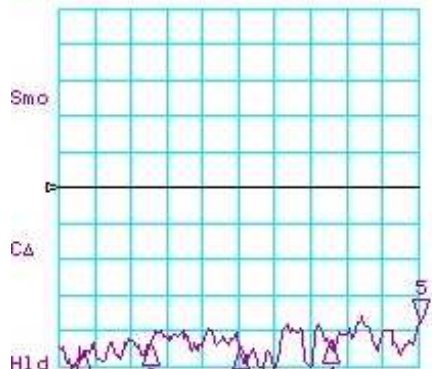
CH1 LOG 10 dB/ REF 0 dB
S11 5: -18.764 dB 20.000 000 000 GHz



CH1 Markers
1: -17.819 dB
5.00000 GHz
2: -16.100 dB
8.00000 GHz
3: -10.675 dB
12.0000 GHz
4: -23.127 dB
16.0000 GHz
5: -18.764 dB
20.0000 GHz

H1d
START 4000.000 MHz STOP 20000.000 MHz

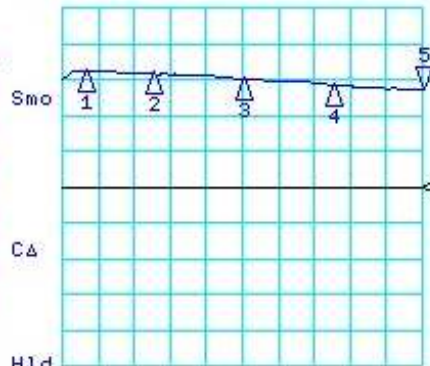
CH3 LOG 10 dB/ REF 0 dB
S12 5: -37.395 dB 20.000 000 000 GHz



CH3 Markers
1: -46.145 dB
5.00000 GHz
2: -43.667 dB
8.00000 GHz
3: -45.101 dB
12.0000 GHz
4: -43.518 dB
16.0000 GHz
5: -37.395 dB
20.0000 GHz

H1d
START 4000.000 MHz STOP 20000.000 MHz

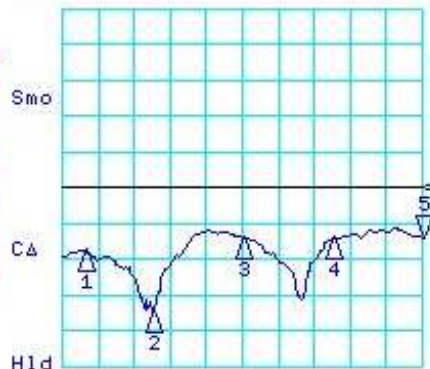
CH2 LOG 10 dB/ REF 0 dB
S21 5: 27.459 dB 20.000 000 000 GHz



CH2 Markers
1: 32.629 dB
5.00000 GHz
2: 31.664 dB
8.00000 GHz
3: 30.172 dB
12.0000 GHz
4: 28.467 dB
16.0000 GHz
5: 27.459 dB
20.0000 GHz

H1d
START 4000.000 MHz STOP 20000.000 MHz

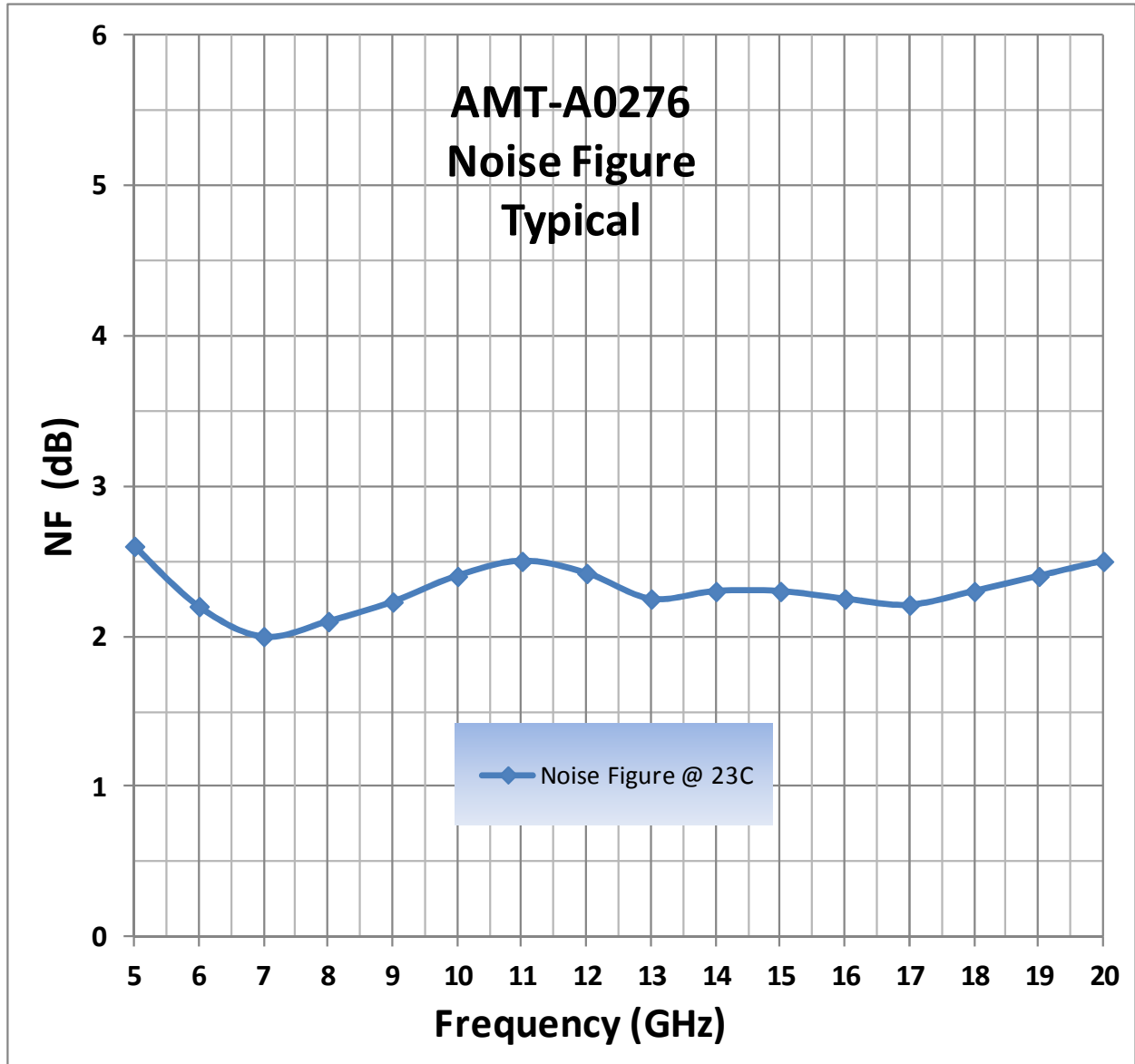
CH4 LOG 10 dB/ REF 0 dB
S22 5: -14.184 dB 20.000 000 000 GHz



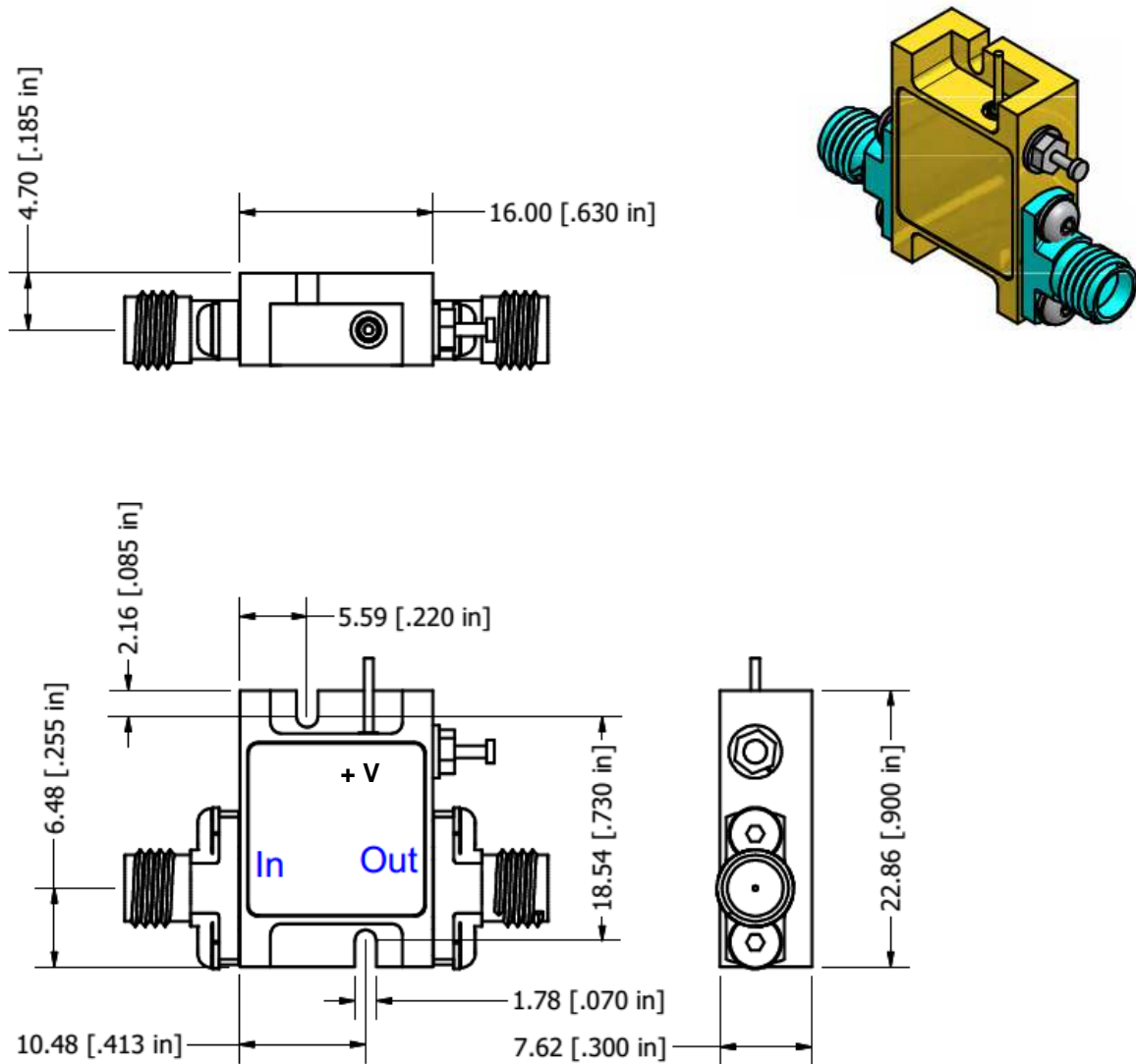
CH4 Markers
1: -17.700 dB
5.00000 GHz
2: -34.844 dB
8.00000 GHz
3: -13.820 dB
12.0000 GHz
4: -14.149 dB
16.0000 GHz
5: -14.184 dB
20.0000 GHz

H1d
START 4000.000 MHz STOP 20000.000 MHz

Noise Figure @ 23°C



Package Outline M084: 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-A0276	SMA Female	Non-Hermetic	Outline: M084

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.

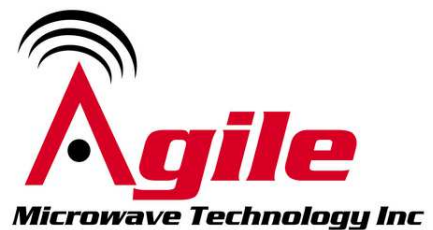
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