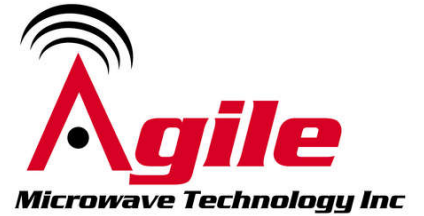


AMT-A0275 5 GHz to 18 GHz Low Noise with Medium Power Amplifier

Data Sheet



Features

- 5 GHz to 18 GHz Frequency Range
- Typical Gain 30 dB
- Gain Flatness $< \pm 1.5$ dB
- P1dB +17 dBm Typical
- Typical Noise Figure 1.9 dB
- Internally Regulated
- Operates from a Single Supply +10v TO +12V
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0275 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-A0275 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

| 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) | Pin | dBm | | +10 |
| Die $T_{Junction}$ | T_J | ° C | | +150 |
| Positive Supply Voltage | V_{+SS} | V | | +16 |

EAR99 NLR

Attach to proper heatsink

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

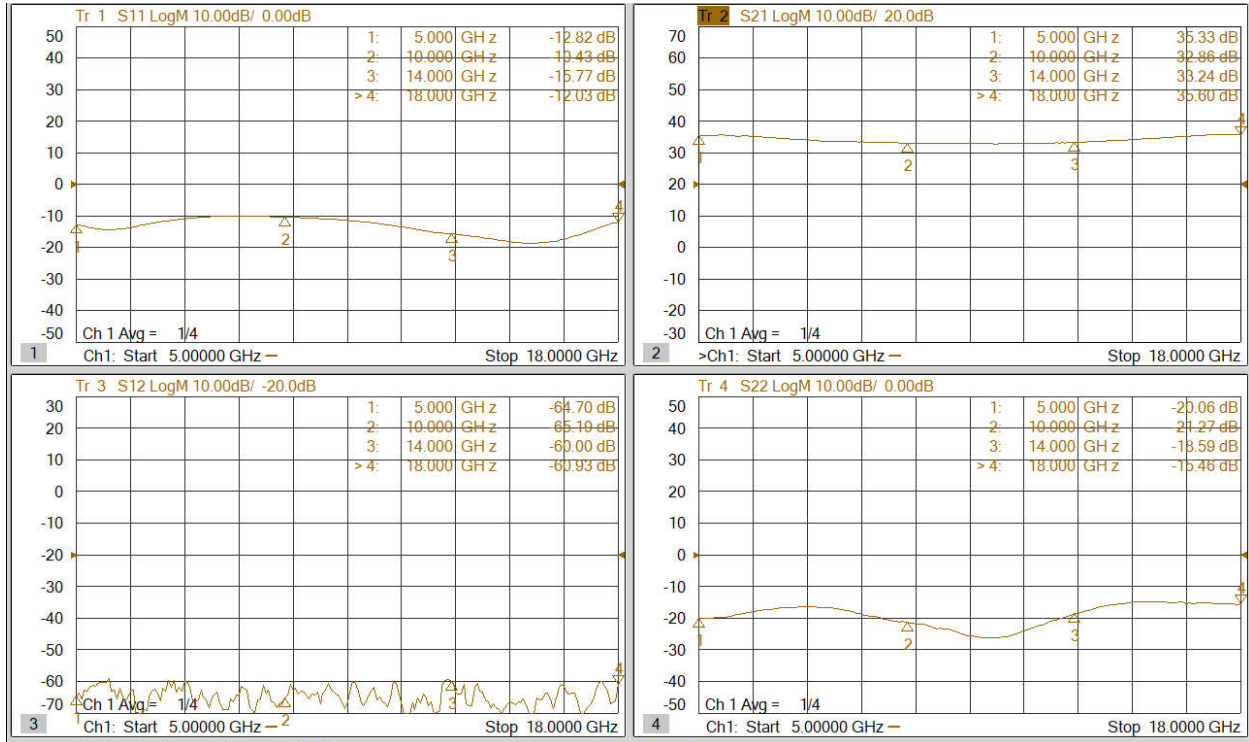
| Parameter | Conditions | Units | MIN | Typical | MAX |
|--------------------------|---|-------|-----|------------|-------|
| Frequency Range | | GHz | 5 | | 18 |
| Gain | Small Signal | dB | 28 | 32 | |
| Gain Flatness | | dB | | ±1.2 | ± 2.5 |
| Input Power Survival | CW short period, without damage | dBm | +10 | | |
| Output Power (P1dB) | 1 dB compression point @ 16 GHz | dBm | 15 | 17 | |
| OIP3 | OPI3 measured @ 16 GHz Two tone F1-F2= 10MHz | dB | | 26 | |
| Noise Figure | | dB | | 1.9 | 2.5 |
| RF Input Impedance | Reference to 50 ohms VSWR | | | 1.6:1 | 2.2:1 |
| RF Output Impedance | Reference to 50 ohms | | | 1:8:1 | 2.0:1 |
| Supply Voltage Positive: | | V | | +10 to +12 | |
| Supply Current Positive: | | mA | | 170 | 230 |

Notes:

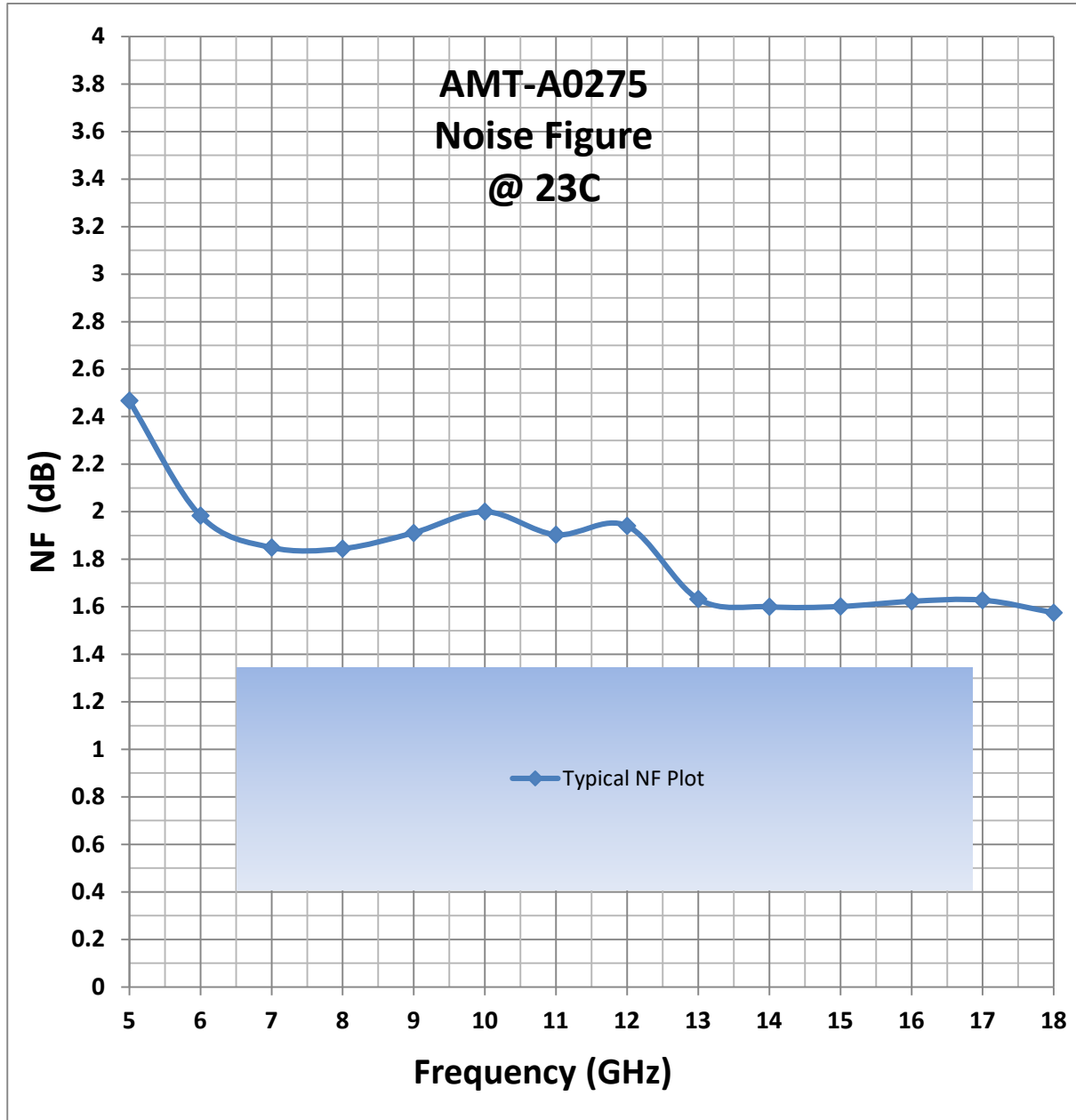
- 1/ Unconditional Stability
- 2/ All min and max parameters are guaranteed by design

Customized configurations of the above specifications are available

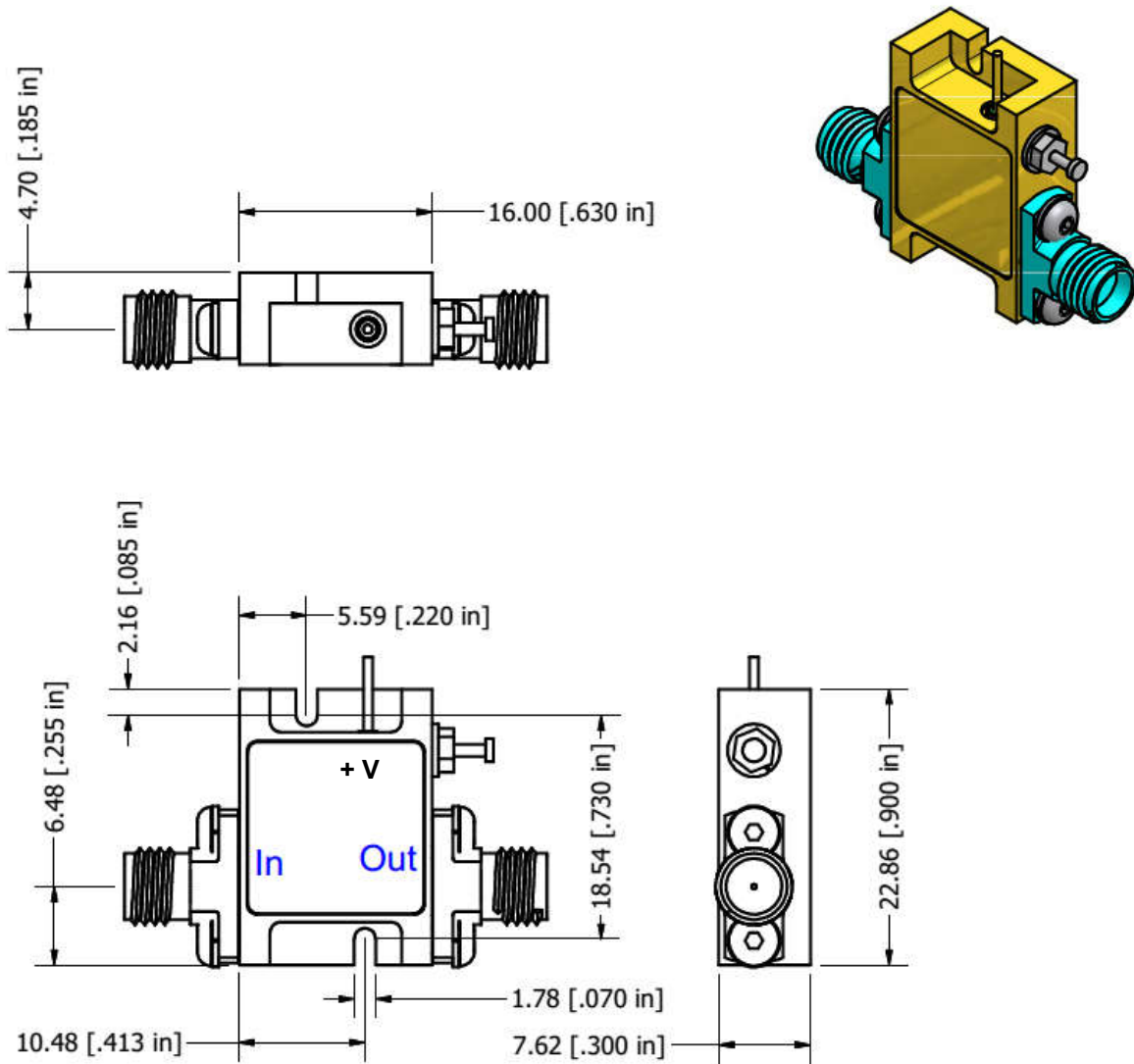
ELECTRICAL SPECIFICATIONS @ 23°C



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-A0275 | 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.

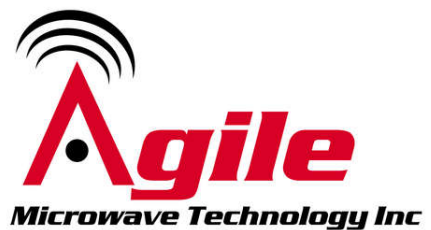
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