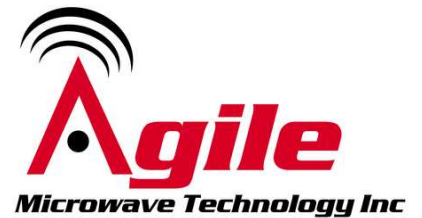


AMT-A0277 18 GHz to 26.5 GHz Low Noise Amplifier 1.8 dB typical NF

Data Sheet



Features

- 18 GHz to 26.5 GHz Frequency Range
- Typical Gain 34 dB
- Gain Flatness $< \pm 1.5$ dB
- P1dB +12 dBm Typical
- Typical Noise Figure 1.8 dB
- Internally Regulated
- Operates from a Single Supply +10V TO +12V
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0277 is a Low Noise amplifier with NF of less than 2 dB with in 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 | | +20 |
| 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 | 18 | | 26.5 |
| Gain | Small Signal | dB | 30 | 34 | |
| Gain Flatness | | dB | | ±1.2 | ± 2 |
| Input Power Survival | CW short period, without damage | dBm | 20 | | |
| Output Power (P1dB) | 1 dB compression point @ 22 GHz | dBm | 10 | 12 | |
| OIP3 | OPI3 measured @ 16 GHz Two tone F1-F2= 10MHz | dB | | 21 | |
| Noise Figure | | dB | | 1.8 | 2.2 |
| 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 | | 190 | 200 |

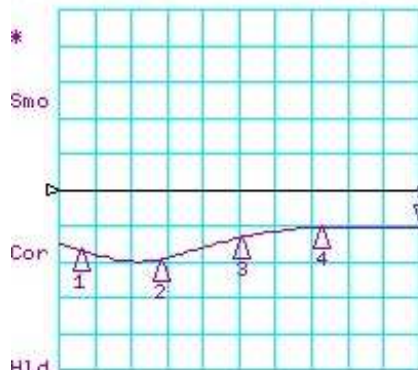
Notes:

- 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

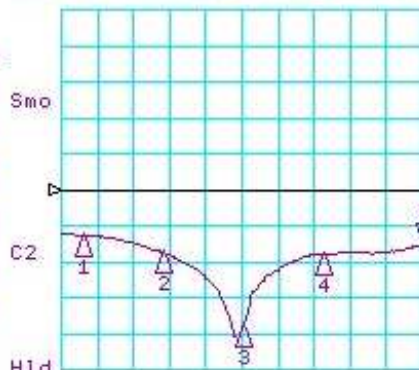
CH1 LOG 10 dB/ REF 0 dB
S11 5: -10.208 dB 26.500 000 000 GHz



CH1 Markers
1: -16.614 dB
18.0000 GHz
2: -19.368 dB
20.0000 GHz
3: -13.154 dB
22.0000 GHz
4: -10.504 dB
24.0000 GHz

H1d
START 17500.000 MHz STOP 26500.000 MHz

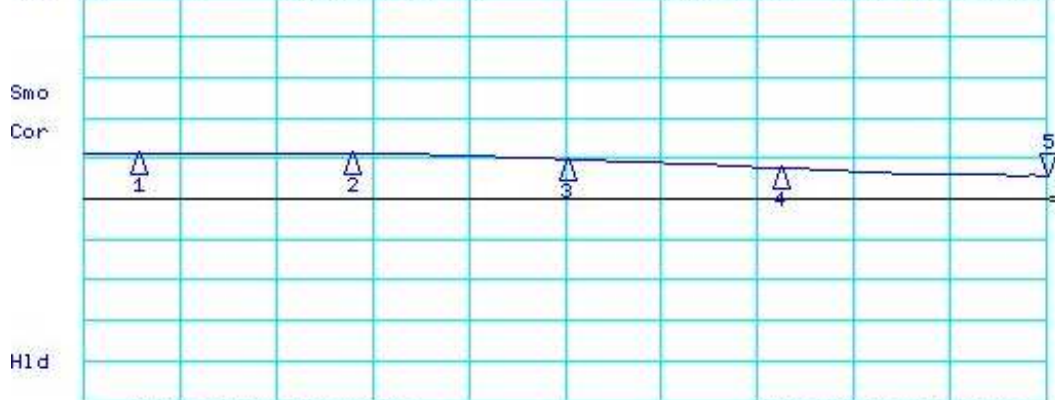
CH3 LOG 10 dB/ REF 0 dB
S22 5: -15.501 dB 26.500 000 000 GHz



CH3 Markers
1: -12.450 dB
18.0000 GHz
2: -17.236 dB
20.0000 GHz
3: -38.002 dB
22.0000 GHz
4: -17.891 dB
24.0000 GHz

H1d
START 17500.000 MHz STOP 26500.000 MHz

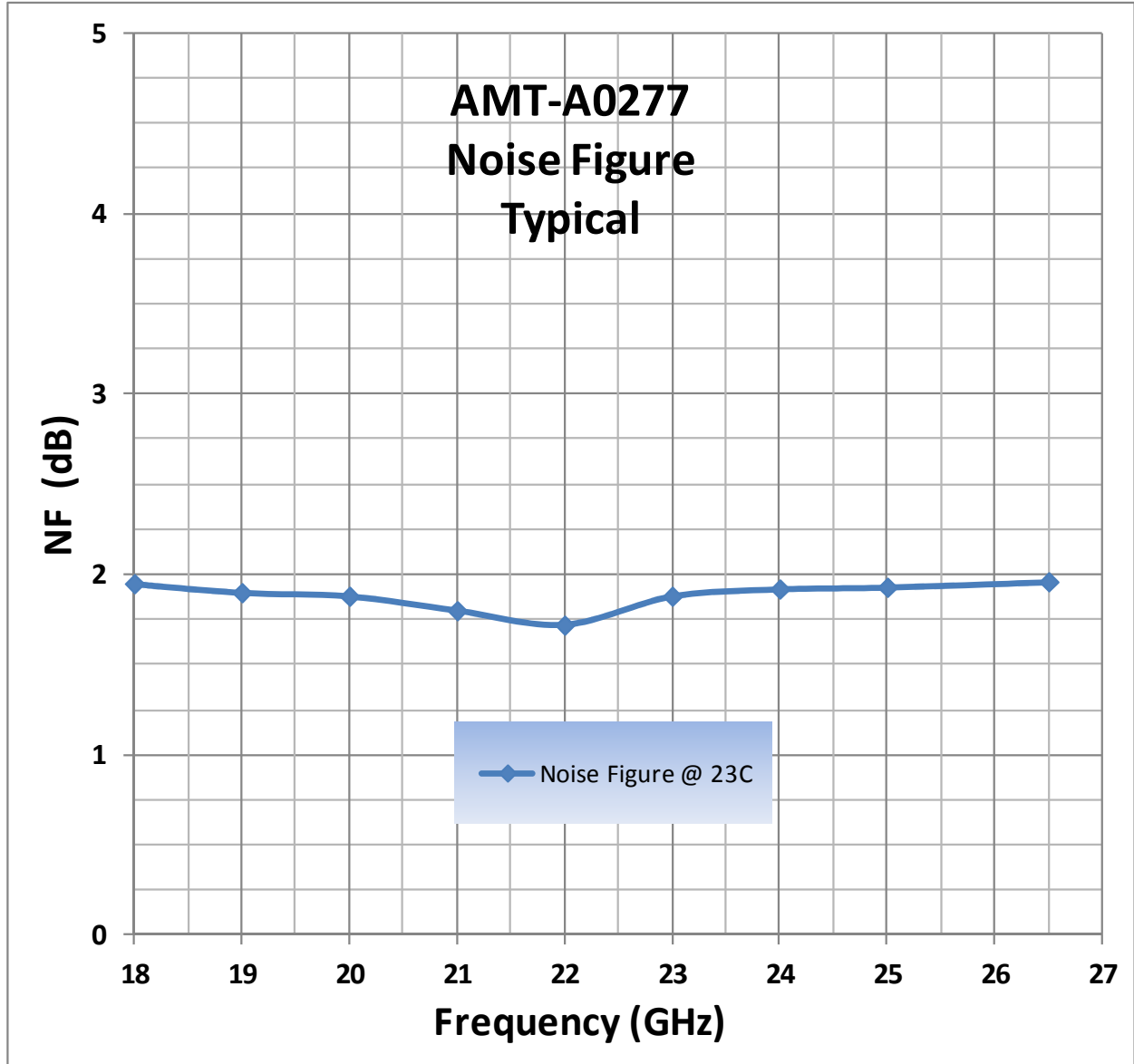
CH2 S21 LOG 5 dB/ REF 30 dB 5: 32.799 dB 26.500 000 000 GHz



CH2 Markers
1: 35.625 dB
18.0000 GHz
2: 35.508 dB
20.0000 GHz
3: 34.912 dB
22.0000 GHz
4: 33.831 dB
24.0000 GHz

START 17.500 000 000 GHz STOP 26.500 000 000 GHz

Noise Figure @ 23°C



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.

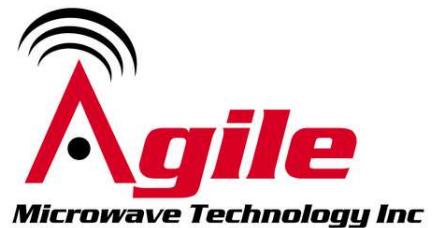
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