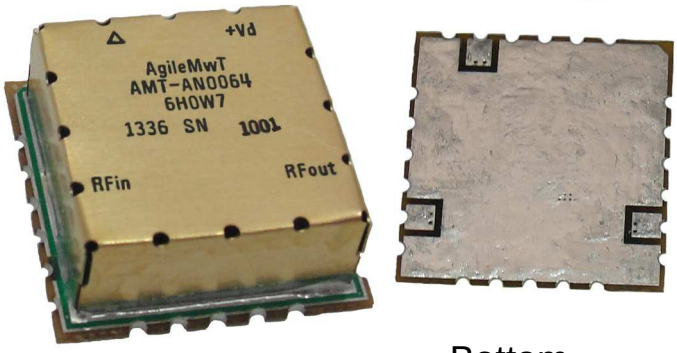
AMT-AN0064 40 MHz to 50 MHz
Non-Magnetic Low Noise Amplifier

Data Sheet

Agile Microwave Technology Inc

Features

- Non-Magnetic Material
- Integrated Diode protection
- Frequency Range 40 to 50 MHz (1.0T)
- **Typical Noise Figure < 0.27 dB**
- Typical Gain 30 dB
- Gain Flatness < ± 0.5 dB
- Unconditionally stable
- Very Low Input Impedance match <2 Ohms
- Internally Regulated Single +8V supply
- Typical current < 20 mA



Top Bottom

20mm SMT package

Description

The AMT-AN0064 is a Low Noise amplifier using Non-Magnetic components and material. It is optimized for low input impedance match of < 2 Ohms and output is matched to 50 Ohms. The performance is achieved through the use of AMTI's proprietary technology. The AMT-AN00654 is ideal for use as Pre-Amplifier in a MRI system, or where amplification is required without adding excessive noise in a Non-Magnetic Hi-Rel system for Commercial or Military applications

Applications

- Magnetic Resonance Imaging (MRI)
- Test Equipment

Note: AMTI does not guarantee any specific application and it is customer's responsibility to test the amplifier for their application

MAXIMUM RATINGS[1]

√RoHS

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	° C	+12	+45
Storage Temperature - Case	T_{MS}	° C	-40	+125
RF Input power (CW)	Pin	dBm		+30
Die $T_{Junction}$	T_J	° C		+150
Positive Supply Voltage	V_{+SS}	V		+8.5

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.

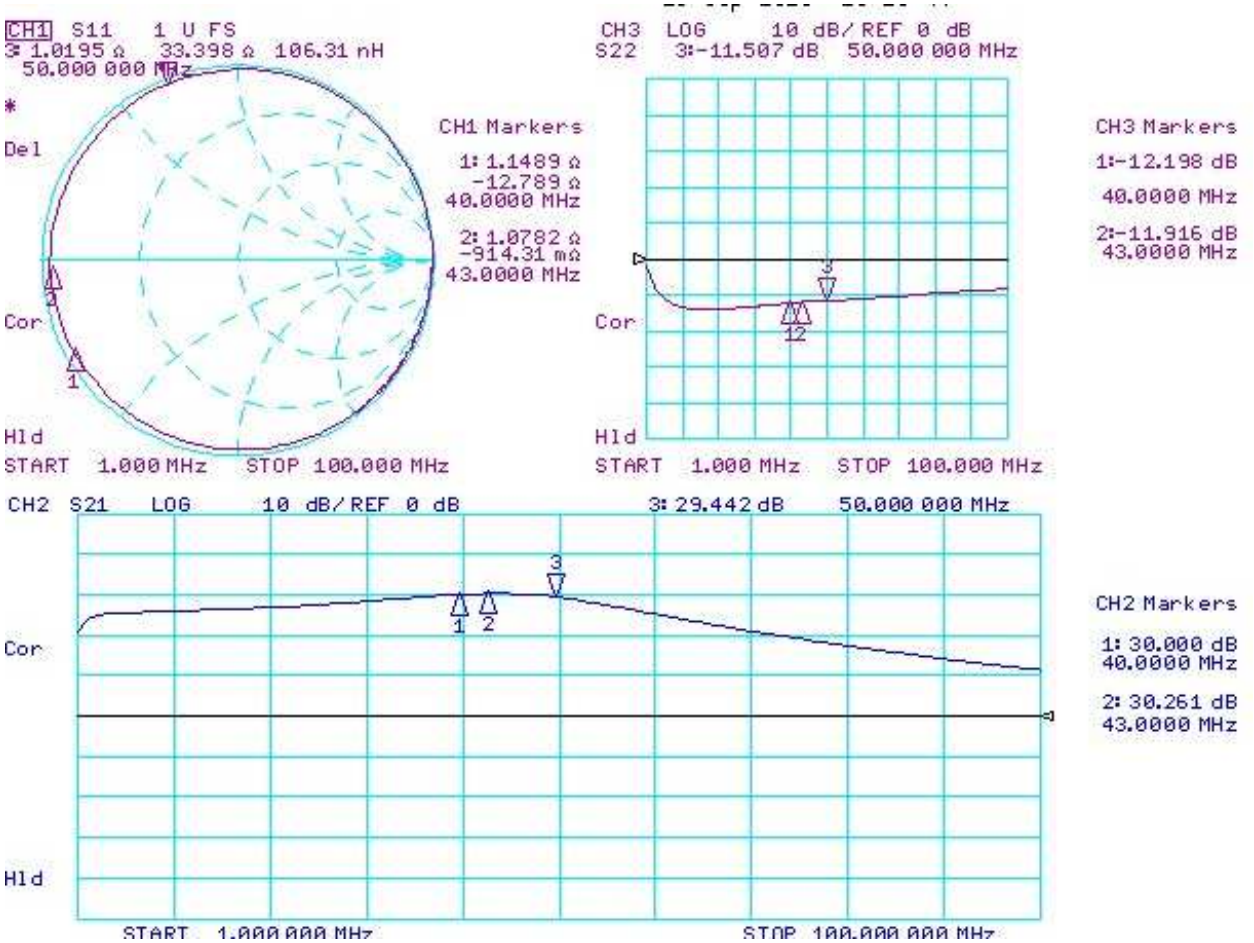
ELECTRICAL SPECIFICATIONS @ 23ºC

Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		MHz	40	43	50
Gain	Small Signal	dB		30	
Gain Flatness		dB		±0.5	
Input Power	CW, without damage	dBm	+25		
Output Power (P1dB)	1 dB compression point @ 43 MHz	dBm	0	3	
OIP3	OPI3 measured @ 43 MHz Two tone F1-F2= 1MHz	dB		15	
Noise Figure	Measured with 50 ohms test equipment	dB		0.27	0.4
RF Input Impedance		Ohm		1	2
RF Output Impedance	Reference to 50 ohms			1:5:1	2.0:1
Stability Factor K	Unconditionally Stable		1		
Stability Factor B1	Unconditionally Stable		0		
Supply Voltage Positive: Supply Current Positive:		V mA		+8 19	

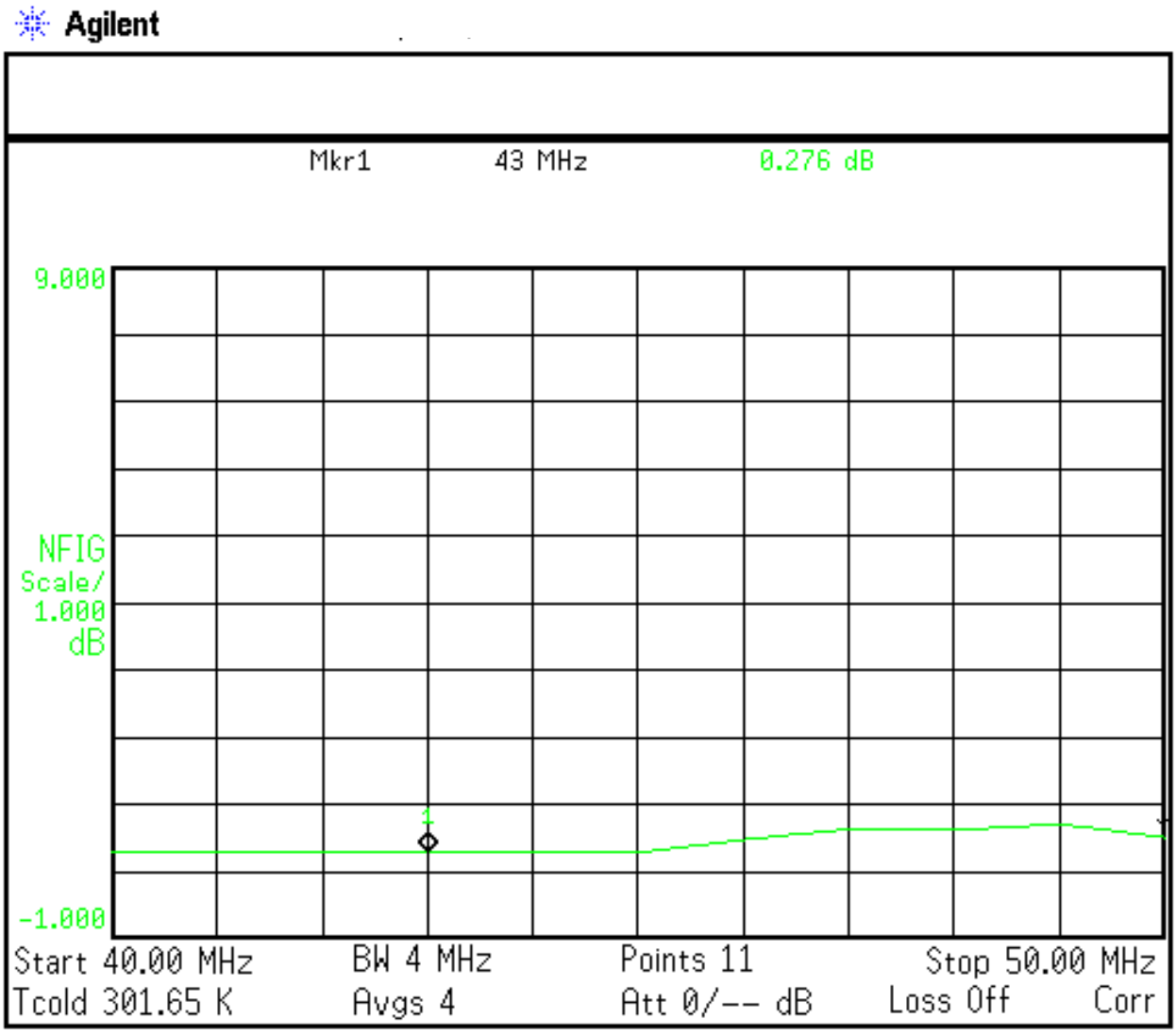
Notes:
1/ Unconditional Stability: (K > 1) and (B1 > 0)

Customized configurations of the above specifications are available

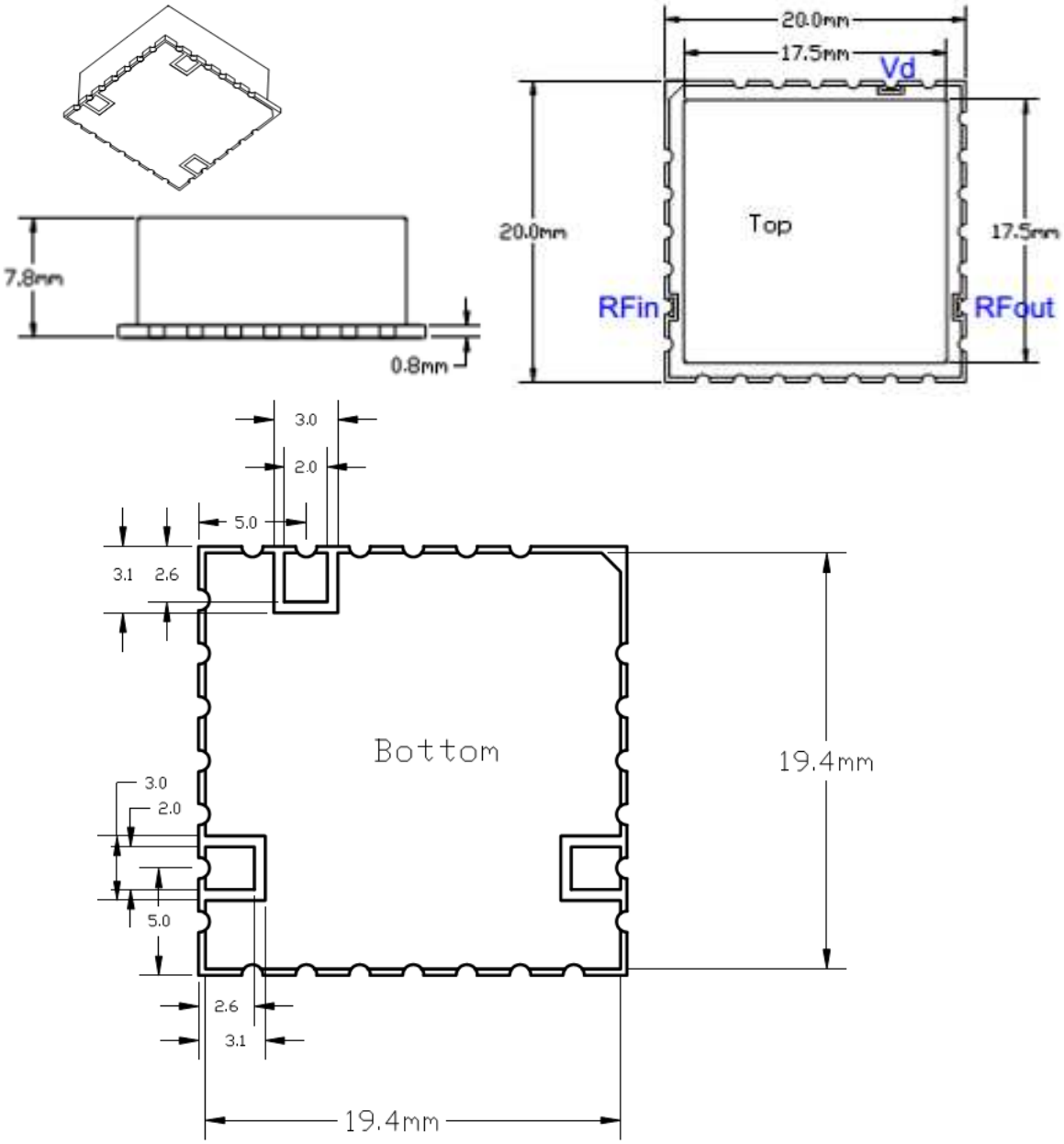
S-Parameters Typical @ 23 ° C



Noise Figure Typical @ 23C



Package Outline: M056SMT (mm)



Model Number	Description	Hermeticity	Package
AMT-AN0064	20 mm SMT	Non-Hermetic	Outline: M056

Note: Recommended attach method hand solder and inspect all castellations from side for good attach

√RoHS

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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