AMT-A0704 1 GHz to 6 GHz
Broadband Ultra Low Noise Amplifier

Data Sheet

Features

- 1 GHz to 6 GHz Frequency Range
- Gain 28 dB Typical
- Gain Flatness ± 0.3 dB typical ± 0.8 dB max
- **0.7 dB Typical Noise Figure 1 dB max**
- VSWR 1.8:1 typical
- P1dB +14 dBm typical
- Internally Regulated, Reverse Voltage Protection
- Operates from Single +8 to +12V Supply
- Unconditionally Stable
- Compact Housing

Photo for Illustration only

Description

The AMT-A0704 is a Ultra low noise amplifier with flat gain, in a compact size. **The amplifier I/Os are Internally matched to 50 Ohms and DC Blocked**. The AMT-A0704 is ideal for use as input stage with low noise for test equipment, Communication systems or where broadband amplification with very low added noise are required in a Hi-Rel communications system for Commercial or Military applications

Typical Applications

- Front End of Receiver
- Test Equipment
- Communication Systems
- Lab Applications
- Microwave Radio

MAXIMUM RATINGS[1]

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

Appropriate Heat sink must be used Do Not apply DC to RF

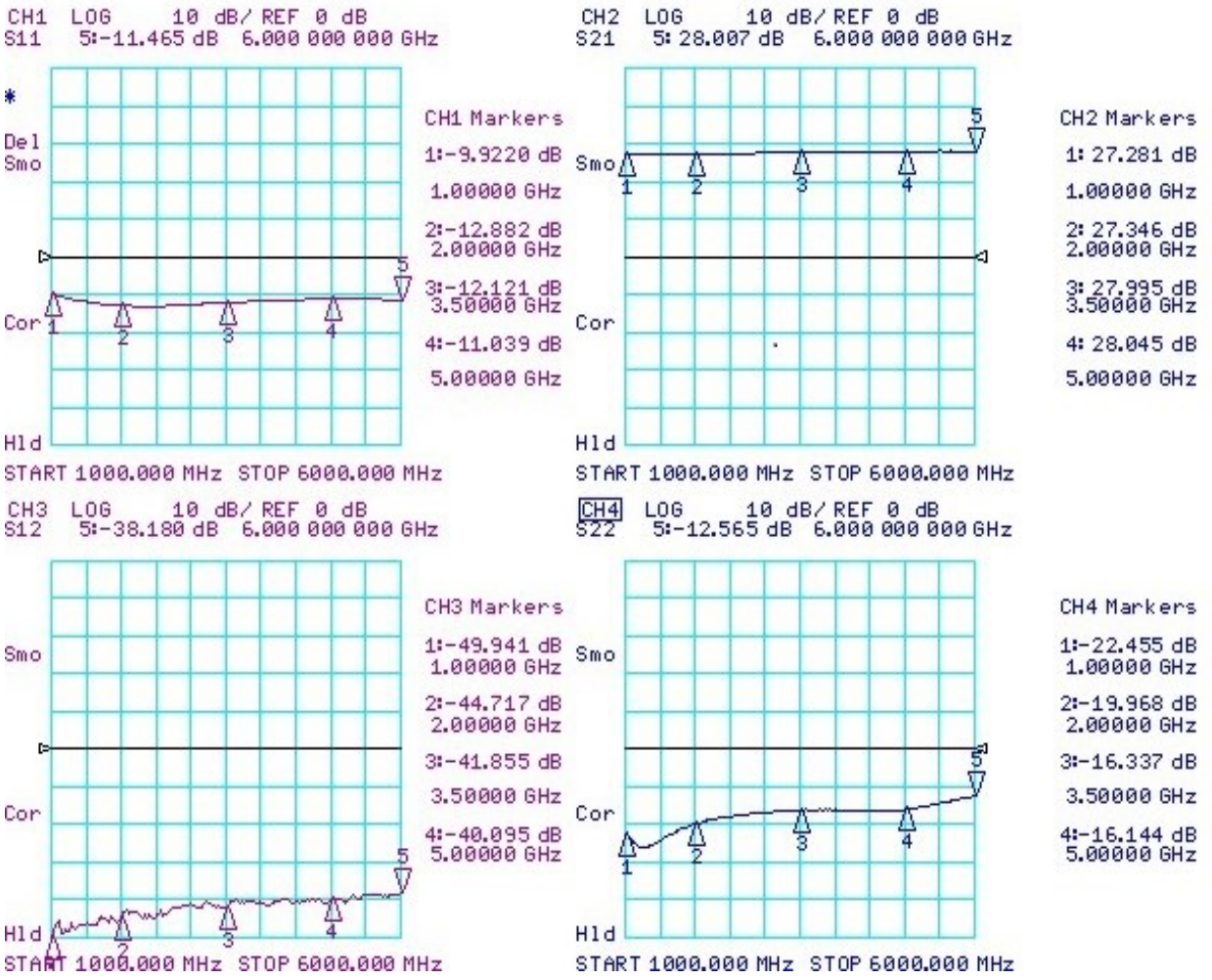
1.Stresses above those listed under "Absolute Maximum Rating" may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

A0704 ELECTRICAL SPECIFICATIONS @ 23ºC

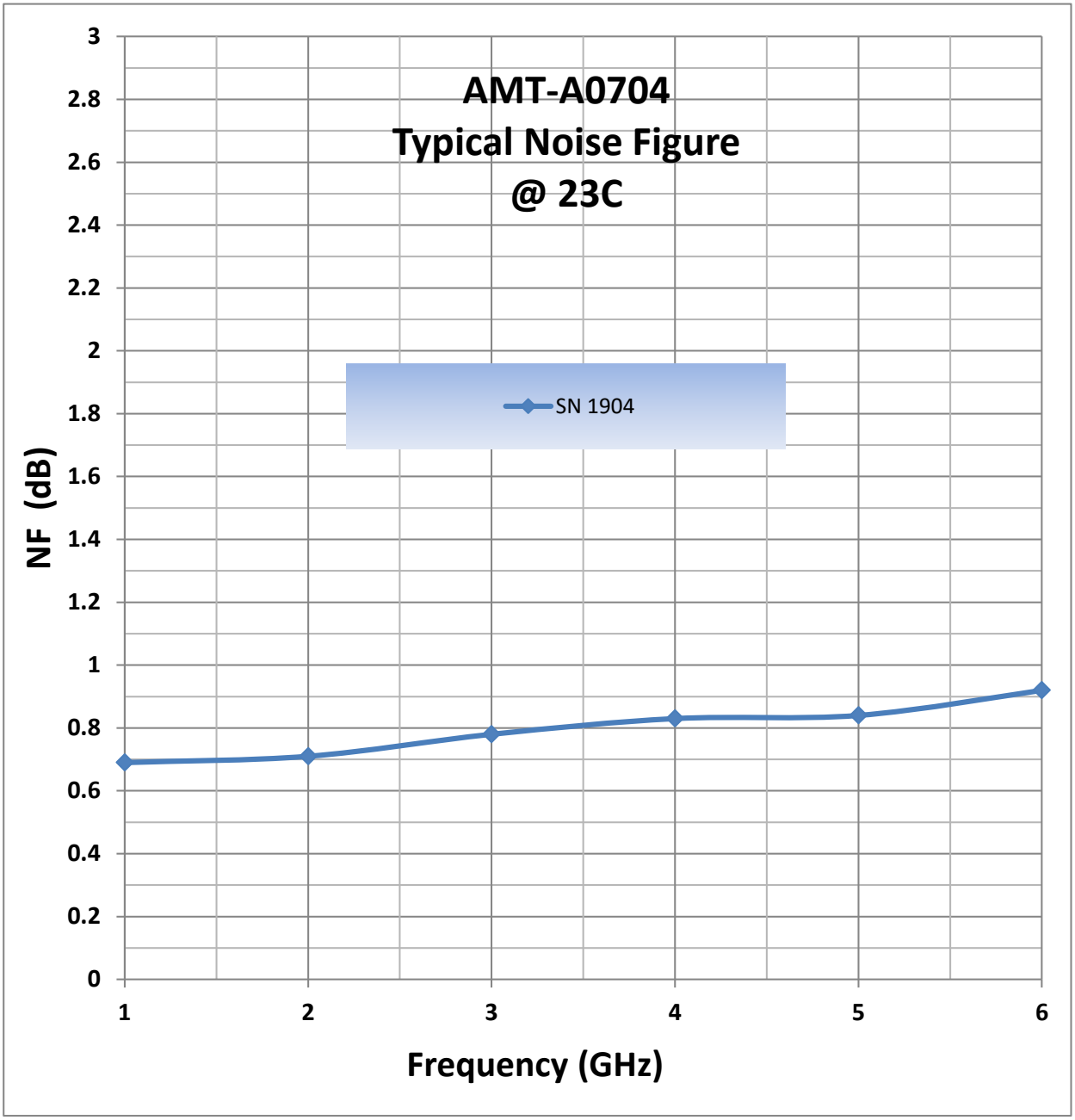
Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	1		6
Gain[2]	Small Signal	dB	26	28	
Gain Flatness		dB		±0.5	±0.8
Noise Figure[4]	1 to 6 GHz	dB		0.7	1
Output Power (P1dB)	Measured @ 3 GHz	dBm	+10	+14	
OIP3	OPI3 @ 3 GHz Two tone F1-F2= 10MHz	dBm		+21	
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.1:1
RF Output Impedance	Reference to 50 ohms VSWR			1.8:1	2:1
Supply Voltage Positive:	Small signal	V		+8 to+ 12	
Supply Current Positive:		mA		75	100

Notes:
1/ Unconditional Stability
2/ Small signal Input Power –35 dBm
4/Measured with Agilent/HP equipment standard manufacturer variations apply

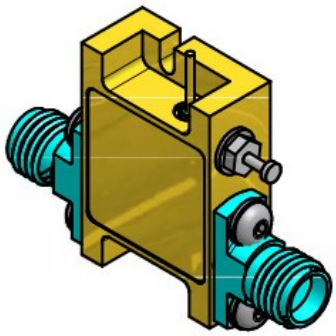
A0704 typical S-Parameters @ 23ºC

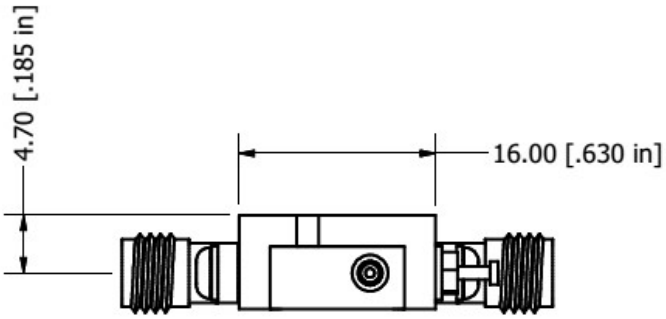


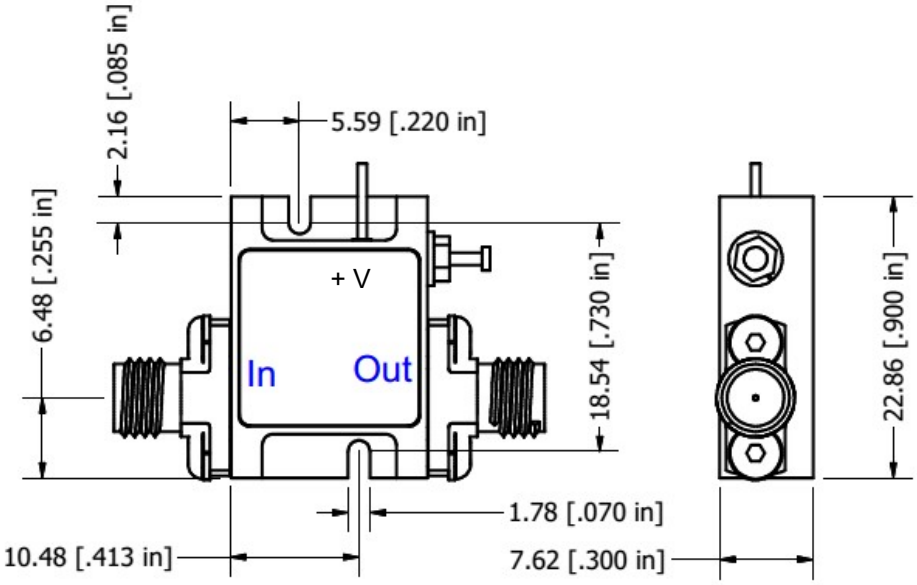
A0704 typical NF Plot @ 23ºC



Package Outline M084: SMA Female Connectors (inches)







Field replaceable SMA Connectors
Housing material: Aluminum 6061-T6 Plating: Gold over Nickel
Note: The unit must be attached to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0704	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

- 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.

Note: Available options are model dependent, please contact us

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