AMT-A0091 0.01 GHz to 6 GHz
Broadband Low Noise Medium Power Amplifier

Data Sheet

Features

- 0.01 GHz to 6 GHz Frequency Range
- Typical Noise Figure < 1.2 dB
- Typical Gain 43 dB
- Gain Flatness < ± 1.2 dB
- +20 dBm P1dB
- Internally Regulated
- Operates from a +12 V Single Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology

Description

The AMT-A0091is a Broadband Low Noise medium power amplifier with very low noise figure and Pout of + 20 dBm 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 . The AMT-A0091 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 RATINGS[1]

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	° C	-40	+85
Storage Temperature - Case	T_{MS}	° C	-54	+150
RF Input power (CW)	Pin	dBm		+10
Die $T_{Junction}$	T_J	° C		+150
Positive Supply Voltage	V_{+SS}	V		+15.5

Note: Do not apply DC to RF Input

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

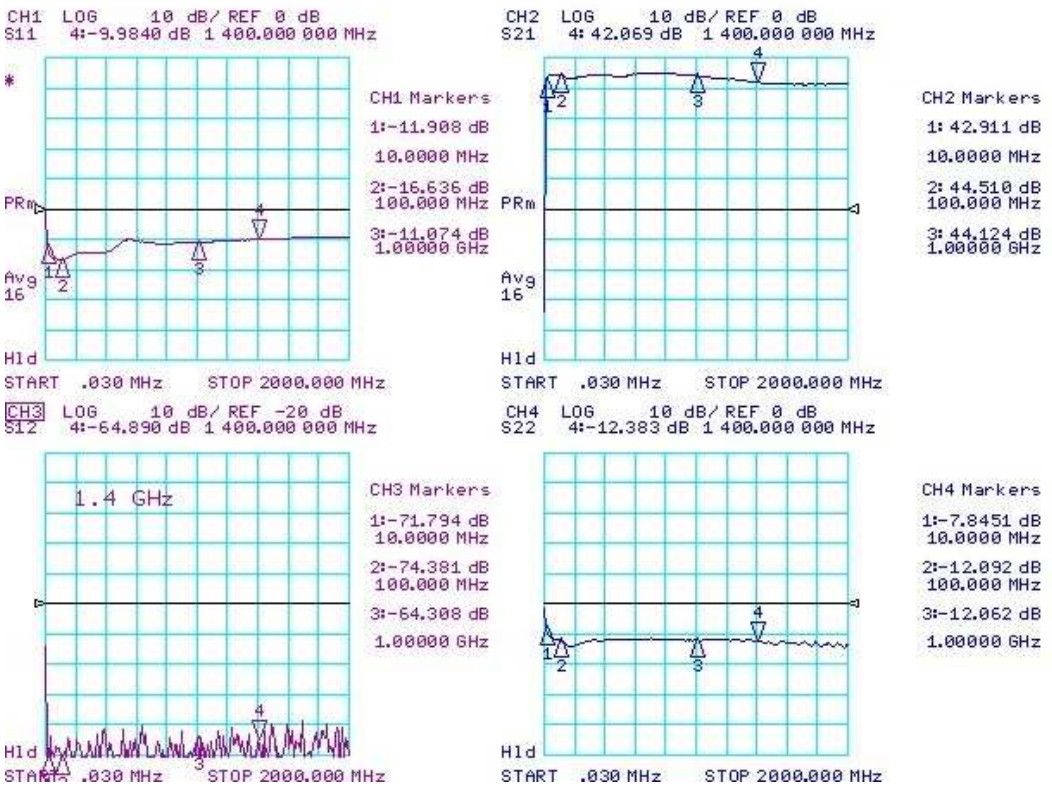
Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	0.01		6
Gain	Small Signal	dB	38	43	
Gain Flatness[2]		dB		±1.2	±2.0
Input Power	CW, without damage	dBm	+10		
Output Power (P1dB)	1 dB compression point @ 3 GHz	dBm	+20		
OIP3	OPI3 measured @ 3 GHz Two tone F1-F2= 10MHz	dB		30	
Noise Figure[2]		dB		1.2	2.2
RF Input Impedance[2]	Reference to 50 ohms VSWR			1.8:1	2.3:1
RF Output Impedance[2]	Reference to 50 ohms			1:7:1	2.0:1
Stability Factor K	Unconditionally Stable		1		
Stability Factor B1	Unconditionally Stable		0		
Supply Voltage Positive: Supply Current Positive:		V mA		+12 190	280

Notes:
1/ Unconditional Stability: (K > 1) and (B1 > 0)
2/ Maybe higher below 300 MHz and NF higher below 500 MHz

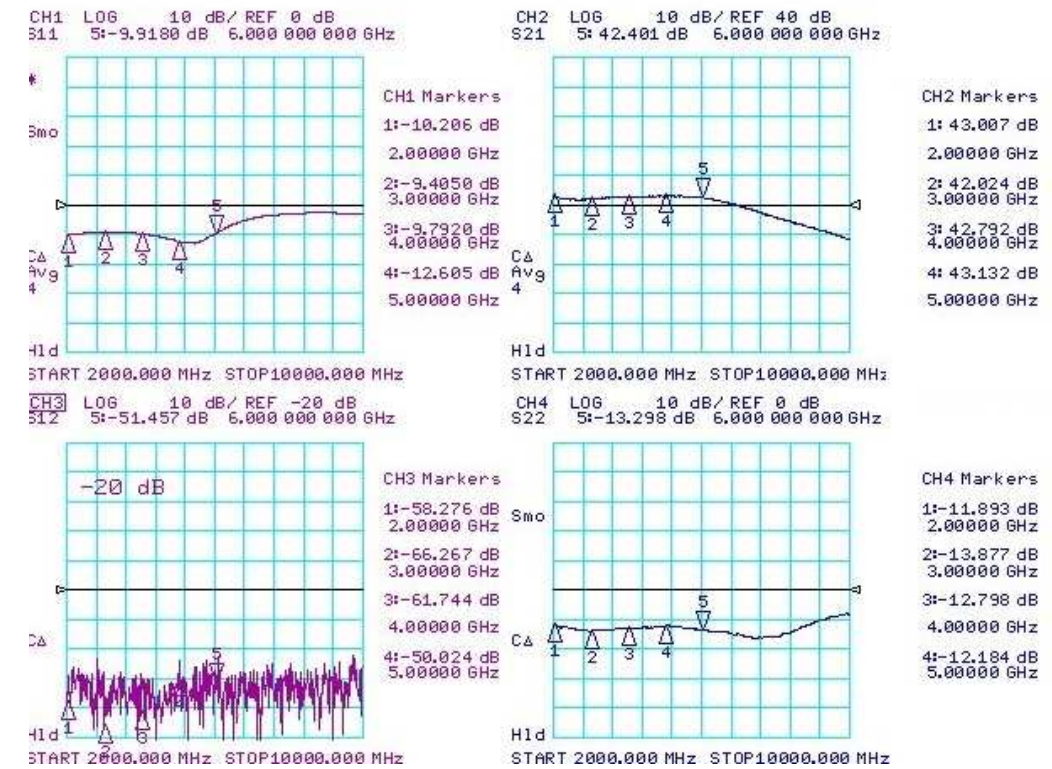
Customized configurations of the above specifications are available

Typical S-Parameters @ 23C

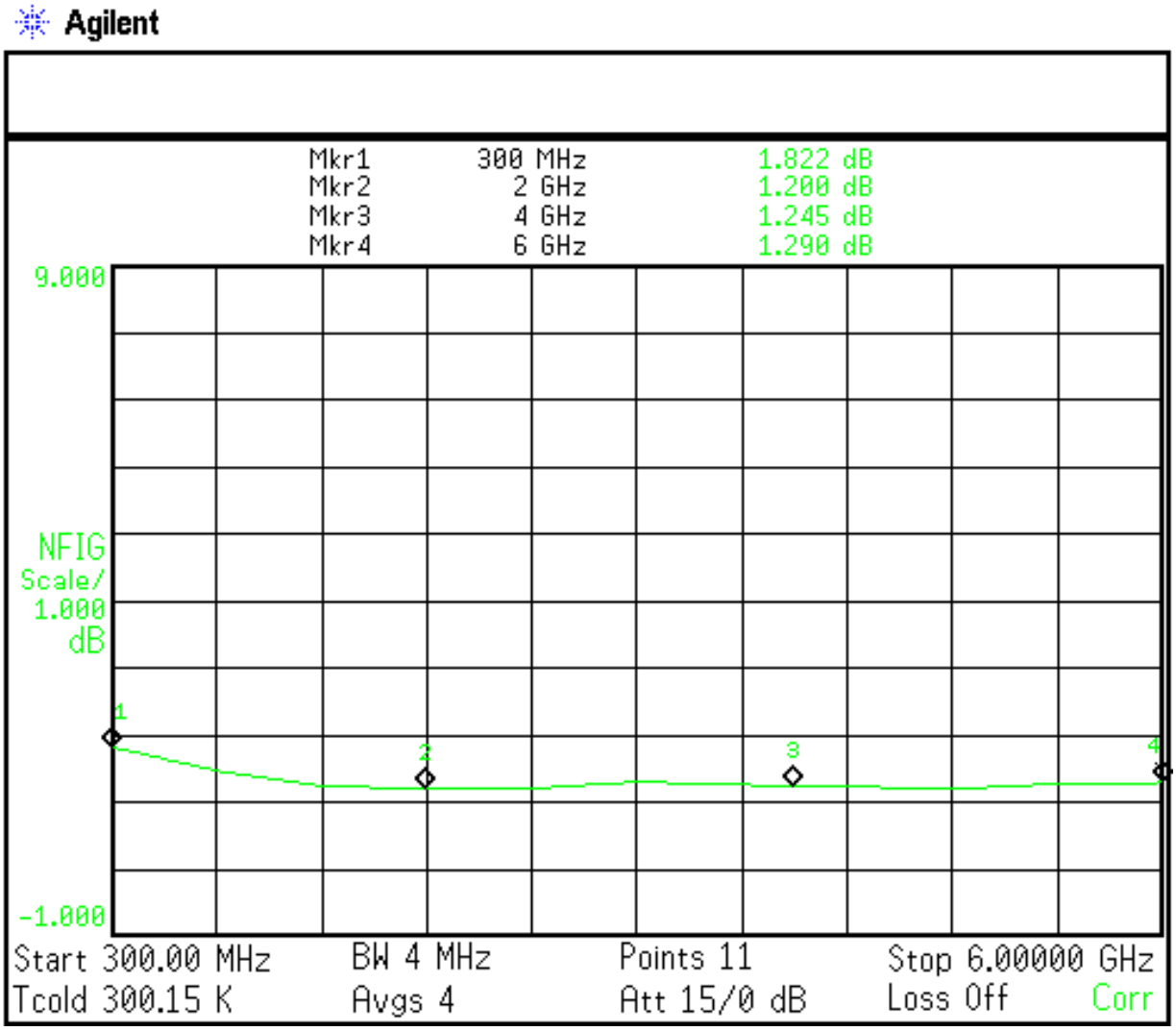
S-Par from 30kHz to 2000 MHz



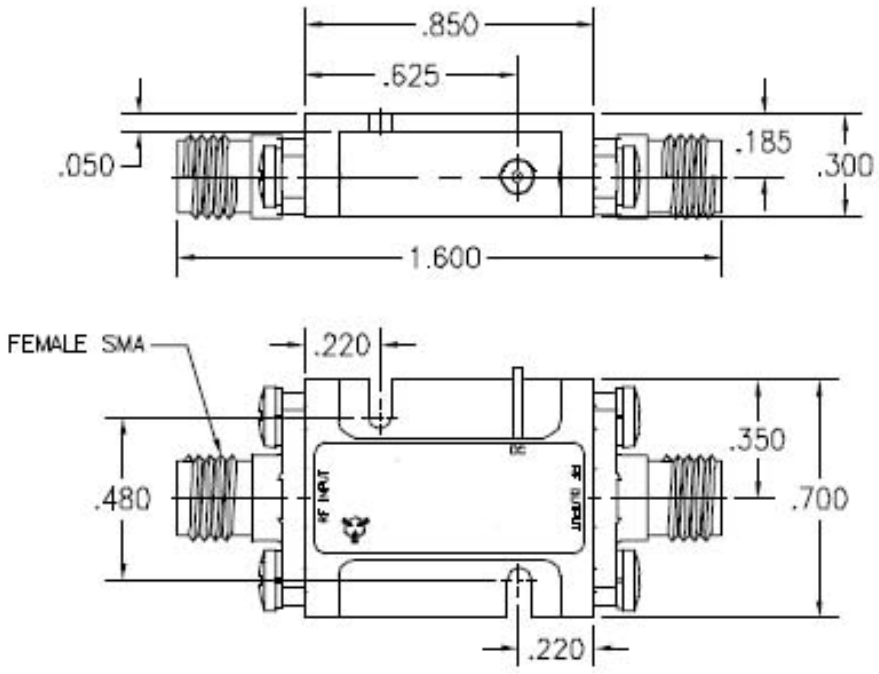
S-Par from 2 GHz to 10 GHz

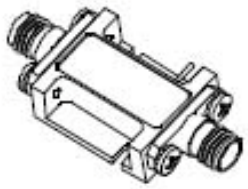


Typical Noise Figure @ 23C



Package Outline: M006 SMA Connectorized (inches)





ISOMETRIC VIEW
ACTUAL SIZE

Amplifier requires proper heat dissipation

Model Number	Description	Hermeticity	Package
AMT-A0091	SMA Female	Non-Hermetic	Outline: M006
AMT-A0091-H	SMA Female	Hermetic	Outline: M006

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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