

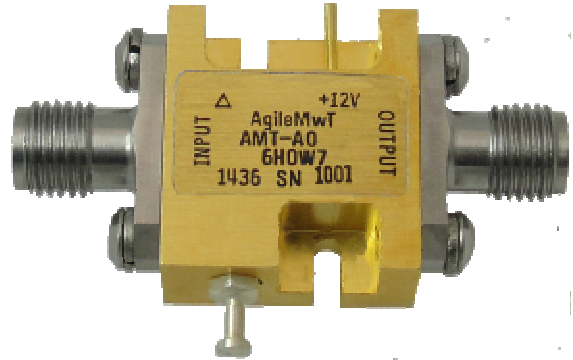
AMT-A0239 23 GHz to 25 GHz Low Noise Amplifier

Data Sheet



Features

- 23 GHz to 25 GHz Frequency Range
- Typical Noise Figure < 2.0 dB
- Gain 20dB Typical
- Gain Flatness < ± 0.5 dB Typical
- P1dB +11 dBm typical
- Internal DC Regulator
- Operates from a Single +8V Supply (+5V option available)
- Unconditionally Stable
- Excellent Value



Description

The AMT-A0239 is a Low Noise amplifier with low noise figure 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-A0239 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,
- Communication systems
- Microwave Radio systems
- Test Equipment

MAXIMUM RATINGS¹

EAR99 NLR

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	$^{\circ}C$	-40	+85
Storage Temperature - Case	T_{MS}	$^{\circ}C$	-40	+125
RF Input power (CW)	P_{in}	dBm		+8
Die $T_{Junction}$	T_J	$^{\circ}C$		+150
Positive Supply Voltage	V_{+SS}	V		+9

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		MHz	23000		25000
Gain	Small Signal	dB	18	20	
Gain Flatness		dB		±0.5	±1.5
Output Power (P1dB)	1 dB compression point @3 GHz	dBm	+9	+11	
OIP3	OPI3 measured @ 3 GHz Two tone F1-F2= 10MHz	dB		20	
Noise Figure		dB		2	2.5
RF Input Impedance	Reference to 50 ohms VSWR			1.4:1	2.0:1
RF Output Impedance	Reference to 50 ohms			1:4:1	2.0:1
Supply Voltage Positive:	(optional +5V model)	V		+8V	
Supply Current Positive:		mA		100	150

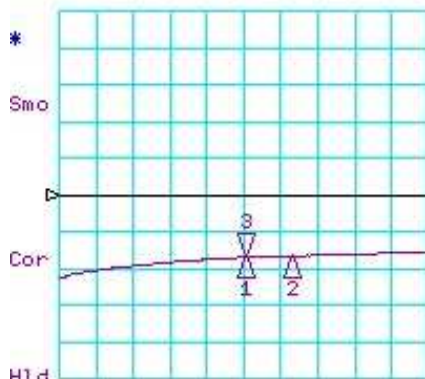
Notes:

1/ Unconditional Stability

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

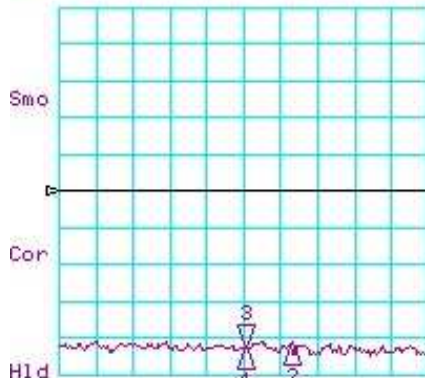
CH1 LOG 10 dB/ REF 0 dB
S11 3:-16.978 dB 24.000 000 000 GHz



CH1 Markers
1:-16.978 dB
24.0000 GHz
2:-16.548 dB
24.2500 GHz

START23000.000 MHz STOP25000.000 MHz

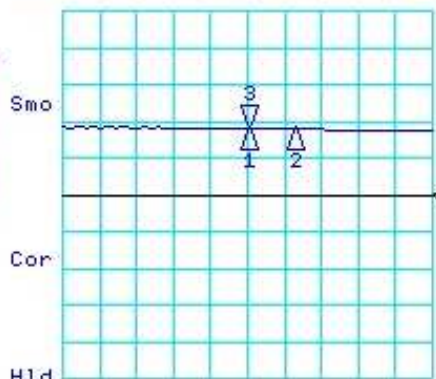
CH3 LOG 10 dB/ REF 0 dB
S12 3:-42.811 dB 24.000 000 000 GHz



CH3 Markers
1:-42.811 dB
24.0000 GHz
2:-41.757 dB
24.2500 GHz

START23000.000 MHz STOP25000.000 MHz

CH2 LOG 5 dB/ REF 10 dB
S21 3:19.021 dB 24.000 000 000 GHz



CH2 Markers
1:19.021 dB
24.0000 GHz
2:18.952 dB
24.2500 GHz

START23000.000 MHz STOP25000.000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 3:-20.525 dB 24.000 000 000 GHz

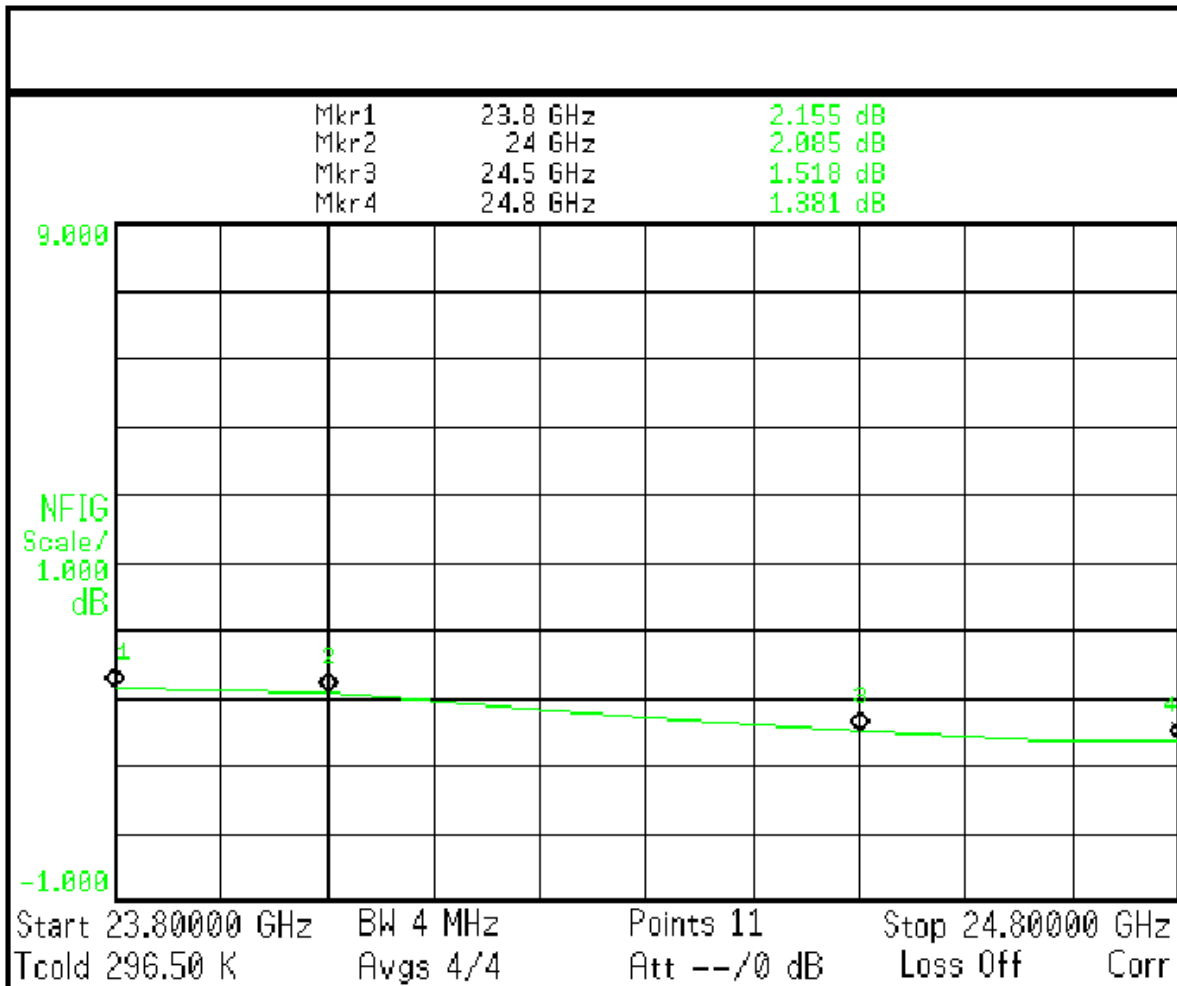


CH4 Markers
1:-20.525 dB
24.0000 GHz
2:-23.859 dB
24.2500 GHz

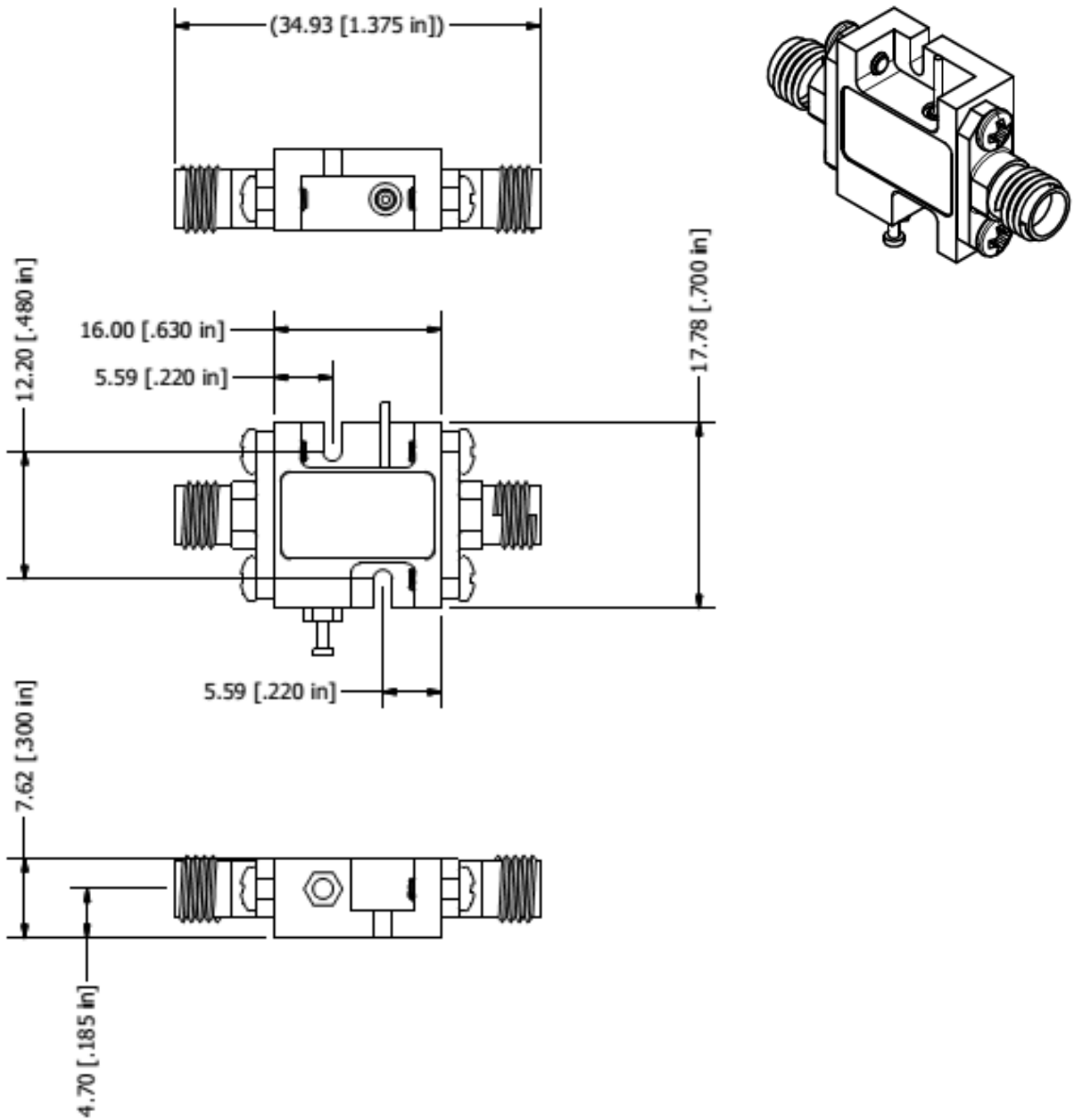
START23000.000 MHz STOP25000.000 MHz

Typical Noise Figure @ 23°C

Agilent



Package Outline: SMA Connectorized inches [mm]



Field replaceable SMA Connectors, Removable Ground Slug

Note: The unit must be attached to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0239	SMA Female	Non-Hermetic	Outline: M088

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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