

AMT-A0259 2 GHz to 18 GHz

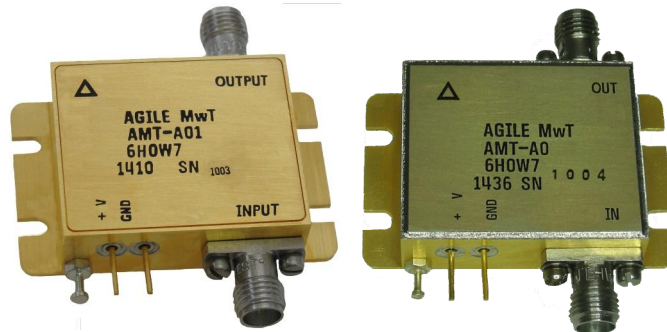
Broadband Low Noise, Medium Power + 20 dBm P1dB



Data Sheet

Features

- 2 GHz to 18 GHz Frequency Range
- Gain 38 dB Typical
- Gain Flatness ± 1.5 dB Typical
- Noise Figure 2 dB typ, 3.5 dB max
- Typical P1dB power > +20dBm
- Internally Regulated
- Operates from Single +12V Supply
- Unconditionally Stable
- Available in Hermetic Laser sealed version



Laser Sealed Hermetic

Description

The AMT-A0259 is a Broadband Medium Power Low Noise amplifier with flat gain in a compact size. The performance is achieved through the use of AMTI's proprietary matching technology and latest in GaAs technology. The amplifier I/Os are Internally matched to 50 Ohms and DC Blocked. The AMT-A0259 is ideal for use as low noise amplifier for test equipment, Communication systems or where broadband amplification and power are required without adding significant noise in a Hi-Rel communications system for Commercial or Military applications

Applications

- Test Equipment
- Communication Systems
- EW Systems
- Lab Applications
- Radar

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		+15
Die T _{Junction}	T _J	° C		+150
Positive Supply Voltage	V _{+SS}	V		+15

Appropriate Heat sink must be used,

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	2		18
Gain	Small Signal	dB	35	38	
Gain Flatness		dB		±1.2	±2.5
Input Power Survival (CW)	CW	dBm	+15		
Noise Figure	2 to 18 GH	dB		2	3.5
Output Power (P1dB)	2 to 18 GHz, measured @12 GHz	dBm	+18	+21	
OIP3	OPI3 @ 14 GHz Two tone F1-F2= 12MHz	dB		28	
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.2:1
RF Output Impedance	Reference to 50 ohms VSWR			1.8:1	2.2:1
Supply Voltage Positive:		V		+12	
Supply Current Positive:	Small signal	mA		280	340

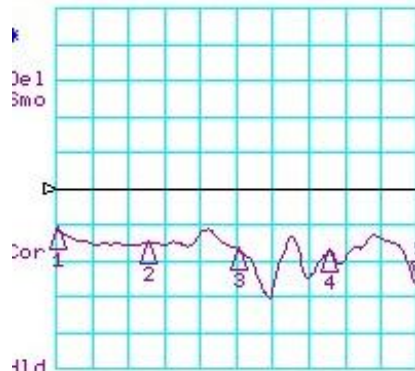
Notes:

1/ Unconditional Stability

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

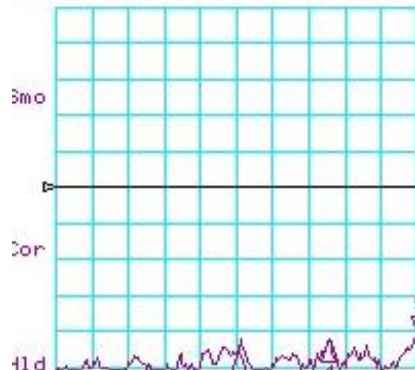
CH1 LOG 10 dB/ REF 0 dB
S11 5: -26.386 dB 18.000 000 000 GHz



CH1 Markers
1: -11.270 dB
2.00000 GHz
2: -15.148 dB
6.00000 GHz
3: -16.717 dB
10.0000 GHz
4: -17.281 dB
14.0000 GHz

START 2000.000 MHz STOP 18000.000 MHz

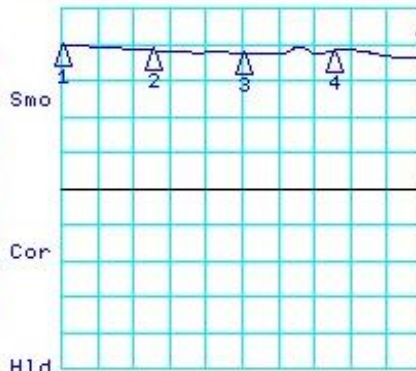
CH3 LOG 10 dB/ REF 0 dB
S12 5: -41.887 dB 18.000 000 000 GHz



CH3 Markers
1: -50.428 dB
2.00000 GHz
2: -49.300 dB
6.00000 GHz
3: -45.933 dB
10.0000 GHz
4: -42.870 dB
14.0000 GHz

START 2000.000 MHz STOP 18000.000 MHz

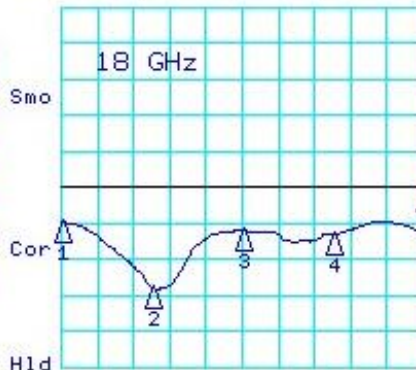
CH2 LOG 10 dB/ REF 0 dB
S21 5: 36.937 dB 18.000 000 000 GHz



CH2 Markers
1: 39.863 dB
2.00000 GHz
2: 38.388 dB
6.00000 GHz
3: 37.749 dB
10.0000 GHz
4: 38.315 dB
14.0000 GHz

START 2000.000 MHz STOP 18000.000 MHz

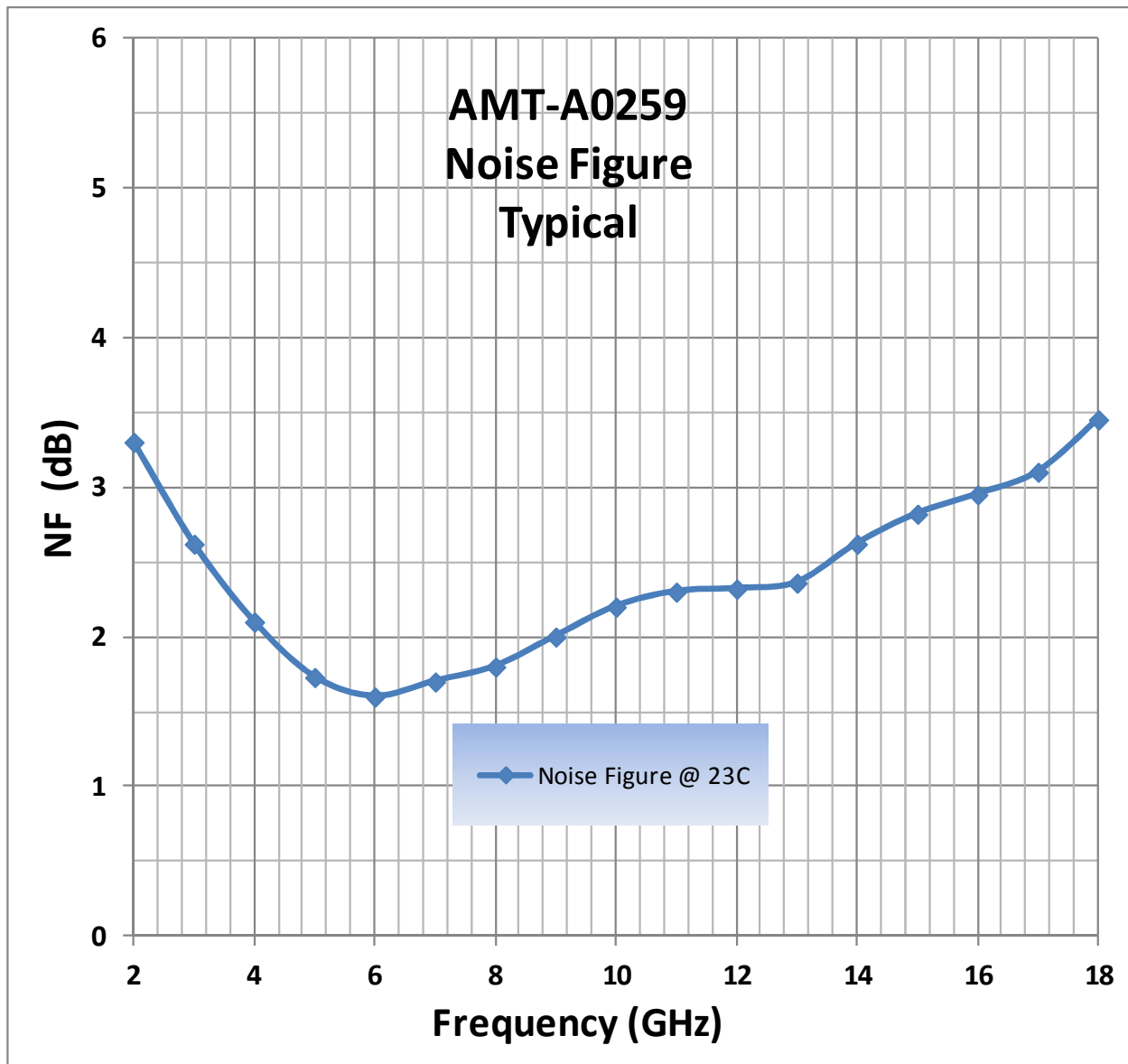
CH4 LOG 10 dB/ REF 0 dB
S22 5: -12.396 dB 18.000 000 000 GHz



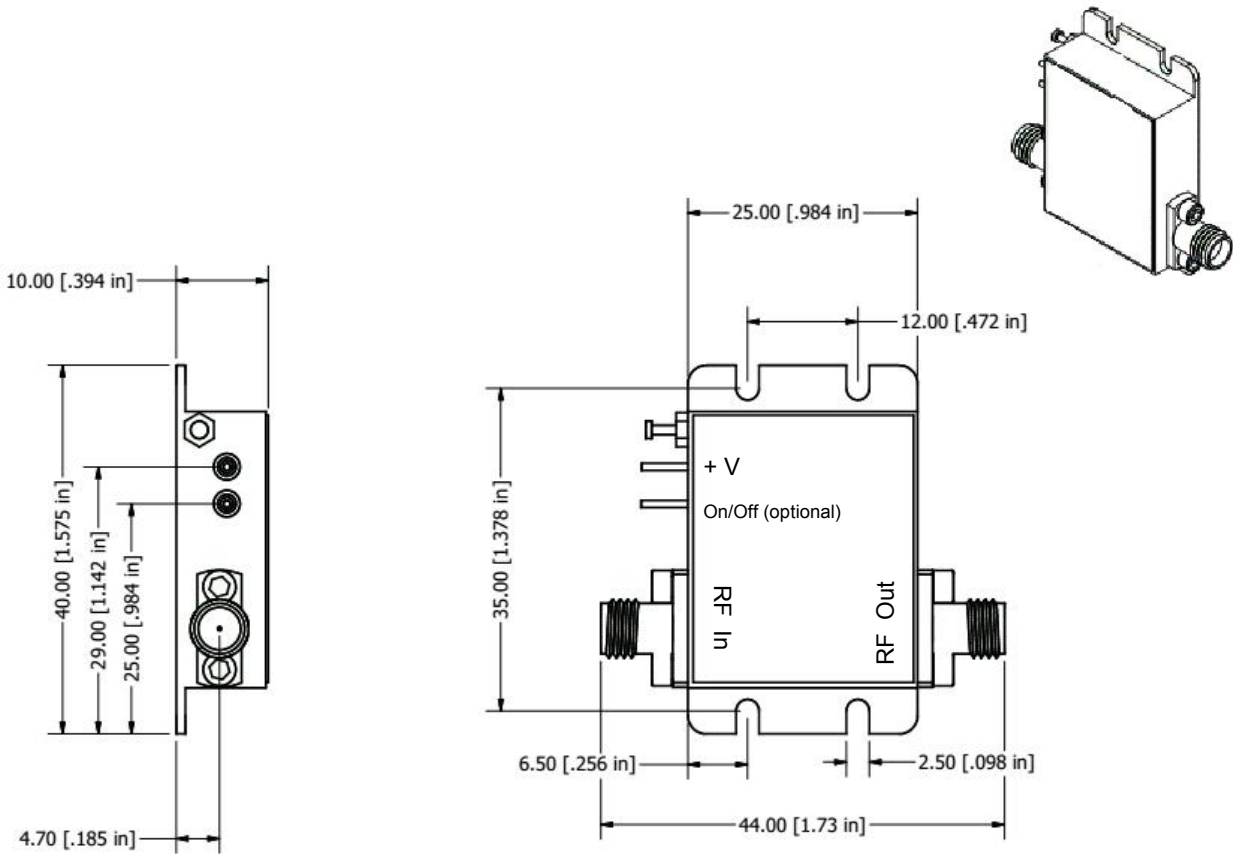
CH4 Markers
1: -9.6550 dB
2.00000 GHz
2: -27.618 dB
6.00000 GHz
3: -12.056 dB
10.0000 GHz
4: -12.739 dB
14.0000 GHz

START 2000.000 MHz STOP 18000.000 MHz

Typical S-Parameters @ 23°C



Package Outline M020: SMA Connectorized mm(inches)



Field replaceable SMA Connectors, Removable Ground slug

Note: The unit must be attached to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0259	SMA Female	Non-Hermetic	Outline: M020
AMT-A0259-H	SMA Female	Hermetic Laser Weld Tested to Leak Rate 2.0×10^{-8}	Outline: M020

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.

Contact Information:

**101 Bloomingdale Road
Hicksville, NY 11801**

Phone: (516) 931-1760

Fax: (212) 374-1153

info@agilemwt.com



www.agilemwt.com

AMTI reserves the right to change at any time without notice the design, specifications, function/form or availability of its products described herein. The buyer/customer has the responsibility to validate the performance for their applications. No liability is assumed as result of use of this product and no patent licenses are implied. AMTI reserves all rights .