

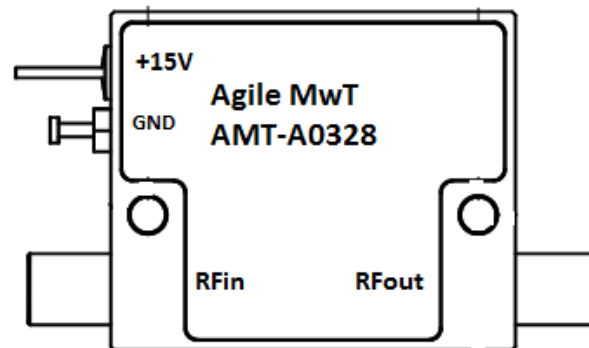
AMT-A0328 0.4 GHz to 6 GHz Low Noise, P1dB 1W & Low EMI Leakage Amplifier

Data Sheet



Features

- 0.4 GHz to 6 GHz Frequency Range
- Gain 40dB typ
- Gain Flatness $< \pm 1.5$ dB typ ± 2.7 db max
- Typical Noise Figure < 3.2 dB 5 dB max
- +31 dBm P1dB Typical
- Internally Regulated
- High EMI performance
DC to RF leakage -90 dBc typ -70 dBc max
- Operates from a Single +15V Supply
- Unconditionally Stable
- State-of-the-Art GaAs Technology



Description

The AMT-A0328 is a Broadband Low Noise amplifier with high power and low EMI leakage over the full frequency range. The performance is achieved through the use of AM-TI's proprietary technology. The amplifier I/Os are Internally matched to 50 Ohms . The AMT-A0328 is ideal for use in communication system, or where amplification is required without adding excessive noise in a Hi-Rel communications

Applications

- Communication systems
- Microwave Radio systems
- Test Equipment
- Point to Point Radios
- Radar

MAXIMUM RATINGS¹

Do NOT apply DC to RF Input

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	$^{\circ}C$	-40	+85
Storage Temperature - Case	T_{MS}	$^{\circ}C$	-54	+95
RF Input power (CW)	P_{in}	dBm		+12
Die $T_{Junction}$	T_J	$^{\circ}C$		+150
Positive Supply Voltage	V_{+SS}	V		+16

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	0.4		6
Gain	Small Signal	dB	35	40	42
Gain Flatness		dB		±1.5	±2.7
Input Power	CW, without damage	dBm	+12		
Output Power (P1dB)	1 dB compression point @ 4 GHz	dBm	30	31	
Noise Figure	Above 500 MHz	dB		3.2	5
RF Input Impedance	Reference to 50 ohms VSWR			1.8:1	2.3:1
RF Output Impedance	Reference to 50 ohms			1:8:1	2.3:1
EMI Leakage	DC supply pin to RFout	dBc	-70		
Supply Voltage Positive:		V		+15	
Supply Current Positive:		mA		395	440

Notes:

1/ Unconditional Stability

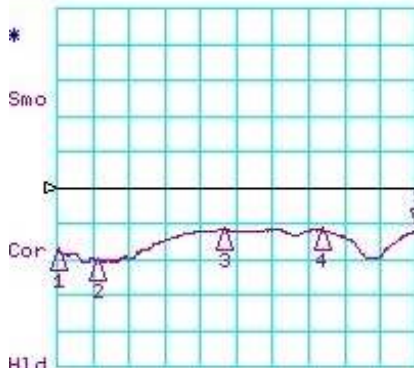
High EMI shielding

Measured NF has standard (Agilent/HP equipment) uncertainty of 0.15 dB

Customized configurations of the above specifications are available

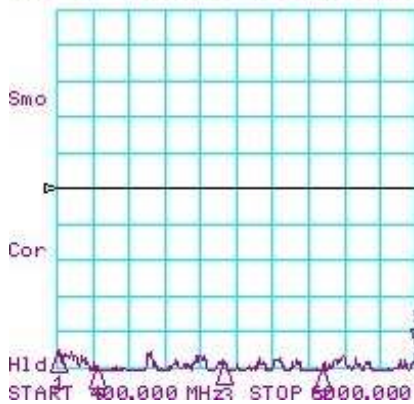
Typical S-Parameters @ 25C

CH1 LOG 10 dB/ REF 0 dB
S11 5: -12.074 dB 6.000 000 000 GHz



CH1 Markers
1: -17.490 dB
400.000 MHz
2: -20.222 dB
1.00000 GHz
3: -11.671 dB
3.00000 GHz
4: -11.858 dB
4.50000 GHz

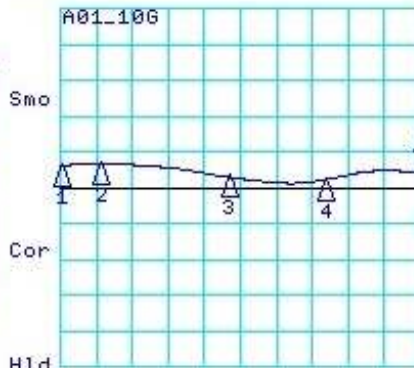
START 400.000 MHz STOP 6000.000 MHz
CH3 LOG 10 dB/ REF 0 dB
S12 5: -45.542 dB 6.000 000 000 GHz



CH3 Markers
1: -45.419 dB
400.000 MHz
2: -50.010 dB
1.00000 GHz
3: -48.997 dB
3.00000 GHz
4: -50.581 dB
4.50000 GHz

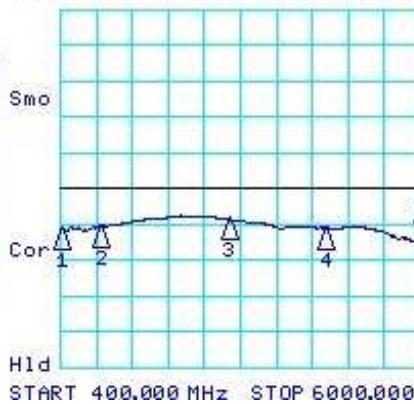
START 400.000 MHz STOP 6000.000 MHz

CH2 LOG 10 dB/ REF 34 dB
S21 5: 38.429 dB 6.000 000 000 GHz



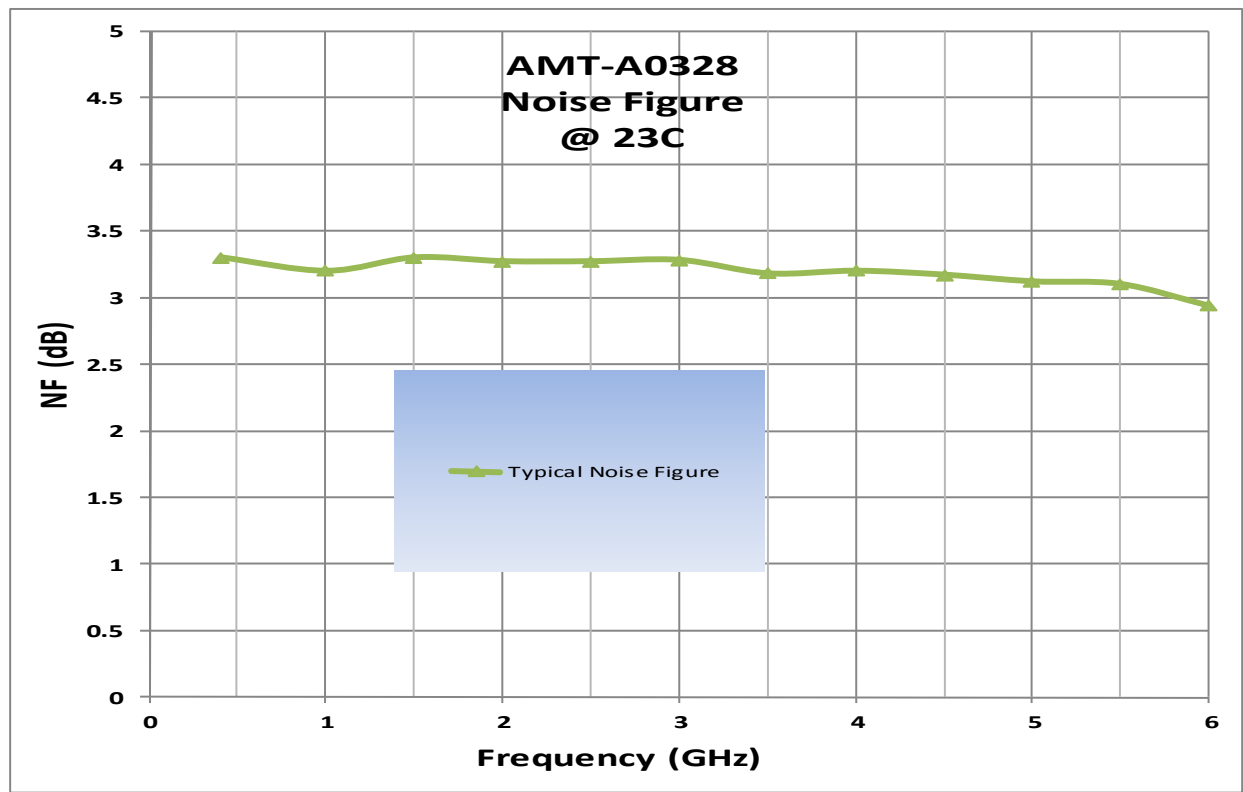
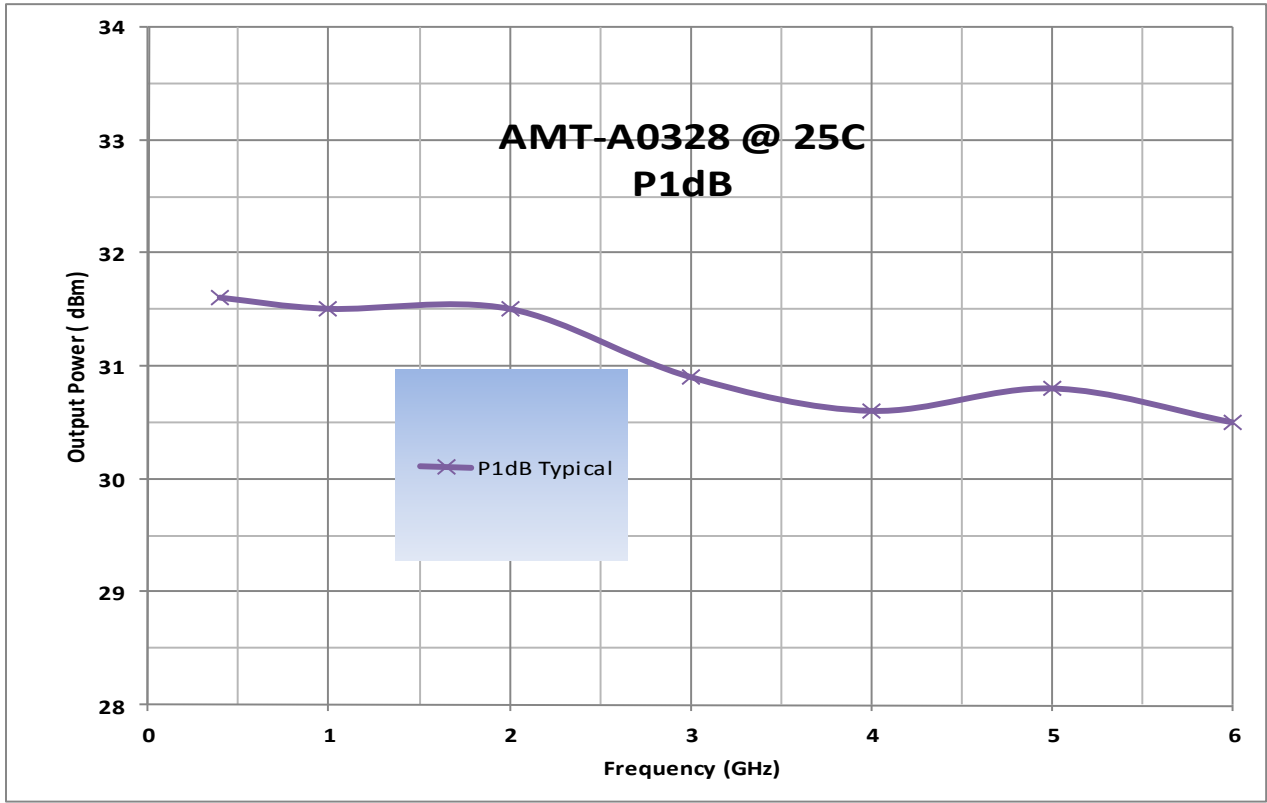
CH2 Markers
1: 40.265 dB
400.000 MHz
2: 40.431 dB
1.00000 GHz
3: 37.065 dB
3.00000 GHz
4: 36.268 dB
4.50000 GHz

START 400.000 MHz STOP 6000.000 MHz
CH4 LOG 10 dB/ REF 0 dB
S22 5: -15.151 dB 6.000 000 000 GHz

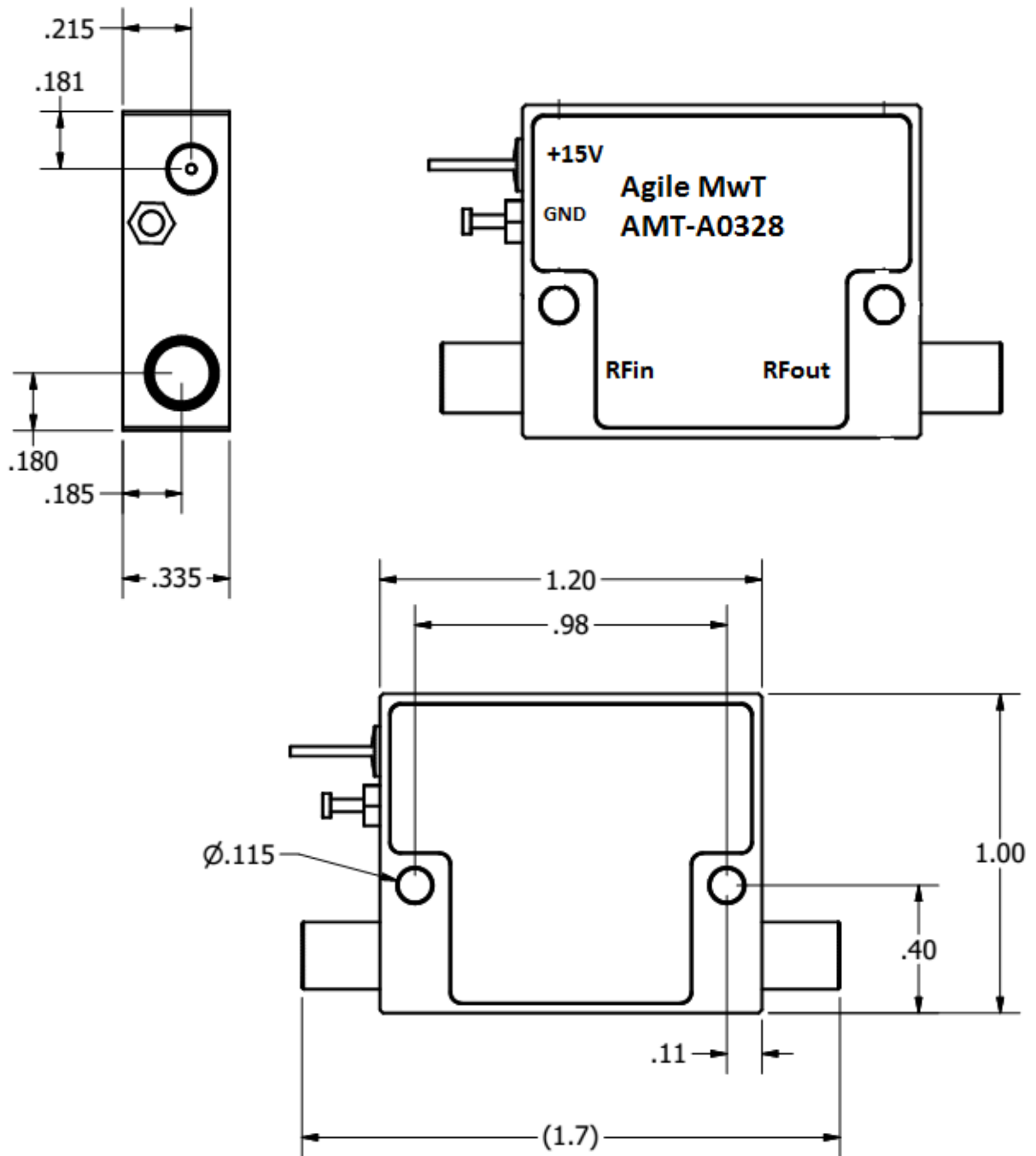


CH4 Markers
1: -11.406 dB
400.000 MHz
2: -10.470 dB
1.00000 GHz
3: -8.5910 dB
3.00000 GHz
4: -11.036 dB
4.50000 GHz

START 400.000 MHz STOP 6000.000 MHz



Package Outline: SMA-F Connectorized (Inches)



Model Number	Description	Hermeticity	Package
AMT-A0328	SMA Female Non-removable	Non-Hermetic	Outline: M131

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:

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**ISO 9001:2015
Certified Company**



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