

AMT-A0368 6 GHz to 18 GHz Medium Power P1dB 30dBm, Low EMI Leakage Amplifier



Data Sheet

Features

- 6 GHz to 18 GHz Frequency Range
- Gain 34 dB typ
- Gain Flatness $< \pm 1.5$ dB typ ± 2.5 db max
- Typical Noise Figure < 6 dB
- +30 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-A0368 is a Broadband Medium Power amplifier with low EMI leakage 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-A0368 is ideal for use in communication system, or where amplification is required without adding excessive noise in a Hi-Rel communications system for Com-

Applications

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

MAXIMUM RATINGS¹

Must be attached to proper Heat sink

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	6		18
Gain	Small Signal	dB	30	34	37
Gain Flatness		dB		±1.5	±2.5
Input Power	CW, without damage	dBm	+12		
Output Power (P1dB)	1 dB compression point @ 10 GHz	dBm	28	30	
Noise Figure		dB		6	9
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		660	900

Notes:

1/ Unconditional Stability

Gain maybe little higher at 6 GHz

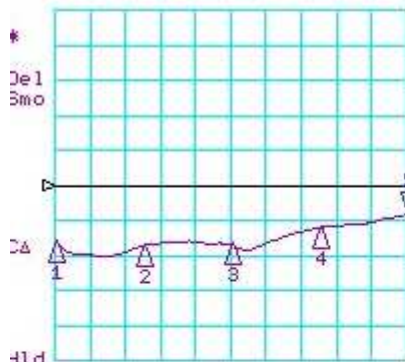
High EMI shielding

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

Customized configurations of the above specifications are available

Typical S-Parameters @ 25C

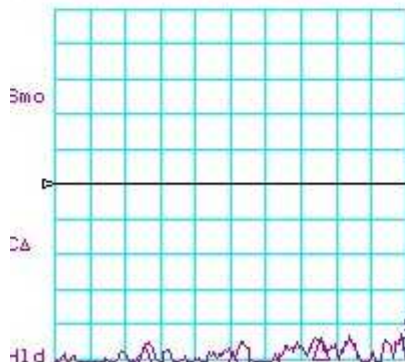
CH1 LOG 10 dB/ REF 0 dB
S11 5: -8.3170 dB 18.000 000 000 GHz



CH1 Markers
1: -16.131 dB
6.00000 GHz
2: -17.206 dB
9.00000 GHz
3: -16.844 dB
12.00000 GHz
4: -12.141 dB
15.00000 GHz

START 6000.000 MHz STOP 18000.000 MHz

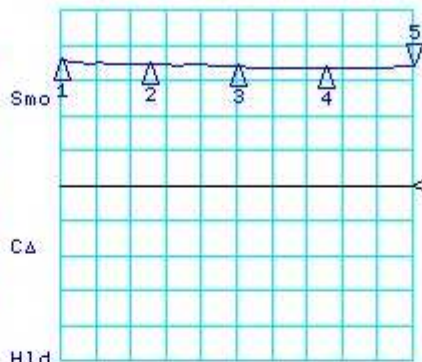
CH3 LOG 10 dB/ REF 0 dB
S12 5: -50.163 dB 18.000 000 000 GHz



CH3 Markers
1: -51.039 dB
6.00000 GHz
2: -46.472 dB
9.00000 GHz
3: -48.333 dB
12.00000 GHz
4: -44.374 dB
15.00000 GHz

START 6000.000 MHz STOP 18000.000 MHz

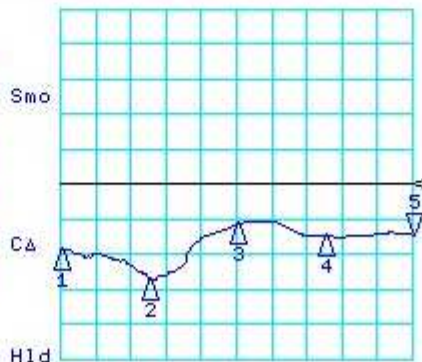
CH2 LOG 10 dB/ REF 0 dB
S21 5: 34.112 dB 18.000 000 000 GHz



CH2 Markers
1: 35.959 dB
6.00000 GHz
2: 34.671 dB
9.00000 GHz
3: 34.003 dB
12.00000 GHz
4: 33.510 dB
15.00000 GHz

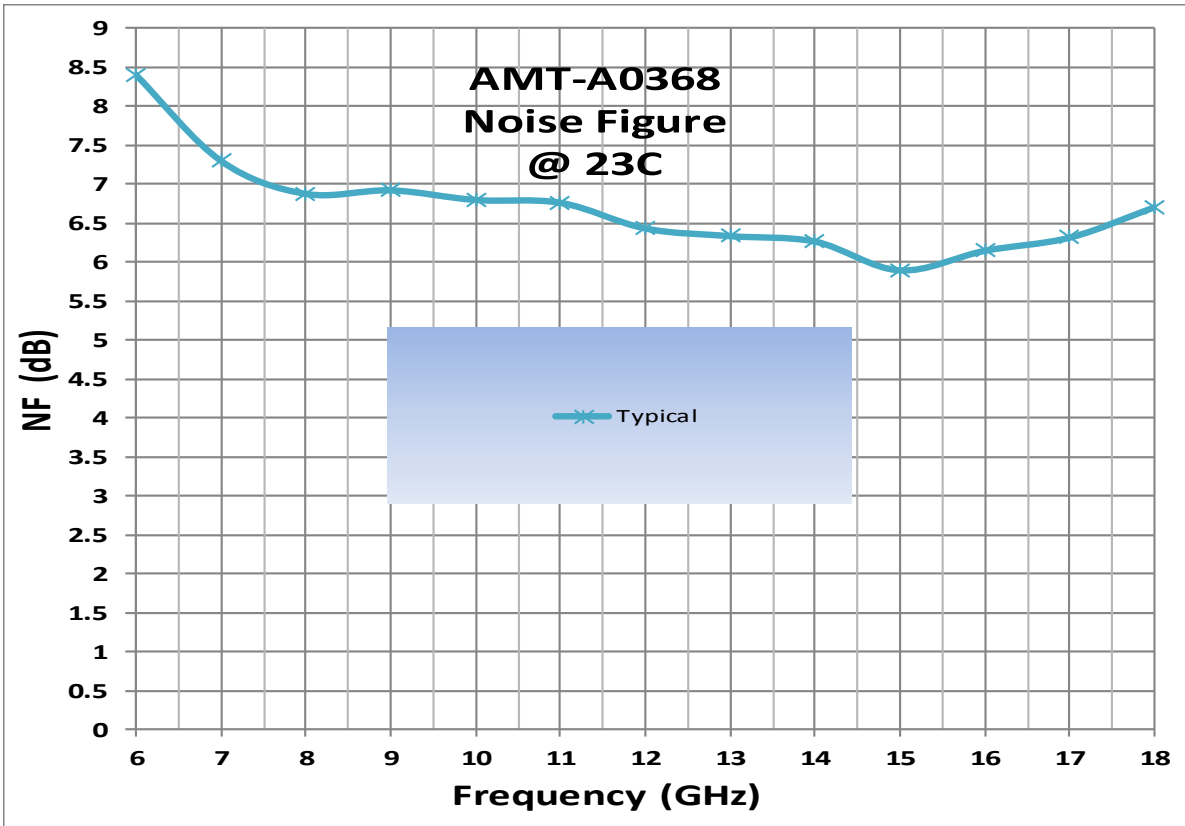
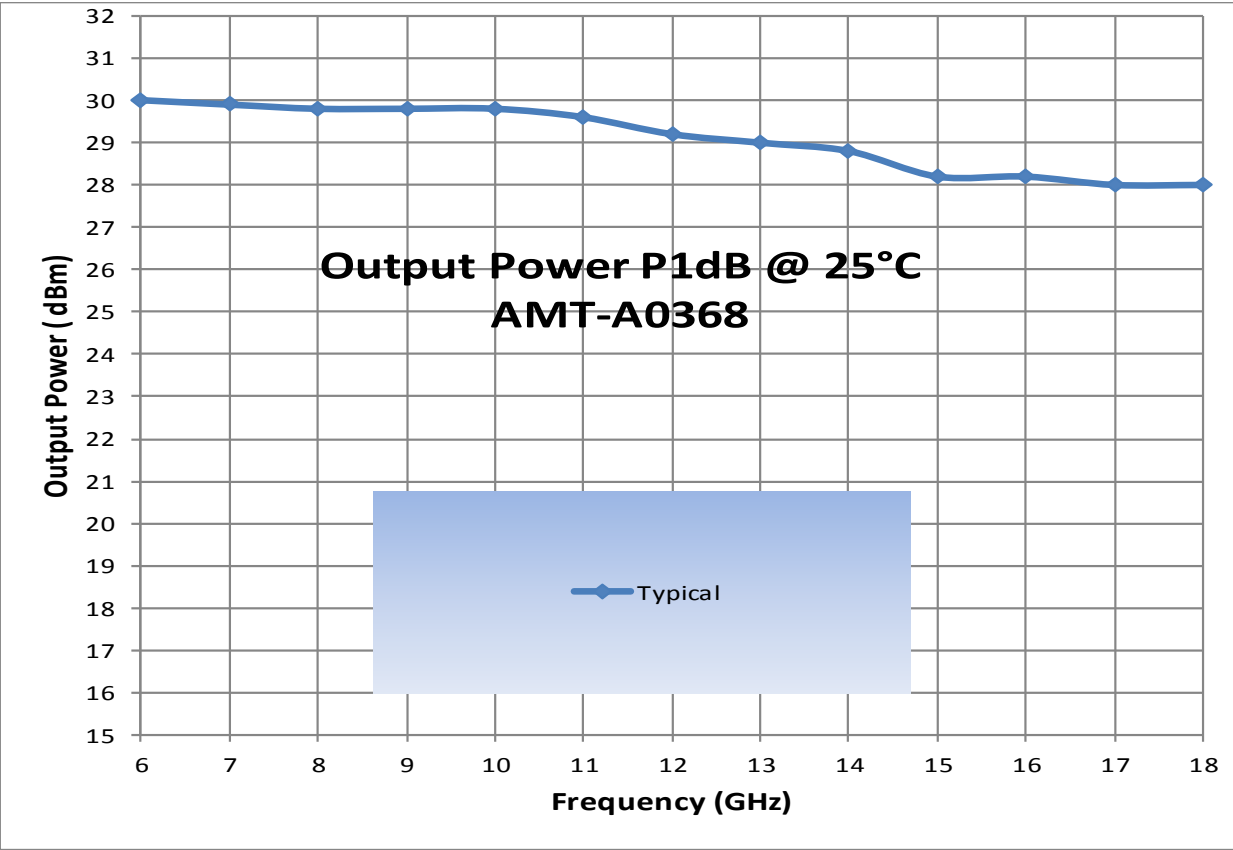
START 6000.000 MHz STOP 18000.000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 5: -14.407 dB 18.000 000 000 GHz

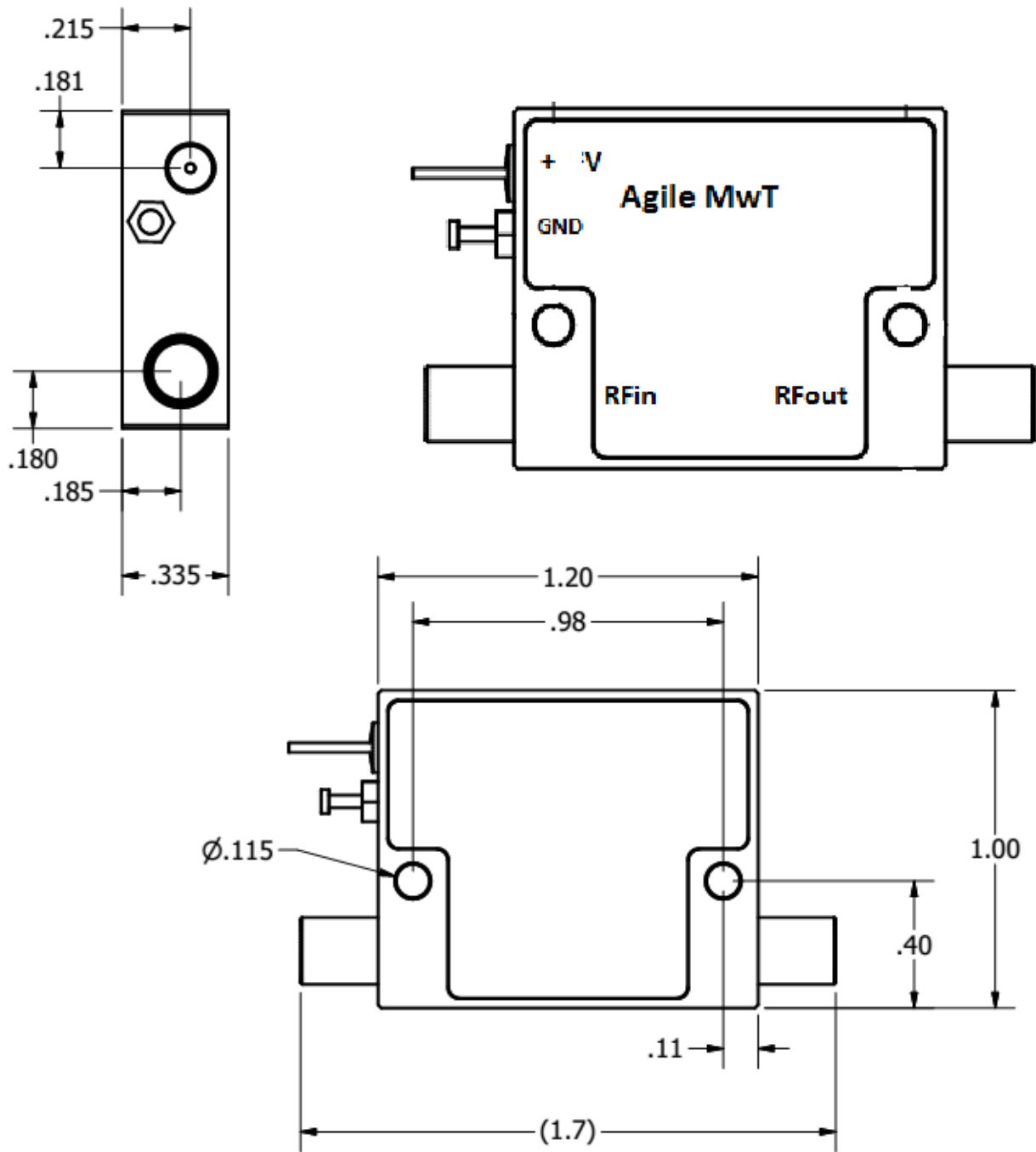


CH4 Markers
1: -10.584 dB
6.00000 GHz
2: -27.254 dB
9.00000 GHz
3: -11.519 dB
12.00000 GHz
4: -14.456 dB
15.00000 GHz

START 6000.000 MHz STOP 18000.000 MHz



Package Outline: SMA-F Connectorized (Inches)



Model Number	Description	Hermeticity	Package
AMT-A0368	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.

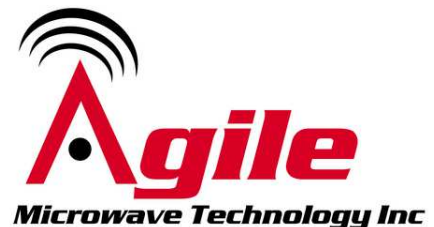
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital 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.

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Certified Company**



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