

# AMT-A0362 2000 MHz to 6000 MHz Broadband High Power GaN Amplifier

## Data Sheet



## Features

- 2000 MHz to 6000 MHz Frequency Range
- Psat > +44/45 dBm (25/30W) Typical
- P1dB > +39 dBm (typical)
- Small Signal Gain 45 dB typical
- Gain Flatness < ± 3 dB
- TTL On/Off (optional)
- Internally Regulated
- Operates from Single +28V Supply
- Unconditionally Stable



## Description

The AMT-A0362 is a High power GaN amplifier with high output power 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 are DC blocked. The AMT-A0362 is ideal for use as driver amplifier, or power amplifier in a Hi-Rel communications system for Commercial or Military applications

## Applications

- Power Amplifier
- Driver Amplifier
- Tx systems
- Microwave Radio systems
- Test Equipment

## MAXIMUM RATINGS<sup>1</sup>

Unit must be attached to proper heatsink

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T <sub>MO</sub>	° C	-20	+75
Storage Temperature - Case	T <sub>MS</sub>	° C	-40	+125
RF Input power (CW)	P <sub>in</sub>	dBm		+20
Die T <sub>Junction</sub>	T <sub>J</sub>	° C		+150
Output Power In to VSWR				6:1
Positive Supply Voltage	V <sub>+SS</sub>	V		+30V

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	2000		6000
Gain	Small Signal	dB	40	45	
Gain Flatness		dB		±3	
Output Power (P1dB)	1 dB compression point	dBm	+37	+39	
Output Power (Psat)	Output power saturated	dBm	+42	+44	
OIP3	OIP3 measured @ 4000 MHz Two tone F1-F2= 10MHz linear power level	dBm	+45		
Noise Figure		dB		4	6
RF Input Impedance	Reference to 50 ohms VSWR			1.5:1	2.0:1
RF Output Impedance	Reference to 50 ohms			1:8:1	2.6:1
On / Off TTL (optional)	TTL Levels On = +3-5V Off = 0.8-0V	V			
Supply Voltage Positive: Negative:		V		+28V	
Supply Current Positive: Negative:		mA			3.5A

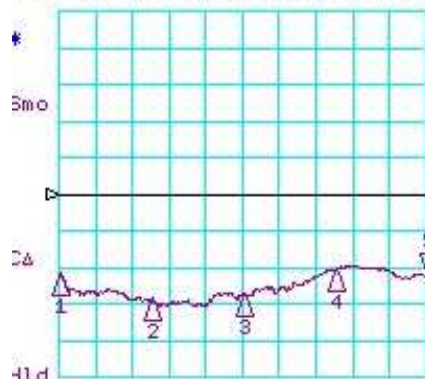
Notes:

1/ Unconditionally Stable

Customized configurations of the above specifications are available

# Typical S-Parameters @ 25 ° C

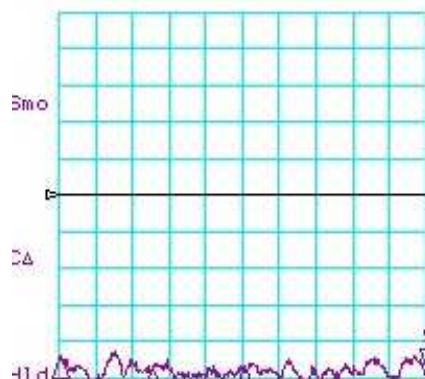
CH1 LOG 10 dB/ REF 0 dB  
S11 5: -22.340 dB 6.000 000 000 GHz



CH1 Markers  
1: -22.024 dB  
2.00000 GHz  
2: -29.019 dB  
3.00000 GHz  
3: -27.797 dB  
4.00000 GHz  
4: -20.924 dB  
5.00000 GHz

START 2000.000 MHz STOP 6000.000 MHz

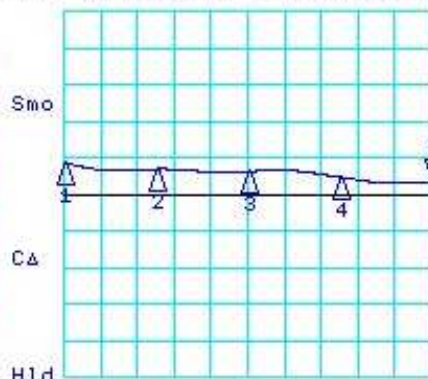
CH3 LOG 10 dB/ REF 0 dB  
S12 5: -48.312 dB 6.000 000 000 GHz



CH3 Markers  
1: -44.351 dB  
2.00000 GHz  
2: -47.901 dB  
3.00000 GHz  
3: -47.264 dB  
4.00000 GHz  
4: -48.725 dB  
5.00000 GHz

START 2000.000 MHz STOP 6000.000 MHz

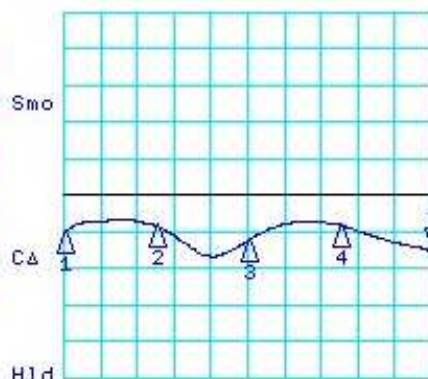
CH2 LOG 10 dB/ REF 40 dB  
S21 5: 42.989 dB 6.000 000 000 GHz



CH2 Markers  
1: 48.672 dB  
2.00000 GHz  
2: 46.847 dB  
3.00000 GHz  
3: 46.140 dB  
4.00000 GHz  
4: 44.655 dB  
5.00000 GHz

START 2000.000 MHz STOP 6000.000 MHz

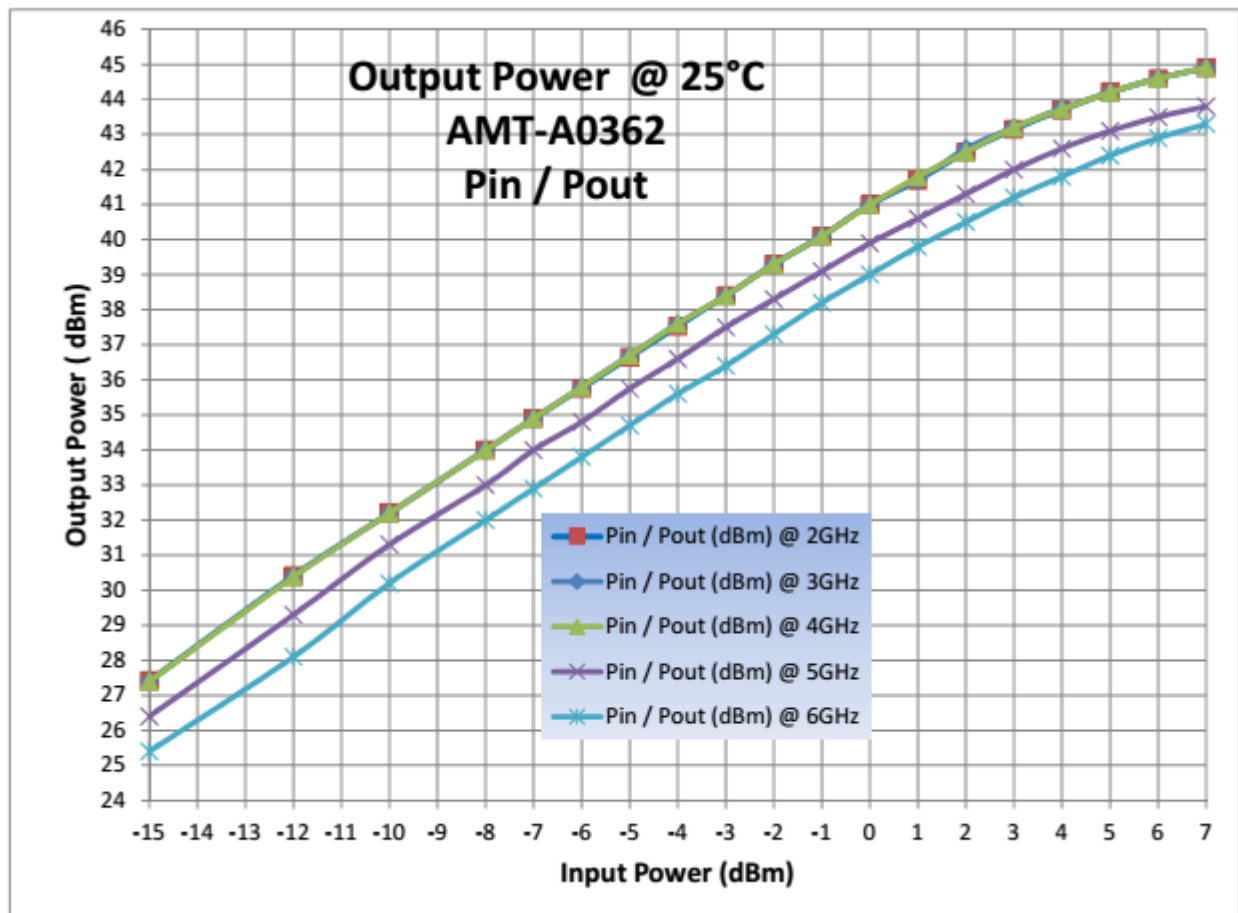
CH4 LOG 10 dB/ REF 0 dB  
S22 5: -15.472 dB 6.000 000 000 GHz



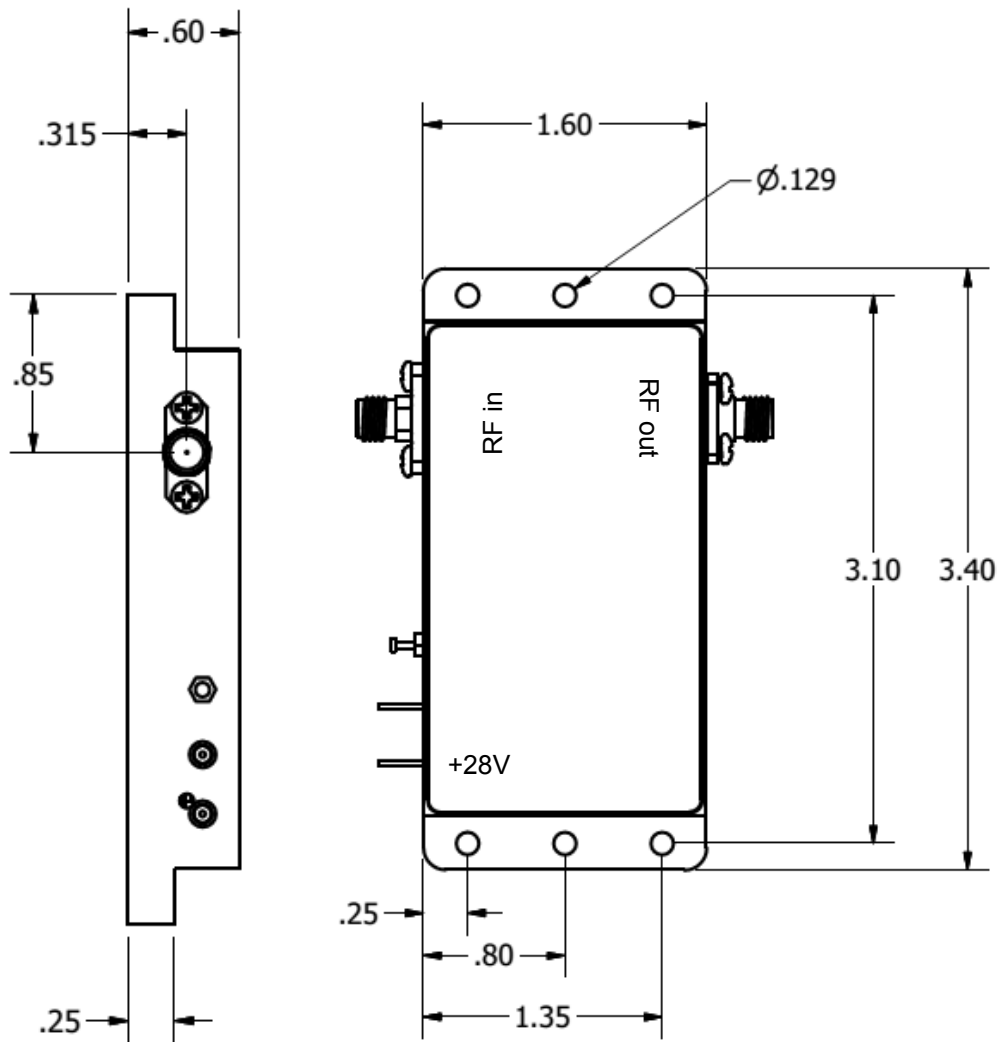
CH4 Markers  
1: -10.065 dB  
2.00000 GHz  
2: -8.4060 dB  
3.00000 GHz  
3: -12.538 dB  
4.00000 GHz  
4: -8.1700 dB  
5.00000 GHz

START 2000.000 MHz STOP 6000.000 MHz

## Typical Power Plots @ 25 °C



## Package Outline: SMA Connectorized (inches)



**Unit must be attached to proper heatsink**

Model Number	Description	Hermeticity	Package
AMT-A0362	SMA Female	Non-Hermetic	Outline: M116

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.

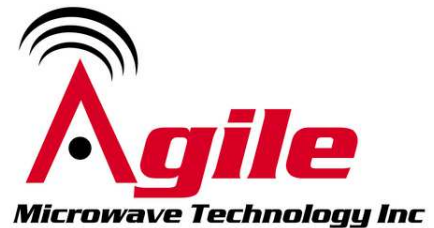
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital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

**701 Cascade Pointe Lane  
Cary, NC 27513**

**ISO 9001:2015  
Certified Company**



**Phone: (984) 228-8001**

**[info@agilemwt.com](mailto:info@agilemwt.com)**

**[www.agilemwt.com](http://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 datasheet or product and no patent licenses are implied.