

AMT-A0436 8 GHz to 10 GHz +37 dBm Broadband High Power Amplifier Module

Data Sheet



Features

- 8 GHz to 10 GHz Frequency Range
- Typical Psat power > +37 dBm
- Gain 42 dB typical 30 dB min
- VSWR 1.6:1 typical
- High Efficiency
- Internally Regulated
- Operates from a Single +28V Supply
- Unconditionally Stable
- Compact Size



Description

The AMT-A0436 is a Broadband 37 dBm power amplifier in a compact size. The performance is achieved through the use of AMTI's proprietary matching technology and latest in GaN technology. The amplifier I/Os are Internally matched to 50 Ohms and are DC blocked. The AMT-A0436 is ideal for use as Transmit power Amplifier, High efficiency systems or where broadband amplification and power are required in a Hi-Rel communications system for Commercial or Military applications

Applications

- Transmit Amplifier
- Test Equipment
- Lab Applications
- Radar

MAXIMUM RATINGS¹

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T _{MO}	° C	-20	+65
Storage Temperature - Case	T _{MS}	° C	-55	+125
RF Input power (CW)	P _{in}	dBm		+20
Die T _{Junction}	T _J	° C		+150
DC Current		A		1.8
Positive Supply Voltage	V _{+SS}	V	+15	+29

Appropriate Heat sink must be used

Do not turn on RF without loading RFout

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	8		10
Gain	Small Signal	dB	30	42	
Gain Flatness		dB		±1	±1.5
Output Power (Psat)	Saturated Output power	dBm	37	38	
OIP3	OPI3 measured @ 5GHz Two tone F1-F2= 10MHz	dB		43	
Noise Figure		dB			8
RF Input Impedance	Reference to 50 ohms VSWR	dB		1.5:1	2.0:1
RF Output Impedance	Reference to 50 ohms VSWR	dB		1.8:1	2.3:1
Supply Voltage Positive:		V		+28	
Supply Current Positive:	Small signal	mA		250	
	Psat	mA		800	

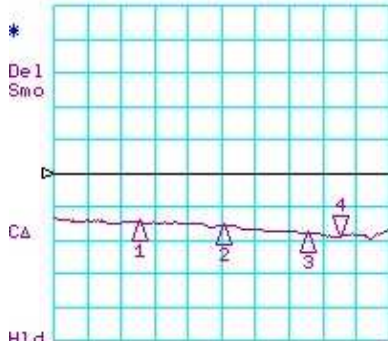
Notes:

1/ Unconditional Stability

Customized configurations of the above specifications are available

Typical S-Parameters @ 23°C

CH1 LOG 10 dB/ REF 0 dB
S11 4:-18.844 dB 9.699 800 000 GHz

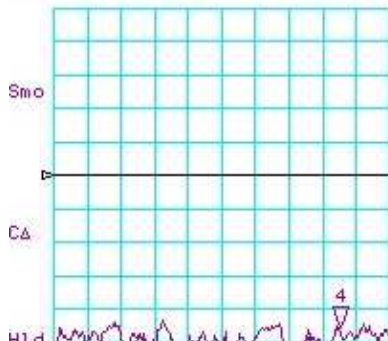


CH1 Markers

- 1:-14.638 dB
8.50000 GHz
- 2:-15.833 dB
9.00000 GHz
- 3:-17.670 dB
9.50000 GHz

START 8000.000 MHz STOP10000.000 MHz

CH3 LOG 10 dB/ REF 0 dB
S12 4:-45.709 dB 9.699 800 000 GHz



CH3 Markers

- 1:-47.998 dB
8.50000 GHz
- 2:-50.283 dB
9.00000 GHz
- 3:-49.011 dB
9.50000 GHz

START 8000.000 MHz STOP10000.000 MHz

CH2 LOG 5 dB/ REF 37 dB
S21 4: 42.484 dB 9.699 800 000 GHz

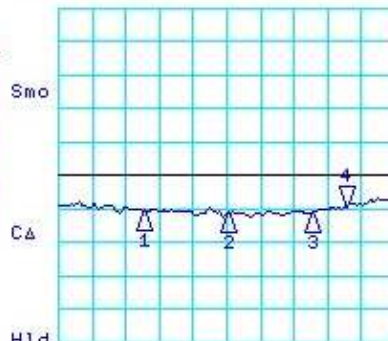


CH2 Markers

- 1: 42.636 dB
8.50000 GHz
- 2: 42.199 dB
9.00000 GHz
- 3: 42.406 dB
9.50000 GHz

START 8000.000 MHz STOP10000.000 MHz

CH4 LOG 10 dB/ REF 0 dB
S22 4:-9.5370 dB 9.699 800 000 GHz

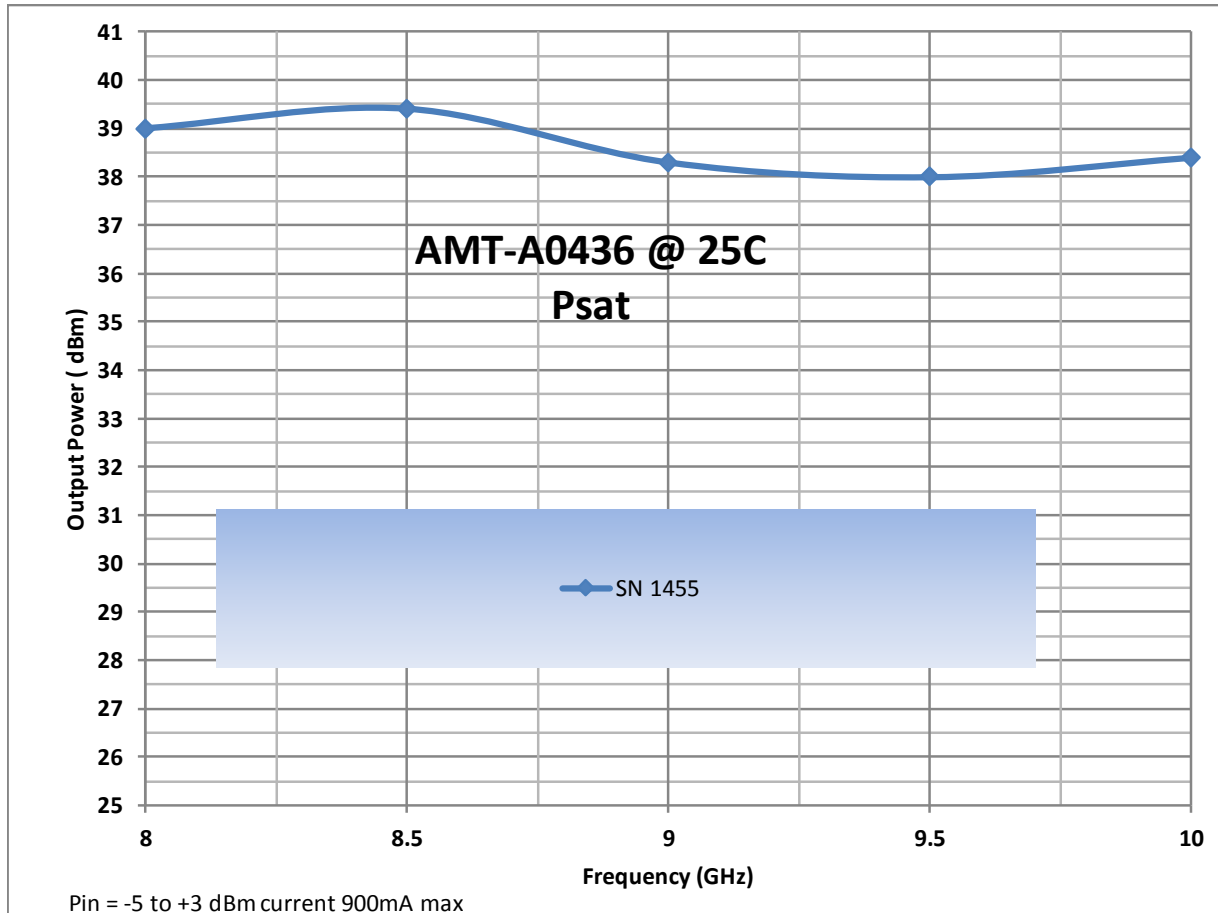


CH4 Markers

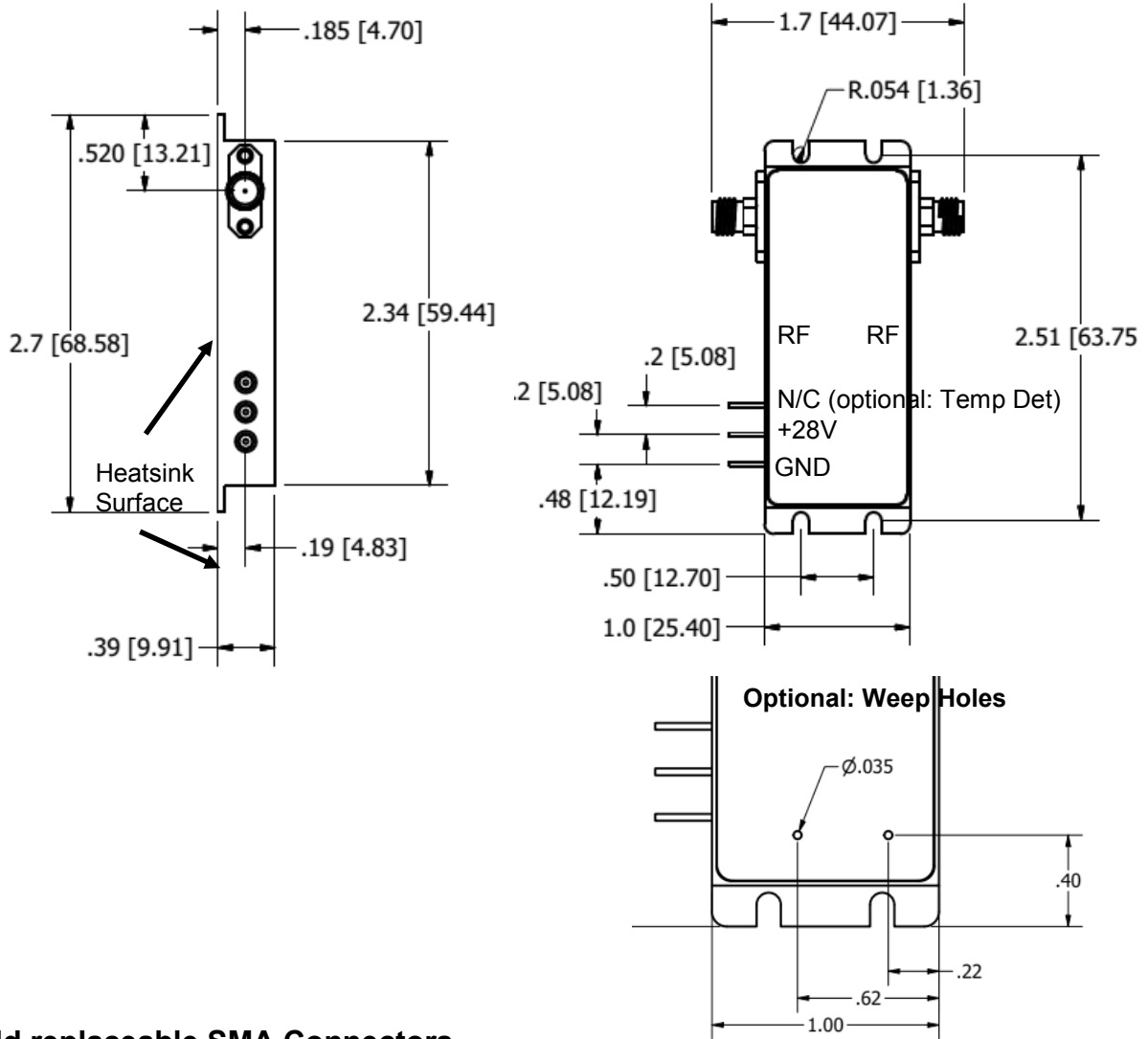
- 1:-10.407 dB
8.50000 GHz
- 2:-11.498 dB
9.00000 GHz
- 3:-11.119 dB
9.50000 GHz

START 8000.000 MHz STOP10000.000 MHz

Typical Psat Power @ 23°C



Package Outline: Units are in Inches [mm] SMA Connectorized Inch-



Field replaceable SMA Connectors
Housing Material Aluminum, Nickel Plated

Note: The unit must be attached to proper heat sink with thermal interface material (Thermal Pad or Thermal Grease)

Model Number	Description	Hermeticity	Package
AMT-A0436	SMA Female	Non-Hermetic	Outline: M118

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.

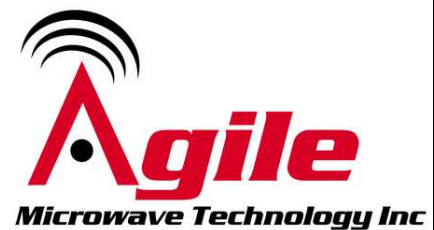
- Add additional functionality: Input limiter, Temperature compensation, Amplitude/Phase matching, Amplitude/Phase Tracking, Automatic Gain control, Gain sloping, Bypass path, Specific supply voltage, Regulation, Power detector, Health status, and others
- Integrated: Filters, Switches, Limiter, Digital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