

AMT-A0245 0.5 GHz to 3 GHz Broadband Power Amplifier 10W P1dB/ 20W Psat

Data Sheet



Features

- 0.5 GHz to 3GHz Frequency Range
- Class AB, High Linearity
- Gain 44 dB Typical
- Gain Flatness $< \pm 1.5$ dB Typical
- P1dB + 40 dBm (10W) Typical
- Psat + 43 dBm (20W) Typical
- Internally Regulated
- Operates from a Single +28V Supply
- Unconditionally Stable



Description

The AMT-A0245 is a Broadband Power amplifier with 20W Saturated 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 DC blocked. The AMT-A0245 is ideal for use as output power amplifier, or driver amplifier in a Hi-Rel communications system for Commercial or Military applications

Applications

- Test Equipment
- Radar
- Communication systems
- Microwave Radio systems

MAXIMUM RATINGS¹

Parameter	Symbol	Units	MIN	MAX
Operating Temperature – Case	T_{MO}	° C	-10	+65
Storage Temperature - Case	T_{MS}	° C	-40	+85
RF Input power (CW)	Pin	dBm		+20
Die $T_{Junction}$	T_J	° C		+175
Positive Supply Voltage	V_{+SS}	V		+30

HPA must be attached to proper heat sink

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 @ 25°C

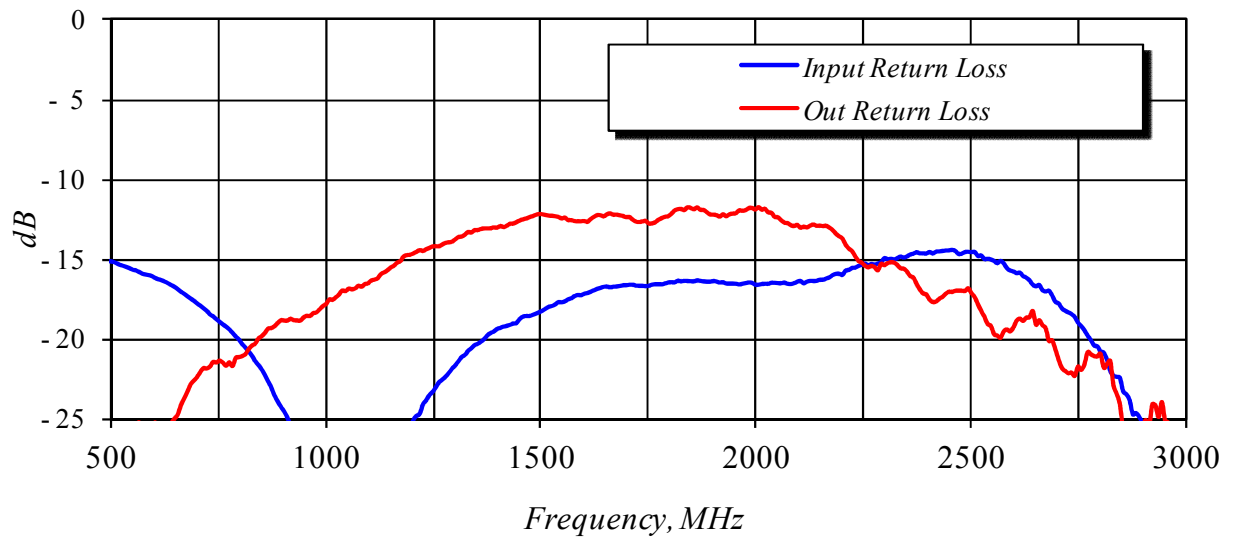
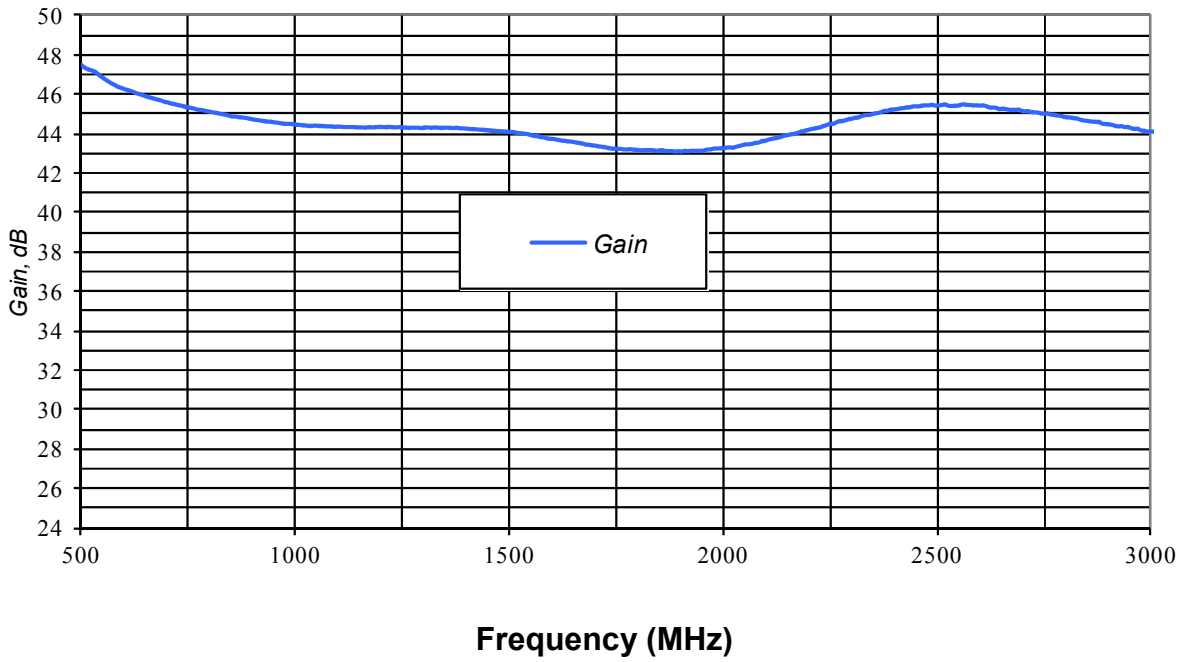
Parameter	Conditions	Units	MIN	Typical	MAX
Frequency Range		GHz	0.5		3
Gain ²	Small Signal	dB	40	44	
Gain Flatness		dB		±1.5	±3
Input Power	CW, without damage	dBm	+20		
Output Power (P1dB)	1 dB compression point	dBm	+38	+40	
Output Power (Psat)	Saturated Power	dBm	+42	+43	
OIP3	OIP3 measured @ 1.275 GHz Two tone F1-F2= 10MHz	dB		47	
Noise Figure		dB		5.5	10
RF Input Impedance	Reference to 50 ohms VSWR			1.5:1	2.0:1
RF Output Impedance	Reference to 50 ohms			1:5:1	2.0:1
Harmonics	Pin = -5 dBm	dBc		-30	
Spurious		dBc		-70	
Supply Voltage Positive:		V		+28V	
Supply Current Positive:		A		1.8	2.4

Notes:

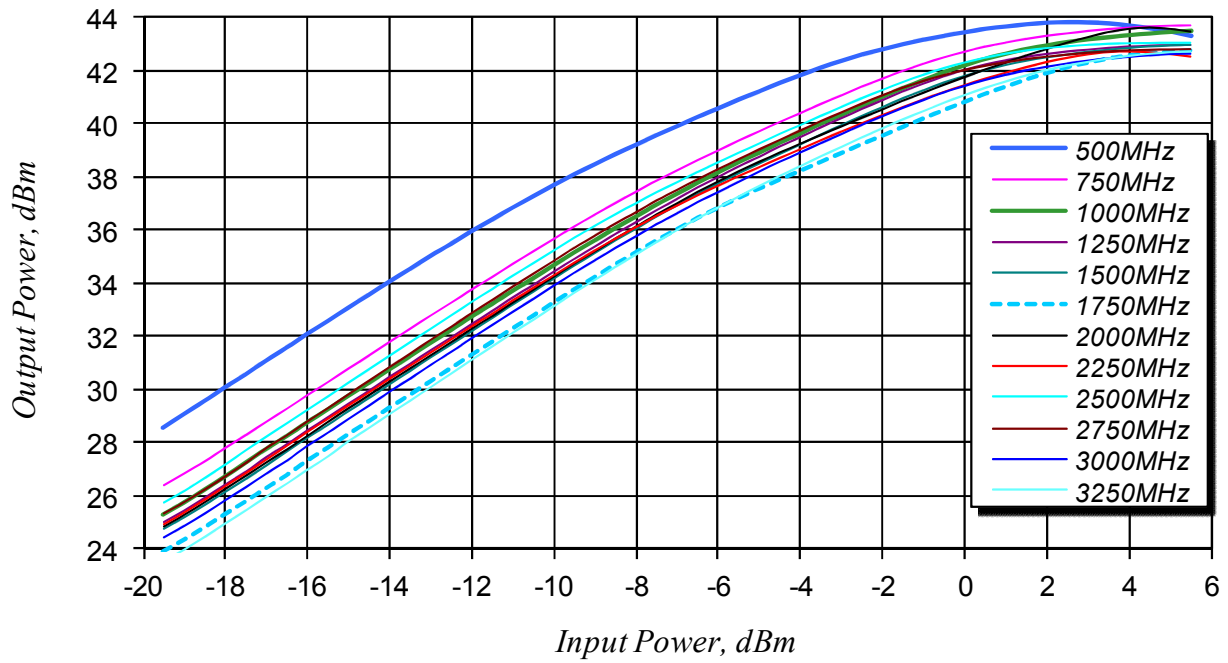
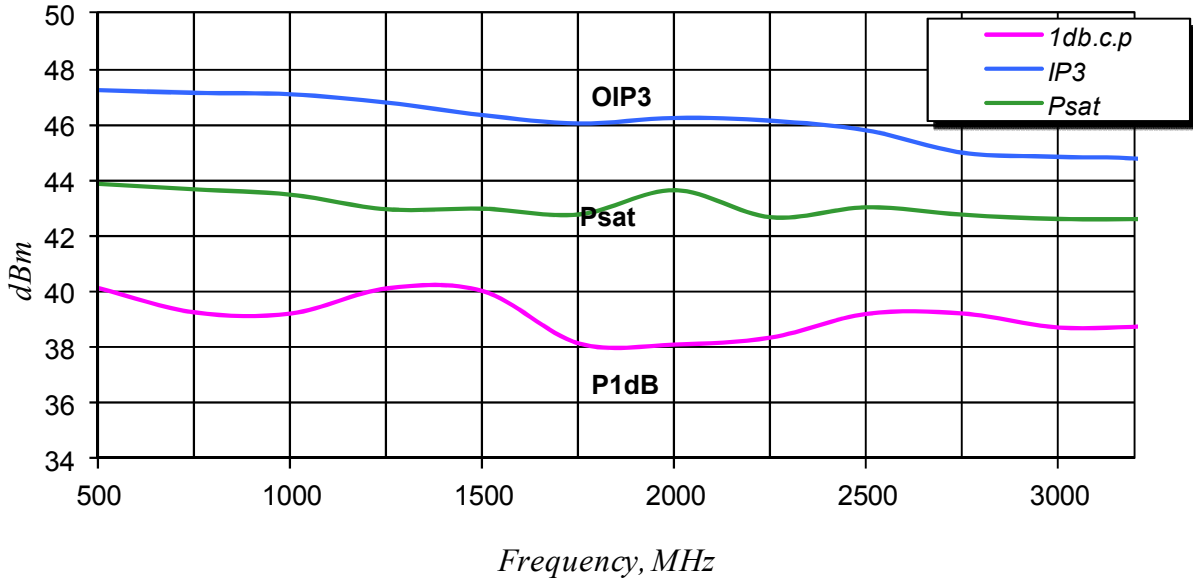
1/ Unconditional Stability:

Customized configurations of the above specifications are available

Measured Power Data @ 25°C
S- Parameters

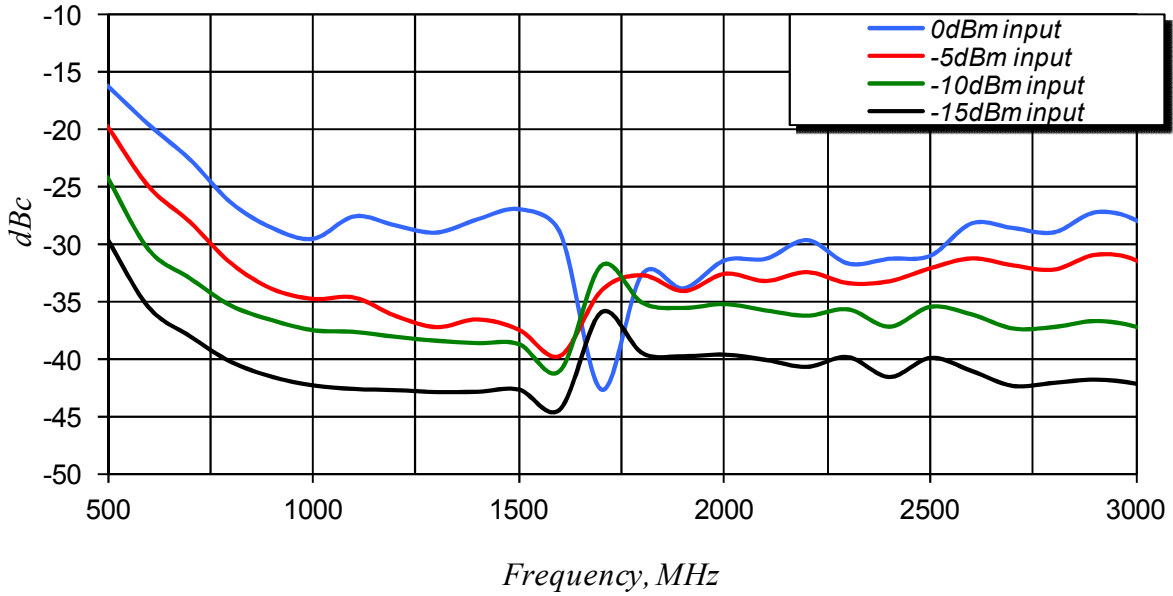


Measured Power Data @ 25°C
Power P1dB, Psat and OIP3

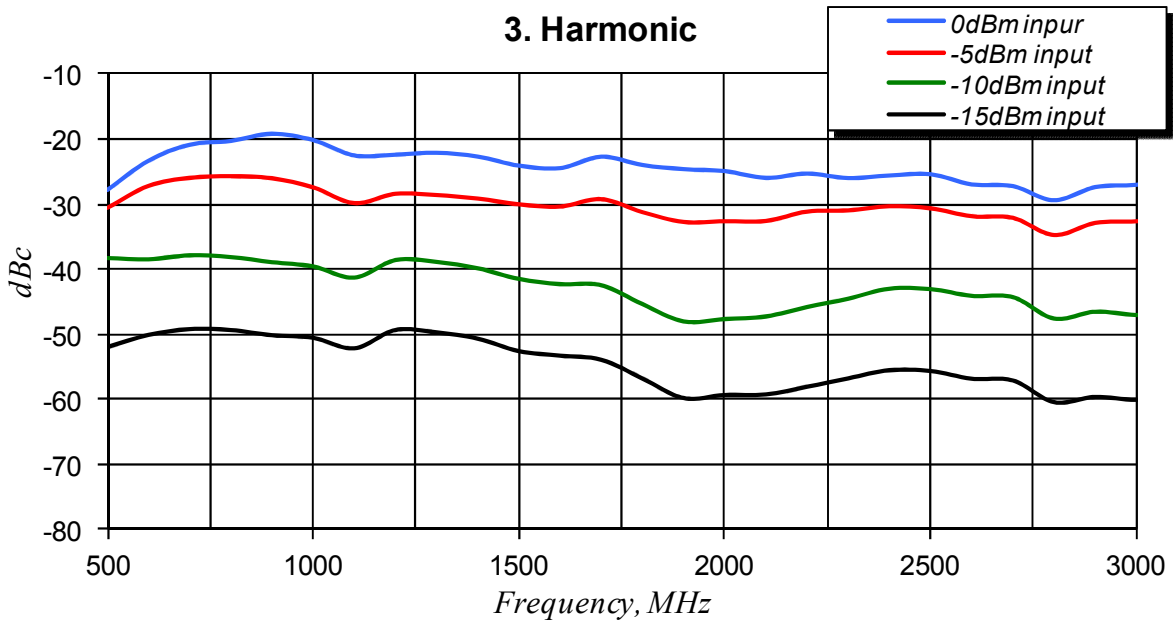


Measured Power Data @ 25°C
Harmonics

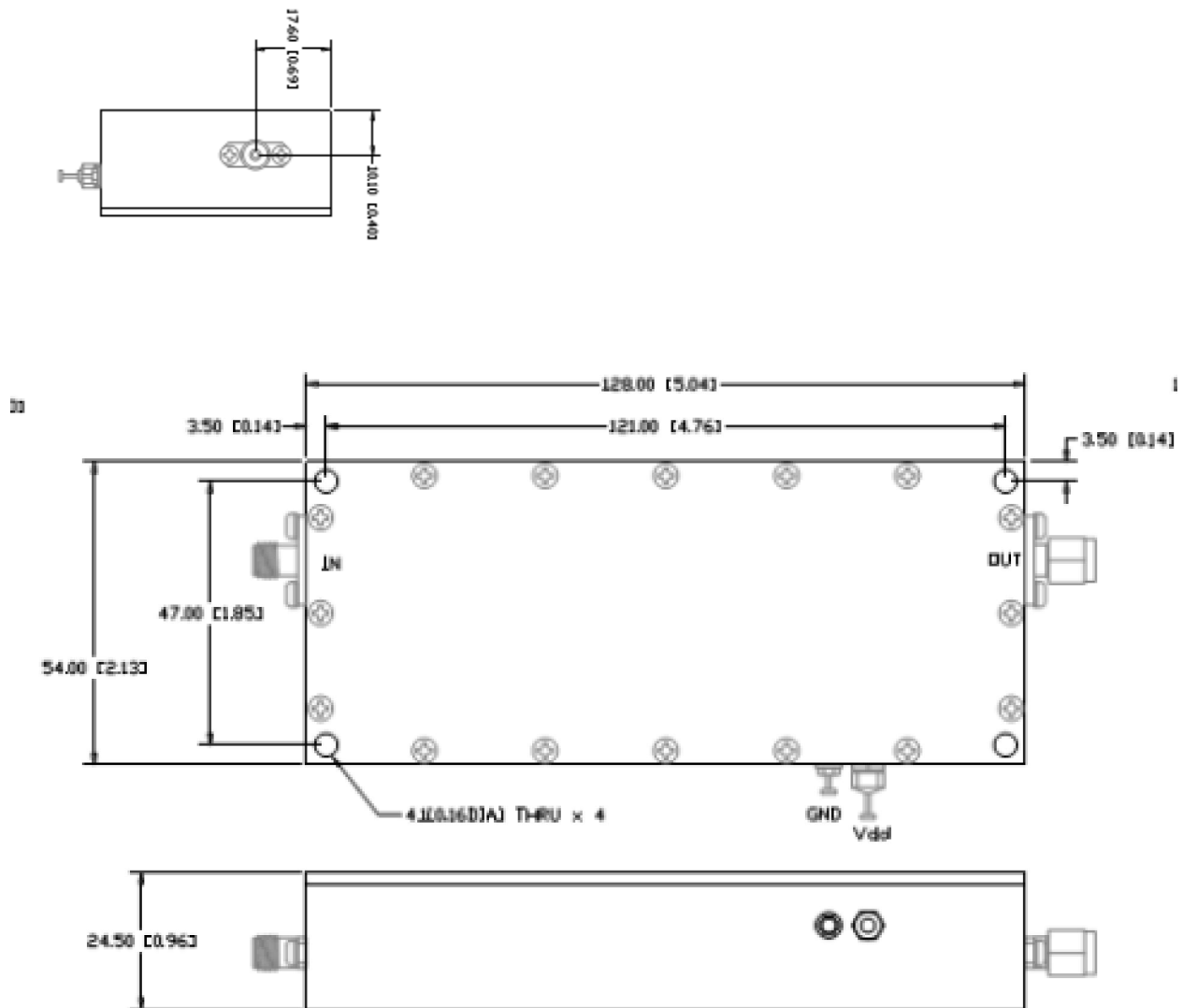
2. Harmonic



3. Harmonic



Package Outline: RF Input/Output SMA Female mm(inches)



High Power Amplifier must be mounted to proper heat sink

Model Number	Description	Hermeticity	Package
AMT-A0245	Input / Output : SMA Female	Non-Hermetic	Outline: M074

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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