



Main Features:

- Frequency Range: 20 to 6000 MHz.
- Typical values: Pout 42 dBm, Gain 38 dB
- RF connectors (I/O): SMA Female
- DSUB type connector for DC & Control
- Several mounting options
- Nickel coating in aluminum housing
- Hi-reliability and dedicated screening/ environmental tests available under request

ERZ-HPA-0002-0600-42

The ERZ-HPA-0002-0600-42 is a High Power Amplifier providing an output power of 42 dBm and a gain of 38 dB. The compact size and modularity makes it ideal for a wide range of applications.

Typical applications:

- Industrial / Laboratory
- Satcom / Telecom
- Space / Aerospace / Military

Performance

Parameter	Min	Typ	Max	Unit
Frequency Range	0.02	-	6	GHz
Output Power (Psat)	40	42	46	dBm
Small Signal Gain	33	38	45	dB
Gain Flatness	-	+/-4	-	dB
VSWR input	1.0:1	1.5:1	2.0:1	-
VSWR output	1.0:1	2.0:1	3.0:1	-
DC Voltage	-	24	-	V
Power Consumption @ Psat	-	90	120	W
RF Connectors	SMA Female IN/OUT			-

Specifications at a case temperature of 25°C

Output Power

Figure 1 shows saturated output power measurement as a function of frequency at room temperature (25°C).

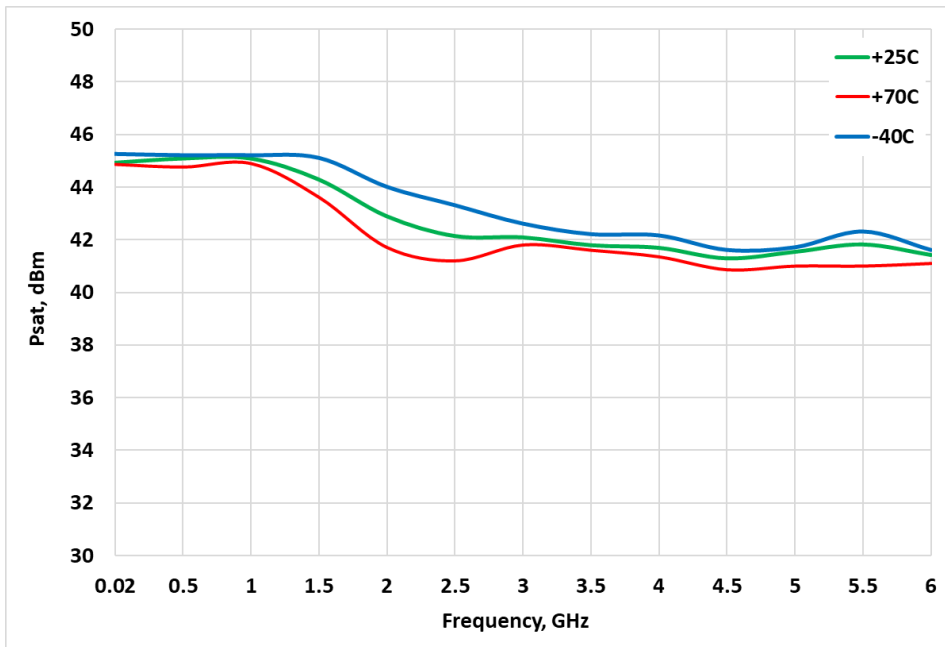


Figure 1: ERZ-HPA-0002-0600-42 Psat

Figure 2 shows output power Vs input power measurement at room temperature (25°C).

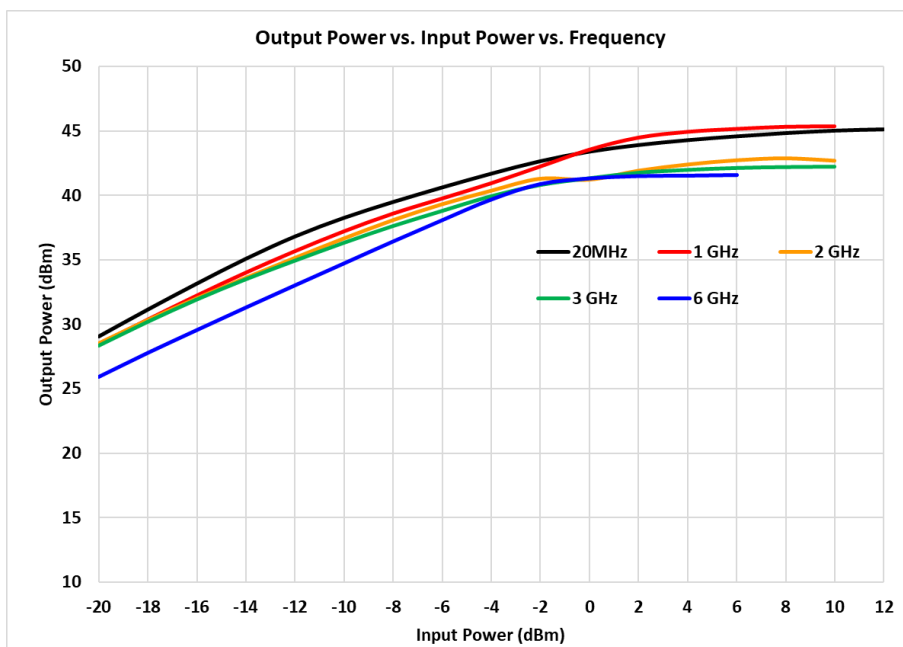


Figure 2: ERZ-HPA-0002-0600-42 Pout vs Pin.

Power Gain

Figure 3 shows the power gain at Psat measurement as a function of frequency at different temperatures.

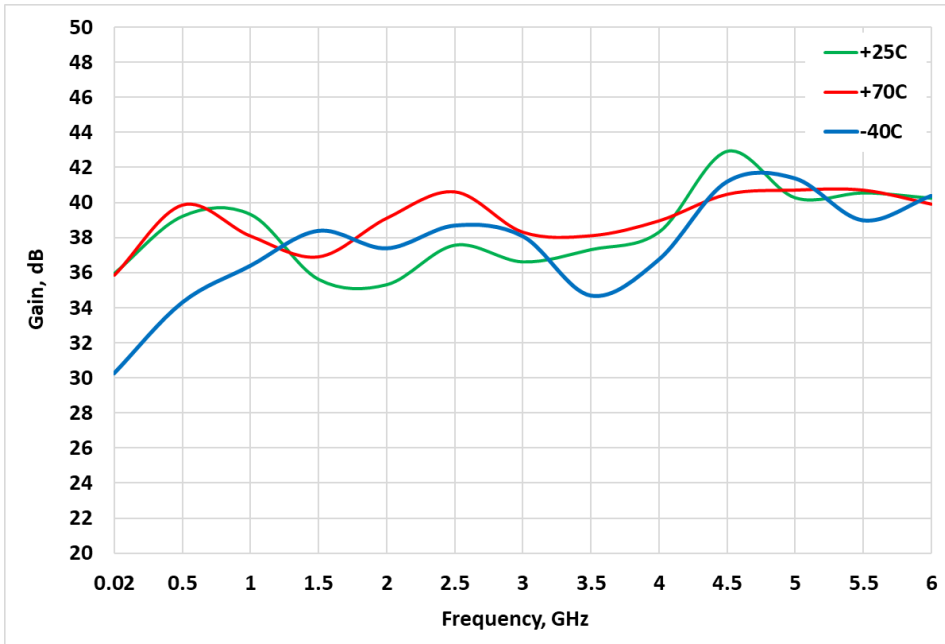


Figure 3: ERZ-HPA-0002-0600-42 PowerGain

Gain Vs Input Power

Figure 4 shows gain measurement Vs input power at different frequencies.

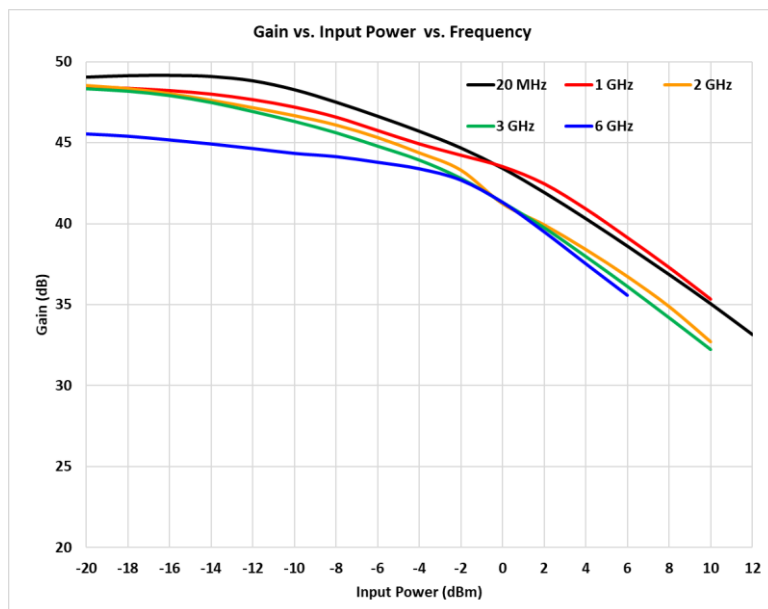
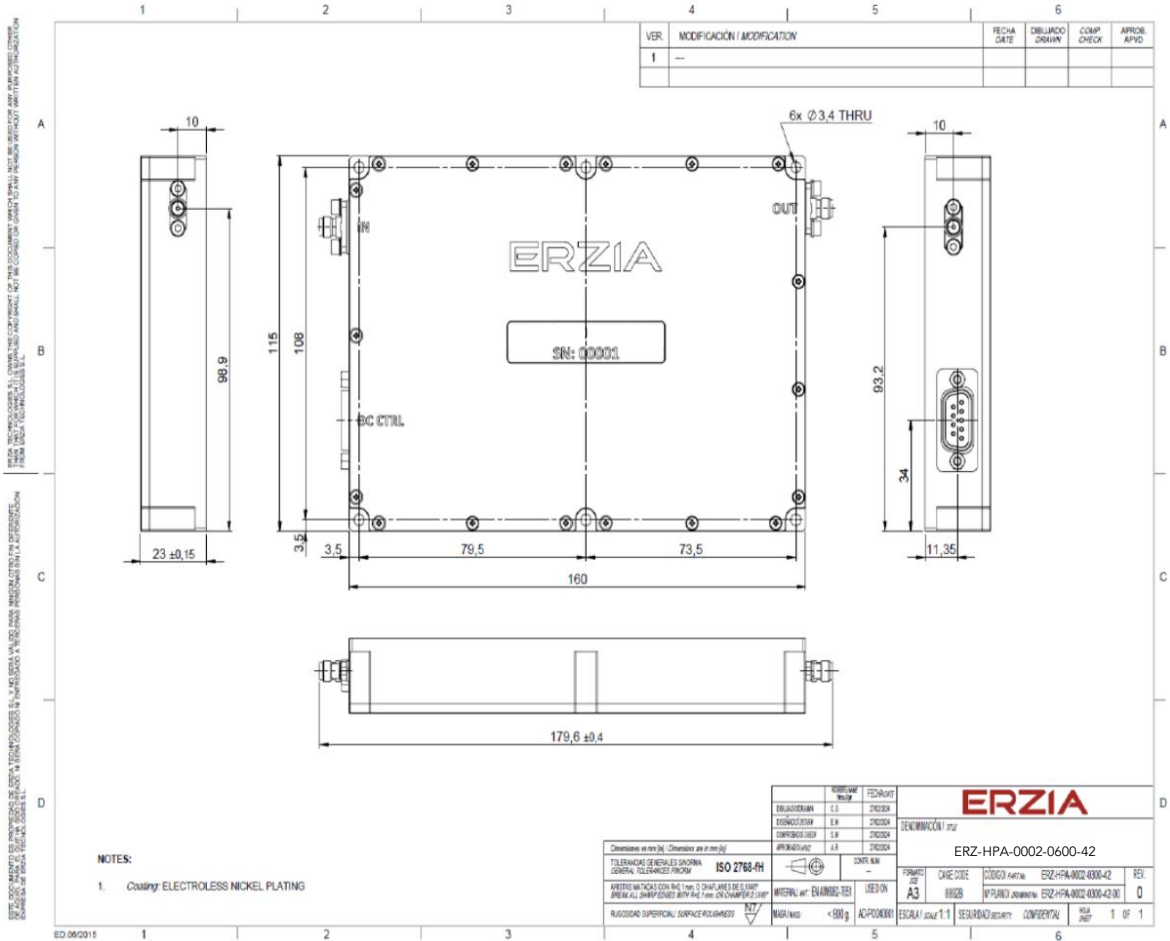


Figure 4: ERZ-HPA-0002-0600-42 Gain Vs Input Power

Mechanics and Housing



Parameter	Value
Size	160x115x23 mm
Weight	810 grams ±10%
RF Input Connector	SMA Female
RF Output Connector	SMA Female
DC & Control Connector	Dsub9

DC & Control Interface

Power supply characteristics

- Input Voltage: 24 ±4 VDC

Control characteristics

- TTL command (ON/OFF function).
- Temperature & Current monitoring.

Table below shows D-sub 9 connector (Male) pinout:

PIN	LABEL	SIGNAL	DESCRIPTION
1	VCC	+24V Power Source	Power Supply
2	VCC	+24V Power Source	Power Supply
3	GND	Ground	Ground
4	EN	TTL Enable	OFF (0V to 0.8V); ON (2V to 5.5V);
5	TEMP	Temperature Monitor	$V_o = -11.69 \text{ mV}/^\circ\text{C} \times T + 1.8663 \text{ V}$
6	PGND	Power Ground	Power Ground
7	PGND	Power Ground	Power Ground
8	GND	Ground	Ground
9	I_SEN	Current Sense	$V_o = 0.1\text{V}/\text{A}$

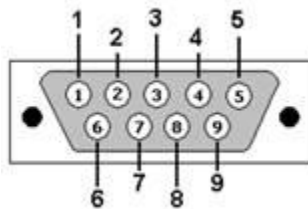


Figure 8: D-sub 9 Connector (Front view)

Absolute Maximum Ratings

Condition	Value
DC Voltage	+ 28VDC
Maximum Input Power (CW)	+13 dBm
Operation temperature (at case)	-40 to 70 °C
Storage temperature	-55 to 125 °C

- Stress above these ratings may cause permanent damage to the device.
- It is final user responsibility to maintain the amplifier within the specified ranges.

Measurements Conditions

All measurements provided in this report were performed at the following conditions:

Condition	Value
Temperature (DUT ON)	25 °C ± 1°C
Humidity	44% ± 10%
DUT Warm up time	30 min
DUT minimum operation time	24 hours
Test equipment warm up time	2 hours
Additional temperature cycles in climatic chamber (DUT OFF)	-40°C to 85°C

Environmental Specifications (By Design)

Operating Temperature:	-40 to +70 °C	(MIL-STD-810F, method 520.2)
Storage Temperature:	-55 to 125 °C	(MIL-STD-810F, method 520.2)
Vibration:	8g rms	(MIL-STD-810F, method 514.5)
Shock:	20g,11ms,saw-tooth	(MIL-STD-810F, method 516.5)
Acceleration:	15g	(MIL-STD-810F, method 513.5)

RoHS & REACH Compliance

This part is compliant with EU 2011/65/UE RoHS (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment) and REACH (Registration, Evaluation, Authorization and restriction of Chemical substances) directives.



Documentation and Test Reports

All modules are at least delivered with: Electrical Test Report, Certificate of Conformance, Certificate of Acceptance and Origin. Optionally, units can be environmentally tested (temperature, vibration...).

Option (HS): Heat Sink

A heat sink (HS) can be provided to allow the operation of Power Amplifiers. Please note that most power amplifiers need heat sink or appropriate heat dissipation strategy.

Space / Military Usage

Most of ERZIA's products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

Customization and Extended Performances

ERZIA can fully design or adapt one of the existing RF amplifiers designs according to your specifications. Please contact us for additional information.

Model Number Codification

MODEL NUMBER



ERZIA

20231027_rev1.2

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