



Main Features:

- Frequency Range: 20 to 40 GHz.
- Typical values: Psat 25 dBm, Gain 20 dB
- RF connectors (I/O): 2.92 mm
- Solder filtered pins for DC connection
- Several mounting options
- Gold plated compact aluminum housing
- Hi-reliability and dedicated screening/ environmental tests available under request

ERZ-HPA-2000-4000-24

The ERZ-HPA-2000-4000-24 is a High Power Amplifier providing 25 dBm and a gain of 20 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	Value			Units
	Min	Typ	Max	
Frequency	20	-	40	GHz
Output Power (Psat)	23	25	27	dBm
Small Signal Gain	17	20	24	dB
Gain Flatness	-	±2.0	-	dB
Noise Figure	5	6	8	dB
VSWR input	1.2:1	1.5:1	2.0:1	-
VSWR output	1.1:1	1.5:1	2.0:1	-
DC Voltage	9	12	15	V
Power Consumption	-	4	-	W
RF Connectors	2.92 mm Female IN/OUT			-

Specifications at case temperature of 25°C at 12V

Saturated Output Power

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

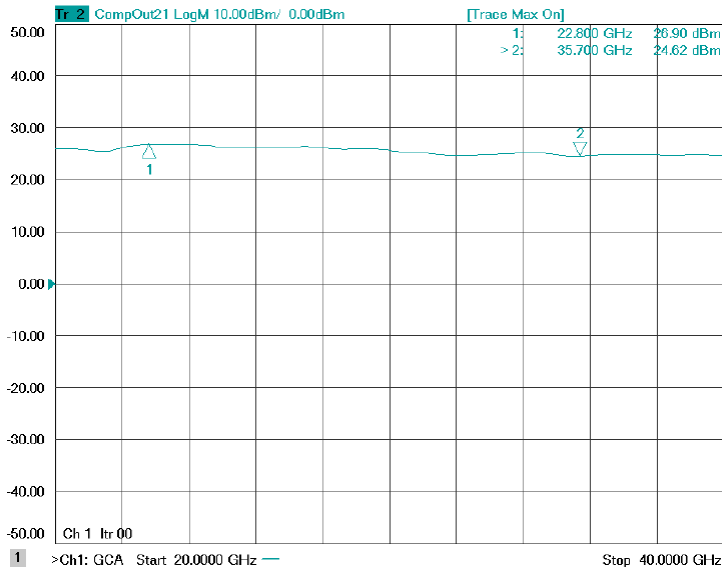


Figure 1: ERZ-LNA-2000-4000-24 Psat

Small Signal Gain

Figure 2 shows the small signal gain measured as a function of frequency at room temperature (25°C).

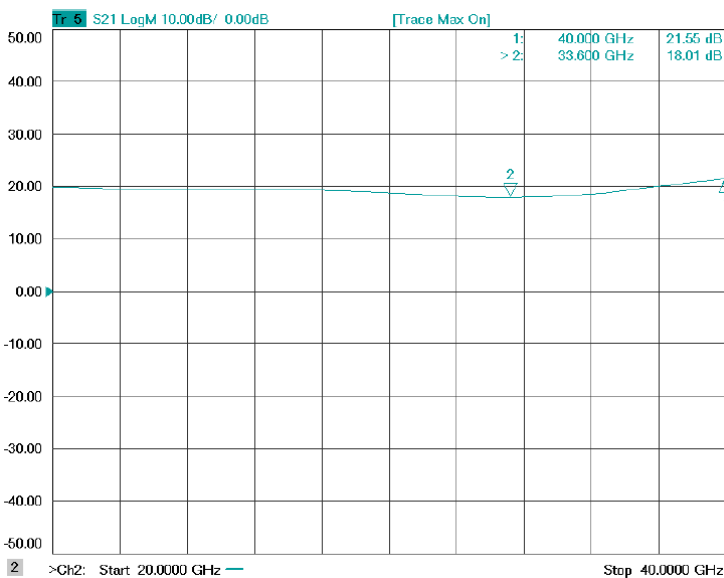


Figure 2: ERZ-LNA-2000-4000-24 Small Signal Gain

Noise Figure

Figure 3 shows the noise figure measured as a function of frequency at room temperature (25°C).

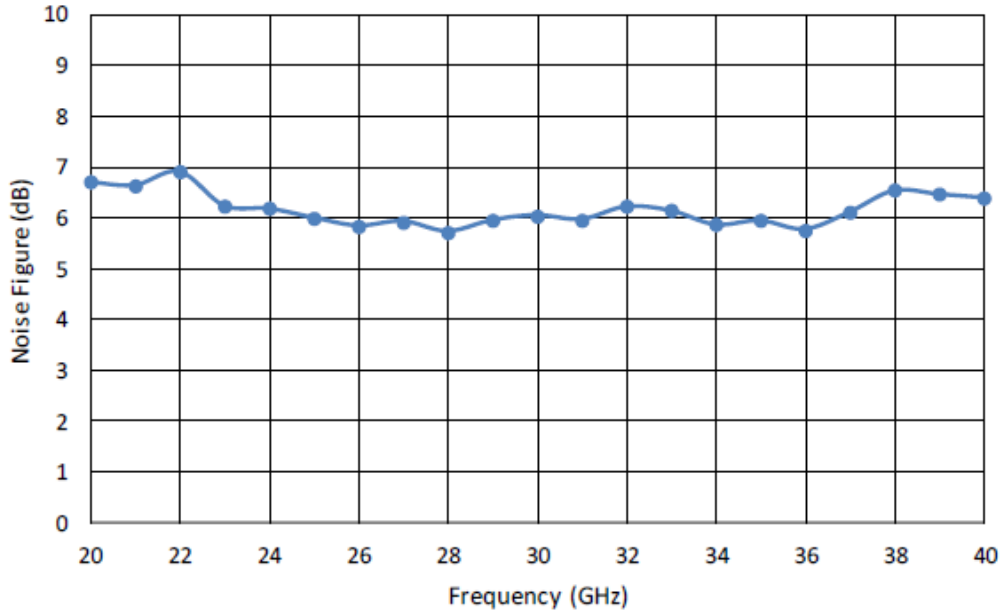


Figure 3: ERZ-LNA-2000-4000-24 Noise Figure

Input and Output Matching

Figure 4 and Figure 5 show input (S11) and output (S22) VSWR as a function of frequency at room temperature (25°C).

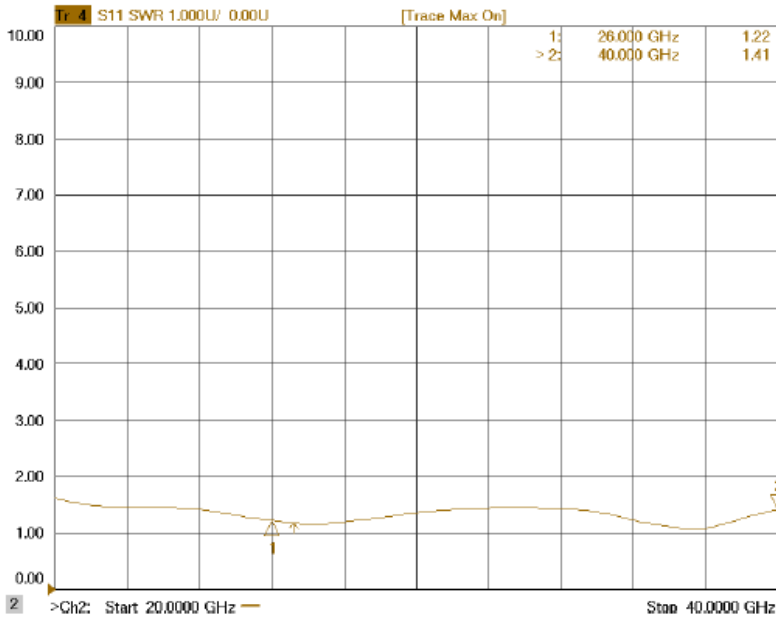


Figure 4: ERZ-LNA-2000-4000-24 Input Matching

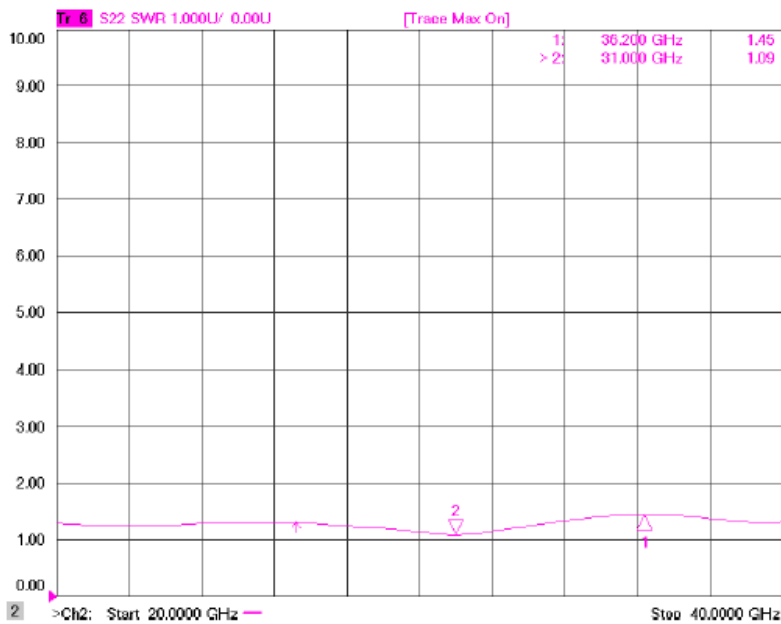


Figure 5: ERZ-LNA-2000-4000-24 Output Matching

Absolute Maximum Ratings

Condition	Value
DC Voltage	15 VDC
Maximum Input Power (CW)	20 dBm
Operation temperature (at case)	-45 to 85°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:	-45 to +85 °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.



Mechanics and Housing

12.5 [0.49]
 12 [0.47]
 4 x \varnothing 3.1 [0.12] THRU
 15
 0.59 [0.023]
 16 [0.63]
 25 [0.98]
 17.5 [0.689]
 29.4 [1.16]
 5.5 [0.22]
 5
 5
 0.20 [0.008]
 5
 0.20 [0.008]

IN
 ERZIA
 OUT
 VCC
 GND

VARIANTE		FESCALIZATE		ERZIA DENOMINACION / TITZ M3				CODIGO PART No. ERZ-HPA	RET. 0
DESEMPEÑO	XT	000000	000000						
DESIGNO	XT	000000	000000	DESIGNO		CODIGO PART No. ERZ-HPA	RET. 0		
PROBADO	XT	000000	000000	PROBADO		CODIGO PART No. ERZ-HPA	RET. 0		
MATERIAL INCL. NA		MATERIAL INCL. NA		MATERIAL INCL. NA		CODIGO PART No. ERZ-HPA	RET. 0		
DIMENSIONES EN INCH. DIMENSIONES EN mm [mm]		DIMENSIONES EN INCH. DIMENSIONES EN mm [mm]		DIMENSIONES EN INCH. DIMENSIONES EN mm [mm]		CODIGO PART No. ERZ-HPA	RET. 0		
TOLERANCIAS GENERALES SIMBOLICAS GENERAL TOLERANCES SYMBOLIC		TOLERANCIAS GENERALES SIMBOLICAS GENERAL TOLERANCES SYMBOLIC		TOLERANCIAS GENERALES SIMBOLICAS GENERAL TOLERANCES SYMBOLIC		CODIGO PART No. ERZ-HPA	RET. 0		
ASESIS MANTEN CON ROLUPA O COMPANES DE 0.20MP POINTAL STAFF EGGS WITH COMP. 0.20MP		ASESIS MANTEN CON ROLUPA O COMPANES DE 0.20MP POINTAL STAFF EGGS WITH COMP. 0.20MP		ASESIS MANTEN CON ROLUPA O COMPANES DE 0.20MP POINTAL STAFF EGGS WITH COMP. 0.20MP		CODIGO PART No. ERZ-HPA	RET. 0		
RUGOSIDAD SUPERFICIAL SURFACE ROUGHNESS		RUGOSIDAD SUPERFICIAL SURFACE ROUGHNESS		RUGOSIDAD SUPERFICIAL SURFACE ROUGHNESS		CODIGO PART No. ERZ-HPA	RET. 0		

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

20170628_rev1.2

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Tel: +34 942 29 13 42

sales.rf@erzia.com

www.erzia.com