

Main Features:

- Frequency Range: 2.5 to 4 GHz.
- Typical values: P1dB 37 dBm, Gain 36 dB
- RF connectors (I/O): SMA Female
- Solder Filtered Pins for DC and GND
- Several mounting options
- Compact aluminum housing
- Hi-reliability and dedicated screening/ environmental tests available under request

ERZ-HPA-0250-0400-35

The ERZ-HPA-0250-0400-35 is an S Band High Power Amplifier providing an output power of 37 dBm and a gain of 36 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	2.5	-	4	GHz
Output Power @P1dB	34	37	39	dBm
Small Signal Gain	33	36	38	dB
Gain Flatness	-	±1	-	dB
Noise Figure	-	-	-	dB
VSWR input	-	1.2:1	1.5:1	-
VSWR output	-	1.2:1	1.5:1	-
DC Voltage	9	12	15	V
Power Consumption	-	50	-	W
RF Connectors	SMA Female IN/OUT			-

Specifications at a case temperature of 25°C

Saturated output power

Figure 1 shows output power (@P1dB) as a function of frequency at room temperature of 25°C.

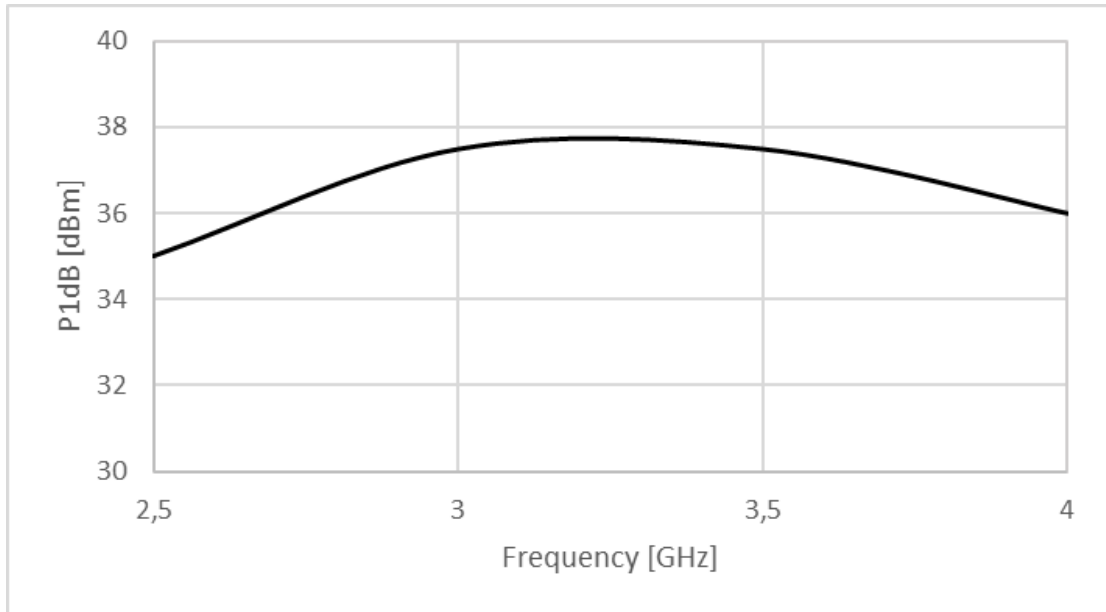


Figure 1: ERZ-HPA-0250-0400-35 P1dB

Small Signal Gain

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

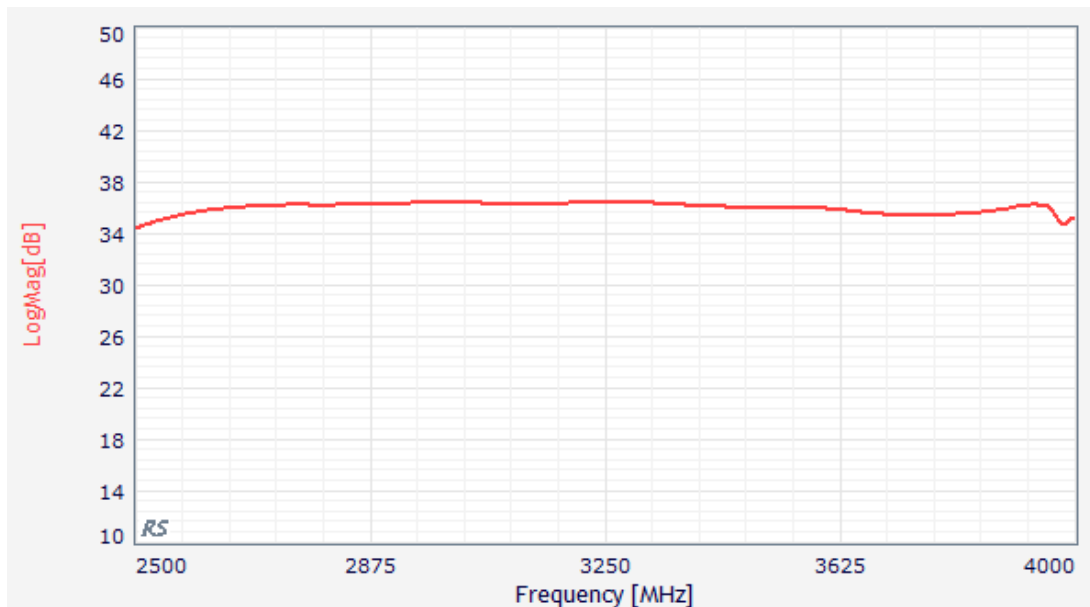


Figure 2: ERZ-HPA-0250-0400-35 Small Signal Gain

Input & Output Matching

Figure 3 shows input and output matching measurements as a function of frequency at room temperature (25°C).

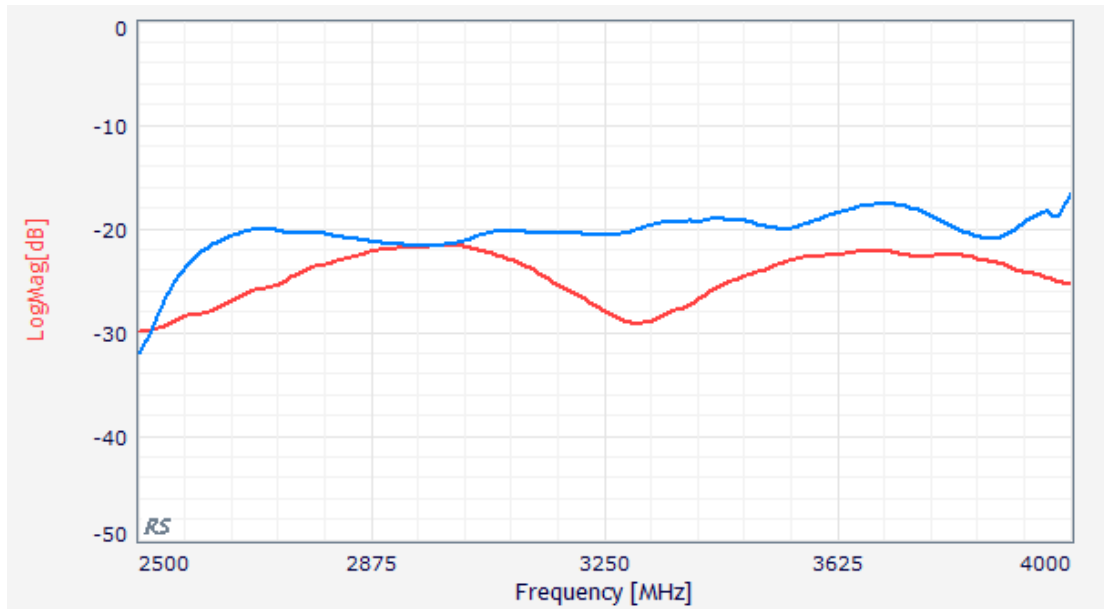
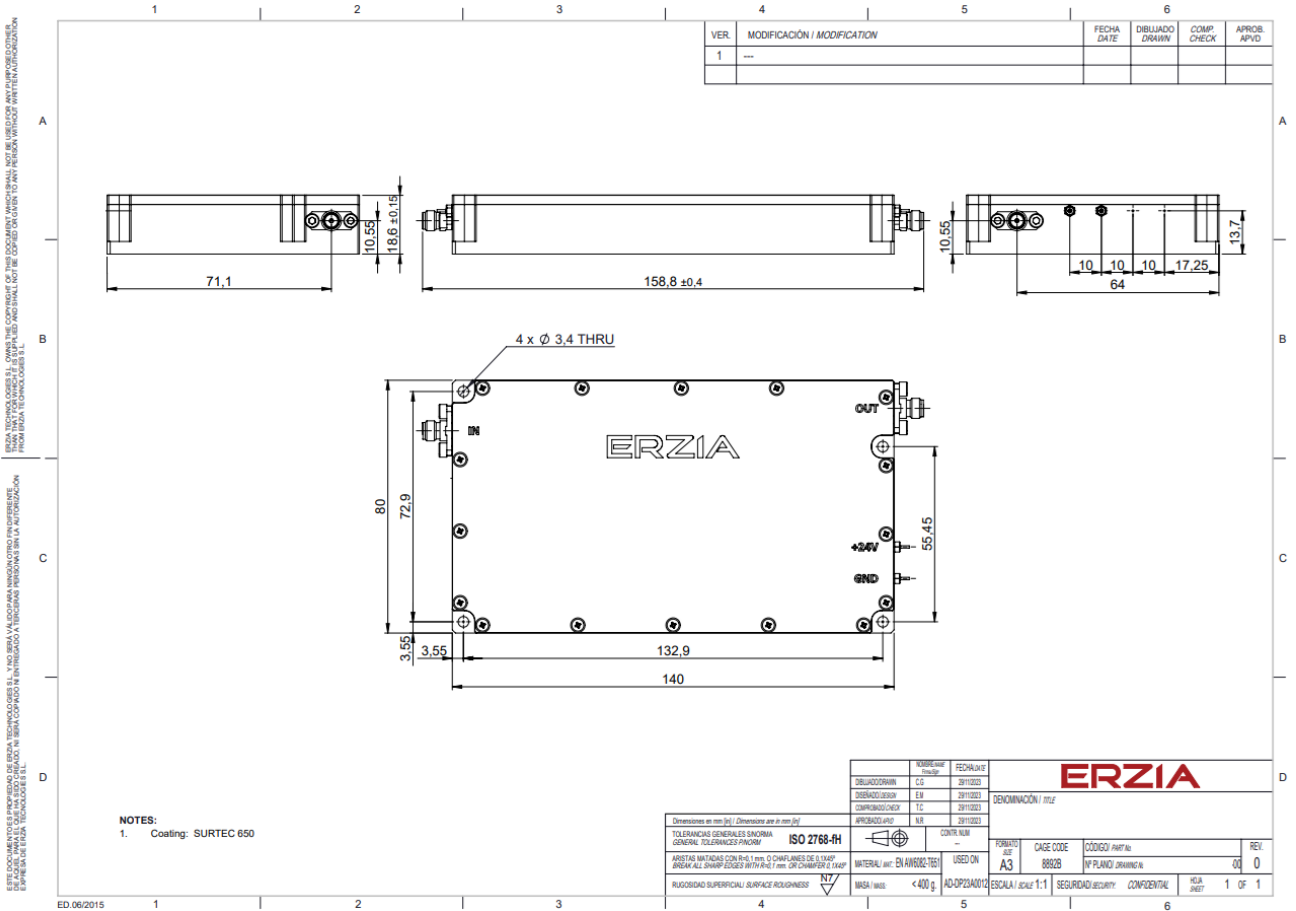


Figure : ERZ-HPA-0250-0400-35 Input & Output Matching

Mechanics and Housing



Parameter	Value
Size	140x80x18.6 mm
Weight	400 grams ±10%
RF Input Connector	SMA Female
RF Output Connector	SMA Female
DC&GND Connector	Filtered Pins

Absolute Maximum Ratings

Condition	Value
DC Voltage	15 VDC
Maximum Input Power (CW)	+20 dBm
Operation temperature (at case)	-35 to 70°C
Storage temperature	-45 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)	-35°C, 25°C, 70°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)	-35°C to 70°C

Environmental Specifications (By Design)

Operating Temperature:	-35 to +70 °C	(MIL-STD-810F, method 520.2)
Storage Temperature:	-45 to 85 °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

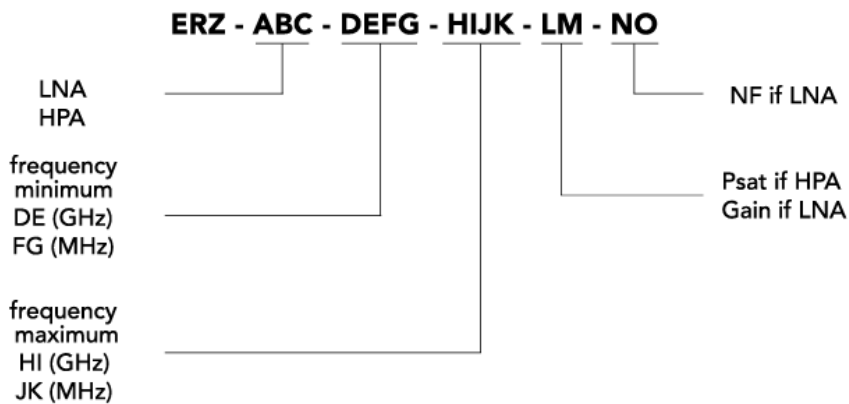
Most of ERZIA's products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

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

20240717_rev1.0

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Tel: +34 942 29 13 42

sales@erzia.com

www.erzia.com