



### Main Features:

- Frequency Range: 33 to 47 GHz.
- Typical values: Psat 29 dBm, Gain 30 dB
- RF connectors (I/O): 2.4 mm Female
- 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-3300-4700-29

The ERZ-HPA-3300-4700-29 is a High Power Amplifier providing an output power of 29 dBm and a gain of 30 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	33	-	47	GHz
Output Power (Psat)	26	29	31	dBm
Small Signal Gain	27	30	37	dB
Gain Flatness	-	±5	-	dB
Noise Figure	-	-	-	dB
VSWR input	1.2:1	1.8:1	2.1:1	-
VSWR output	1.0:1	1.5:1	1.8:1	-
DC Voltage	8	12	16	V
Power Consumption	-	11	-	W
Connectors	2.4 mm Female IN/OUT			-

Specifications at case temperature of 25°C at 12V

### Output Saturation Power

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

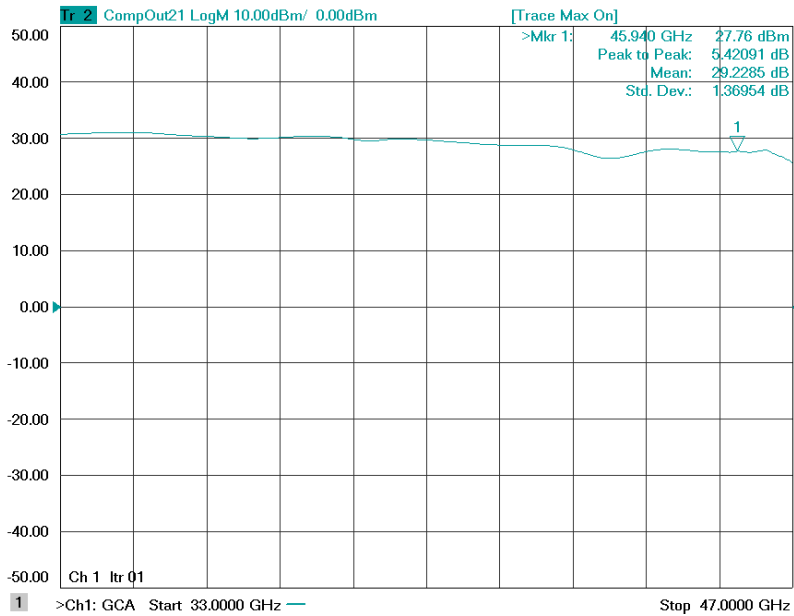


Figure 1: ERZ-HPA-3300-4700-29 Psat

### Small Signal Gain

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

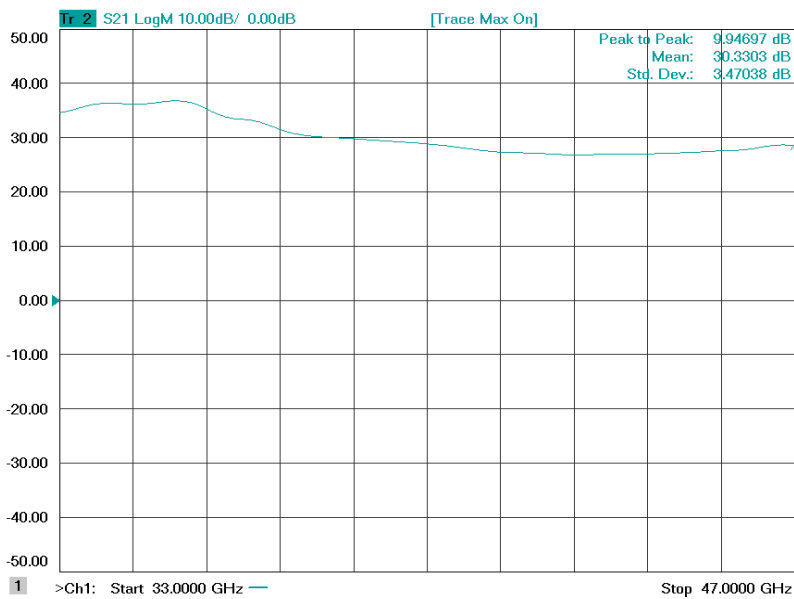


Figure 2: ERZ-HPA-3300-4700-29 Small Signal Gain

### Input and Output Matching

Figure 3 and Figure 4 show input (S11) and output (S22) VSWR as a function of frequency at room temperature (25°C).

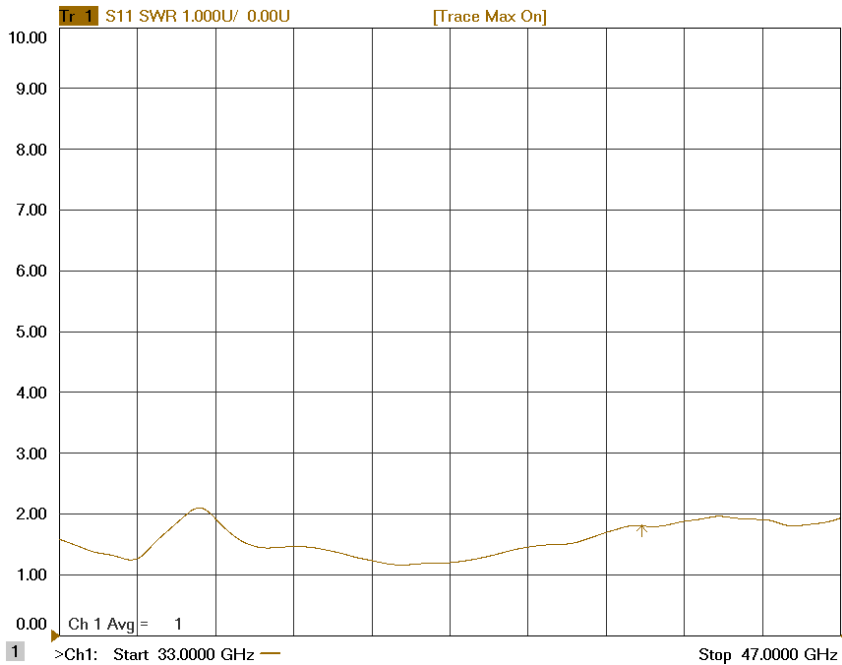


Figure 3: ERZ-HPA-3300-4700-29 Input Matching

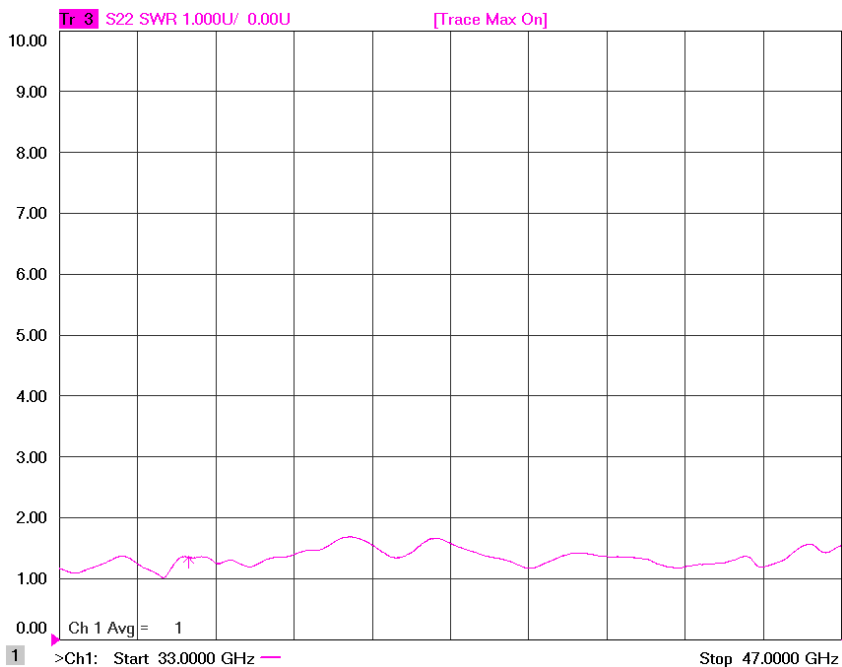


Figure 4: ERZ-HPA-3300-4700-29 Output Matching

### Absolute Maximum Ratings

Condition	Value
DC Voltage	+16 VDC
Maximum Input Power (CW)	10 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)

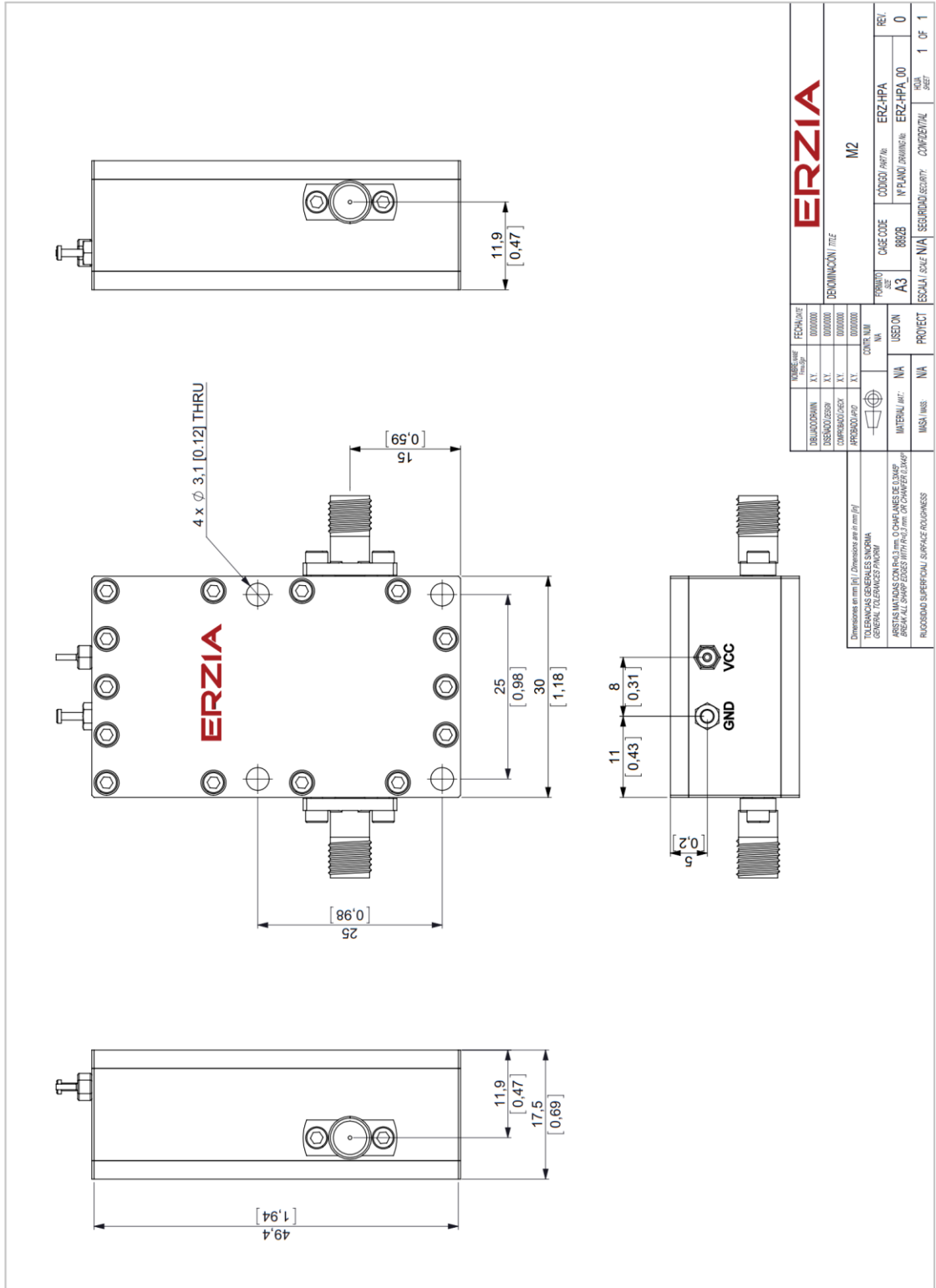
Operating Temperature:	-45 to +85 °C	(MIL-STD-810F, method 520.2)
Storage Temperature:	-55 to 125 °C	(MIL-STD-810F, method 520.2)
Vibration:	8g rms	(MIL-STD-810F, method 514.5)
Shock:	20g, 11ms, saw-tooth	(MIL-STD-810F, method 516.5)
Acceleration:	15g	(MIL-STD-810F, method 513.5)

### 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



M2		ERZIA	
DENOMINACIÓN / TITLE			
FECHA/DATE	00/00/00	REVISIÓN / REV.	0
NUMERO DE DISEÑO / DESIGN NO.	000000	CODIGO PART/Nº	ERZ-HPA
FECHA DE DISEÑO / DESIGN DATE	00/00/00	Nº PLANO DRAWING N.	ERZ-HPA_00
FECHA DE REVISIÓN / REVISION DATE	00/00/00	USO / USE	A3
FECHA DE APROBACIÓN / APPROVAL DATE	00/00/00	SECURITY CODE	8888
FECHA DE ENTREGA / DELIVERY DATE	00/00/00	SECURITY CODE NVA	
FECHA DE RECEPCIÓN / RECEIPT DATE	00/00/00	SECURITY CODE COMP/ENTR	
FECHA DE CANCELACIÓN / CANCELLATION DATE	00/00/00	SECURITY CODE NVA SET	1 OF 1
FECHA DE PROTECCIÓN / PROTECTION DATE	00/00/00	SECURITY CODE NVA SET	1 OF 1

Dimensiones en mm (in) / Dimensions and in mm (in)

TOLERANCIAS GENERALES: NORMAL GENERAL TOLERANCES: FAIR

ARESTAS MUESTRAS CON R0,3 mm. CHAMFRINES DE 1,25 mm BREAK ALL SHARP EDGES WITH R=0,3 mm. CHAMFER 1,25 mm

RODEADOS SUPERFICIALES: SURFACE ROUGHNESS

### 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

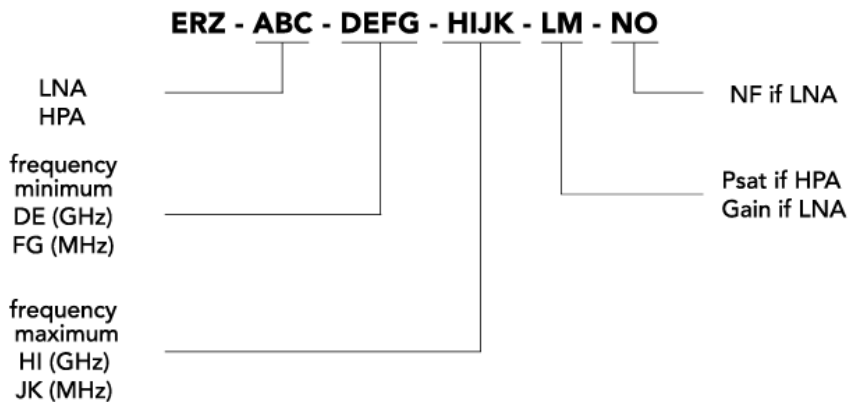
Most of ERZIA's products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

### 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

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