

### Main Features:

- Frequency Range: 7.9 to 8.4 GHz.
- Typical values: P1db 37 dBm, Gain 36 dB
- RF connectors (I/O): SMA Female
- Solder filtered pins for DC connection
- TTL ON/OFF Control
- Alodine compact aluminum housing
- Hi-reliability and dedicated screening/ environmental tests available under request

### ERZ-HPA-0790-0840-37-E

The ERZ-HPA-0790-0840-37-E is a 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		7.9	-	8.4	GHz
Output Power (P1dB)		36	37	38	dBm
Small Signal Gain		34	36	38	dB
Gain Flatness		-	±1	-	dB
Noise Figure		-	9	10	dB
VSWR input		1.5:1	1.5:1	1.7:1	-
VSWR output		1.0:1	1.1:1	1.2:1	-
DC Voltage		18	24	30	V
Power Consumption	TTL ON	-	27	-	W
	TTL OFF	-	< 0.1	-	
RF Connectors		SMA Female IN/OUT			-

Specifications at case temperature of 25°C at 24V

### Output Power at 1 dB Compression

Figure 1 shows output power at 1dB compression measurement as a function of frequency.

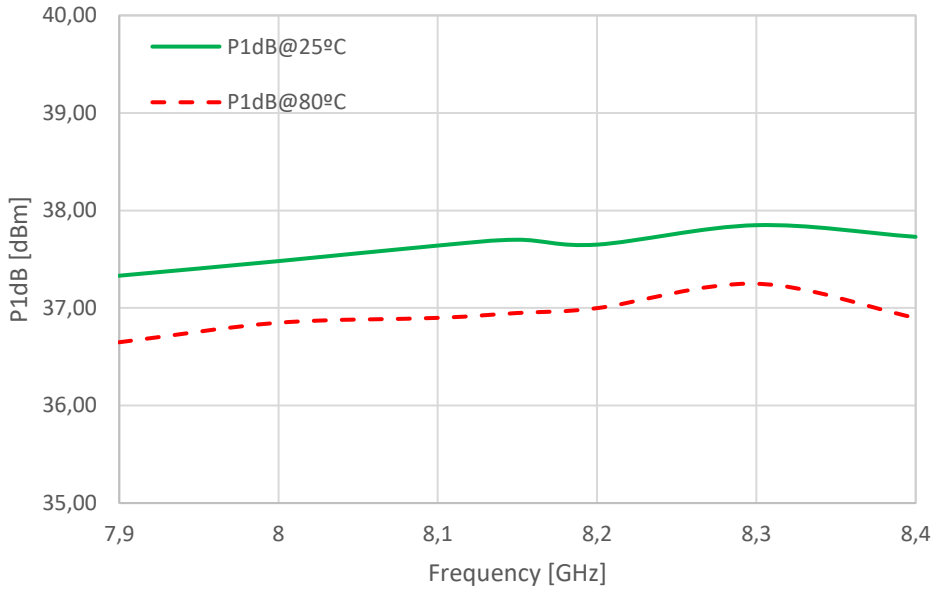


Figure 1: ERZ-HPA-0790-0840-37-E P1dB

Figure 2, Figure 3 and Figure 4 show output power at 1dB compression as a function of input power at room temperature (25°C).

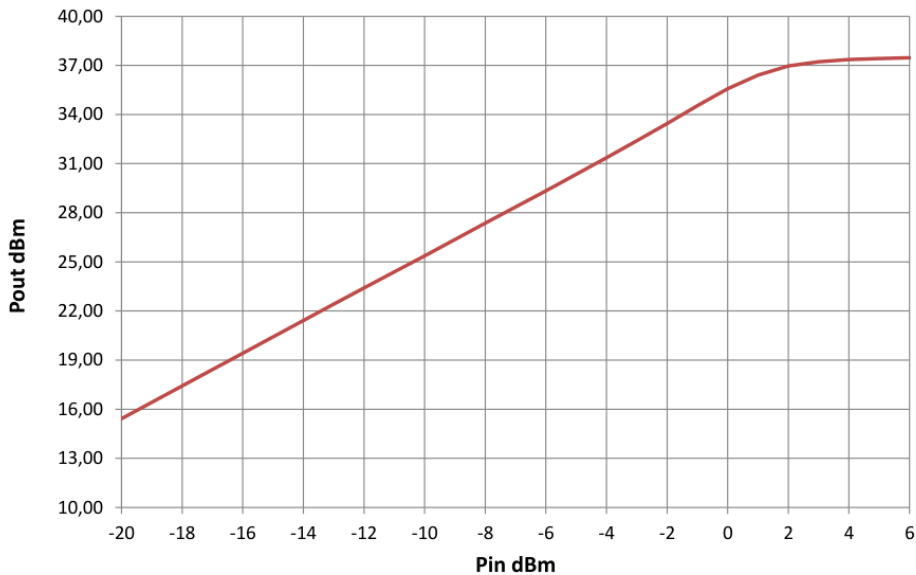


Figure 2: ERZ-HPA-0790-0840-37-E P1dB@7900 MHz

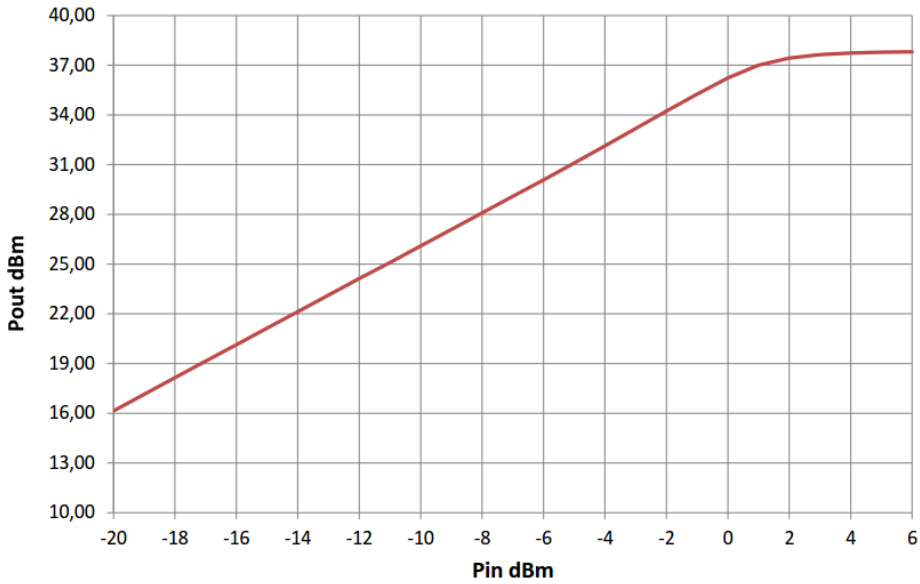


Figure 2: ERZ-HPA-0790-0840-37-E P1dB@8125 MHz

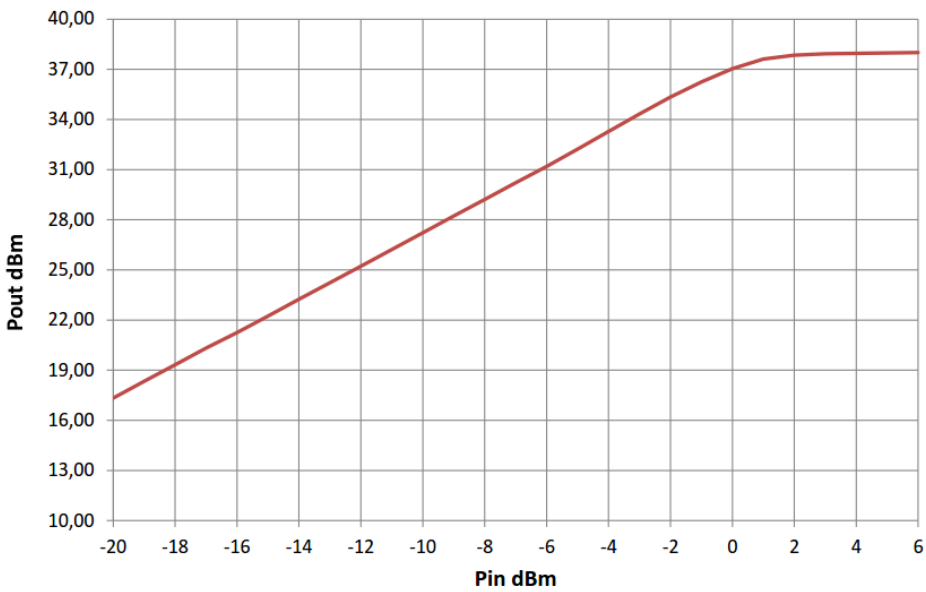


Figure 3: ERZ-HPA-0790-0840-37-E-E P1dB@8400 MHz

### Small Signal Gain

Figure 5 shows small signal gain measurement as a function of frequency.

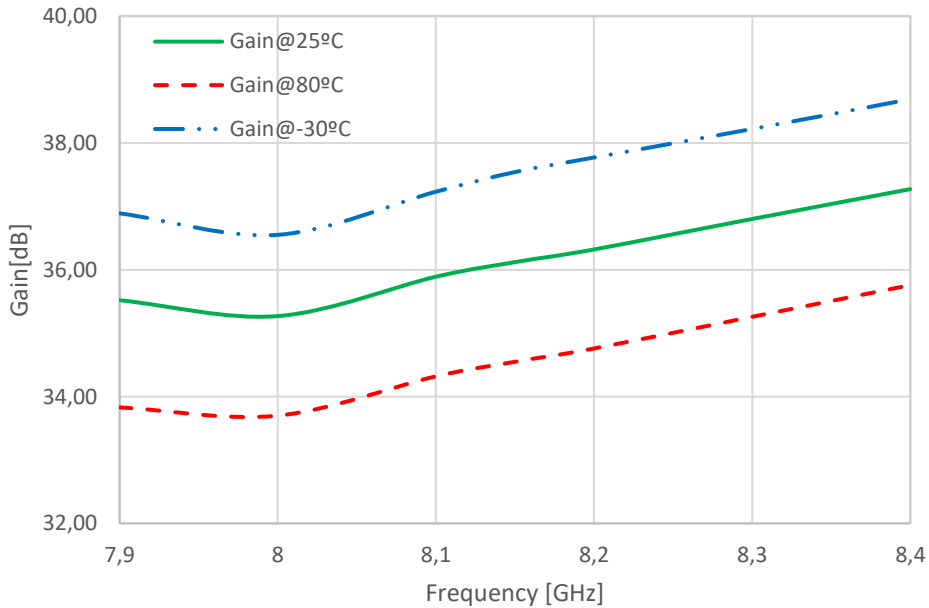


Figure 5: ERZ-HPA-0790-0840-37-E Small Signal Gain

### Noise Figure

Figure 6 shows noise figure measurement as a function of frequency at room temperature (25°C).

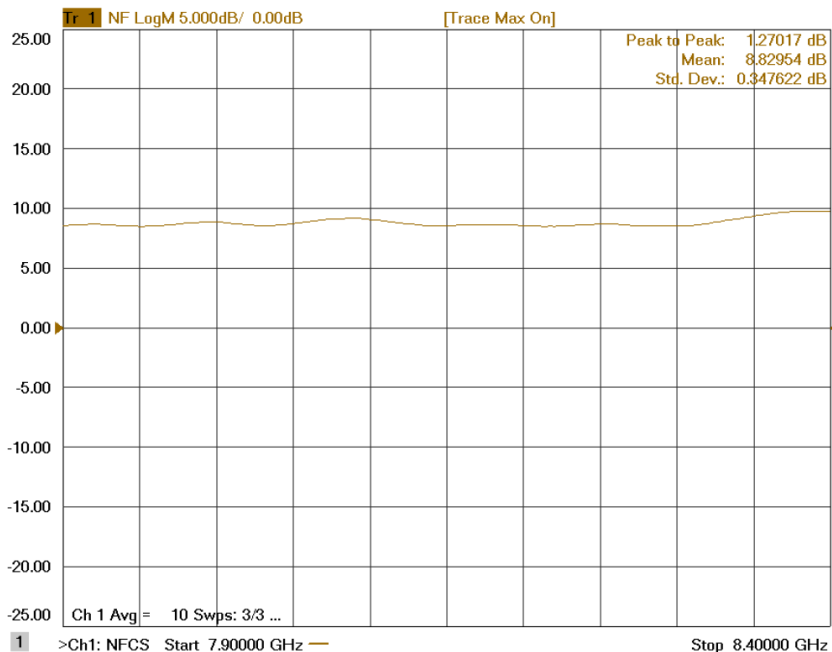


Figure 6: ERZ-HPA-0790-0840-37-E Noise Figure

### Input and Output Matching

Figure 7 and Figure 8 show input (S11) and output (S22) VSWR as a function of frequency at room temperature (25°C).

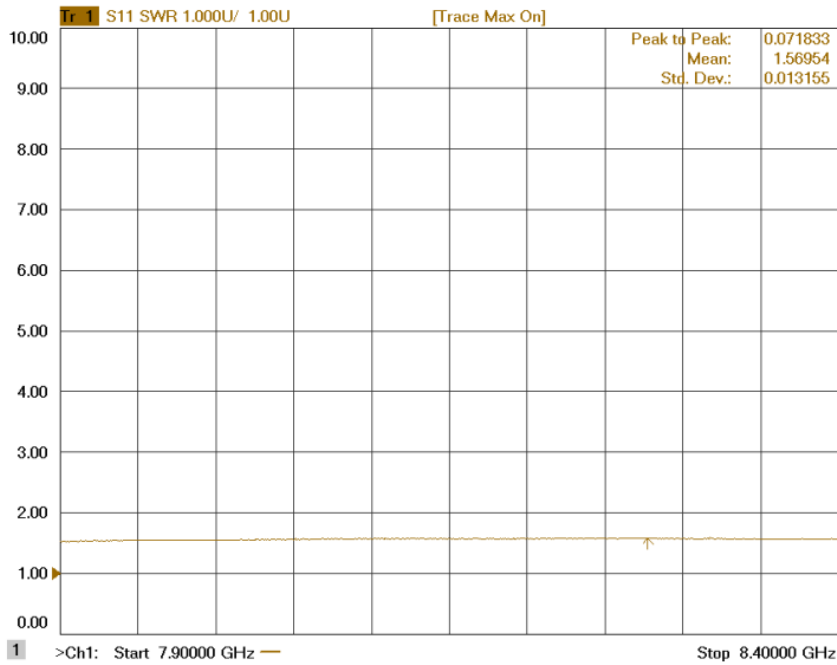


Figure 7: ERZ-HPA-0790-0840-37-E Input Matching

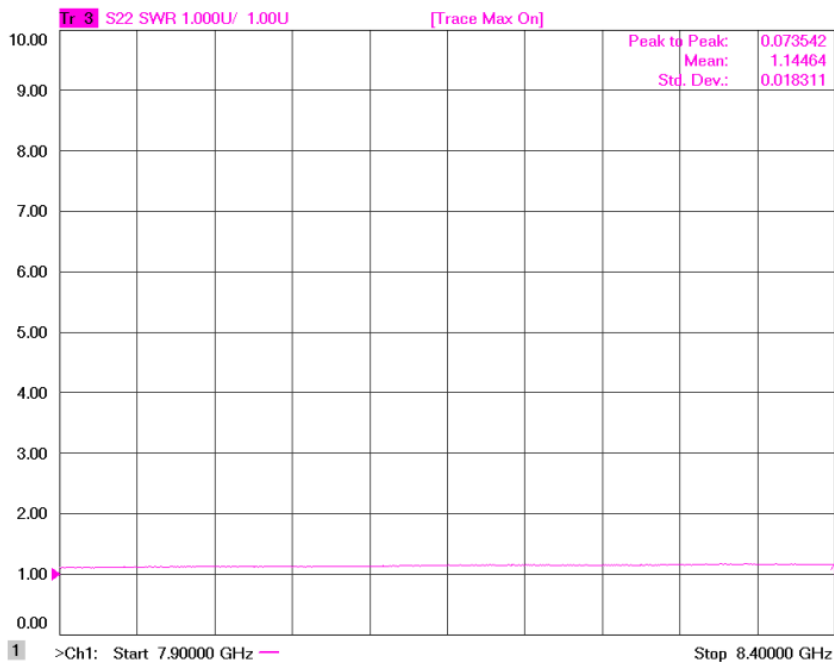


Figure 8: ERZ-HPA-0790-0840-37-E Output Matching

### Absolute Maximum Ratings

Condition	Value
DC Voltage	+30 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)

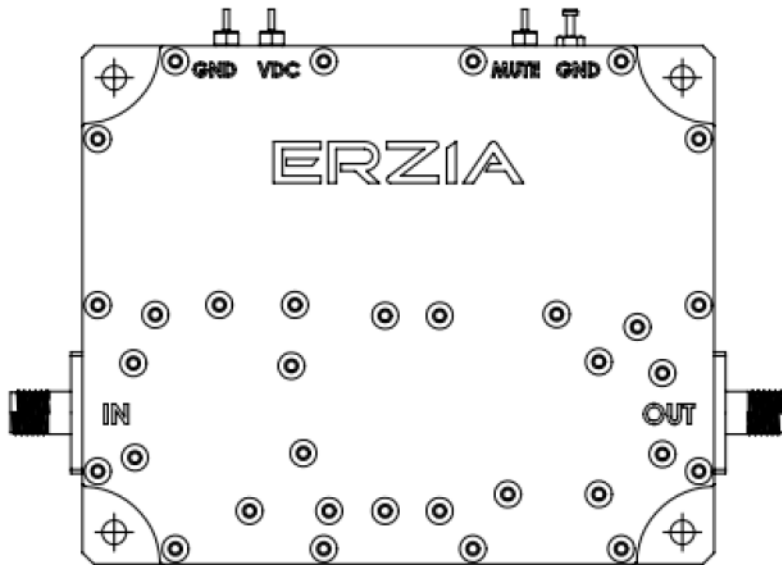
Operating Temperature:	-45 to +85 °C	(MIL-STD-810F, method 520.2)
Storage Temperature:	-55 to 125 °C	(MIL-STD-810F, method 520.2)
Vibration:	8g rms	(MIL-STD-810F, method 514.5)
Shock:	20g,11ms,saw-tooth	(MIL-STD-810F, method 516.5)
Acceleration:	15g	(MIL-STD-810F, method 513.5)

### 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.



### External Electrical Interface

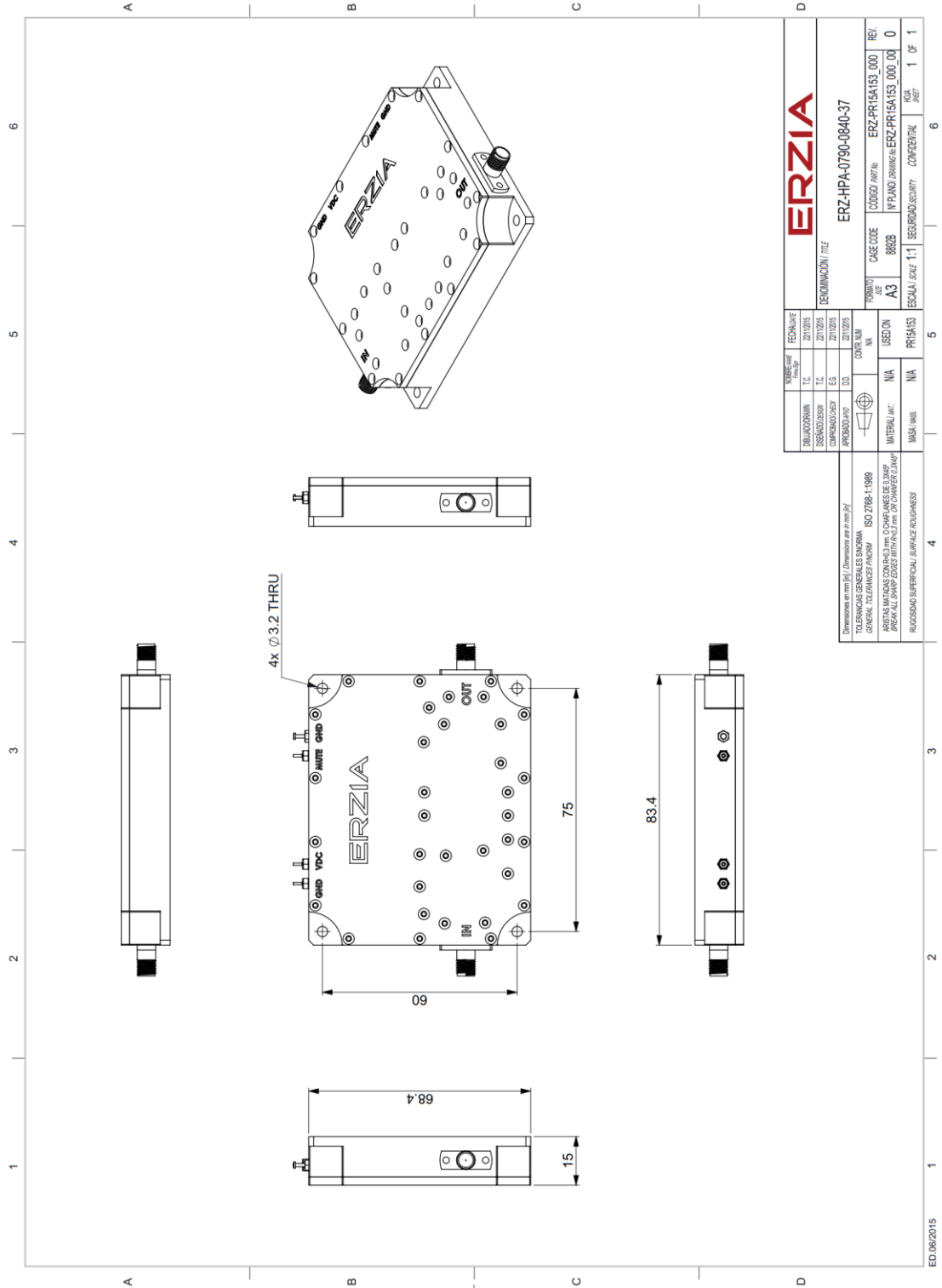


- Input Voltage (VDC):  $24 \pm 6$  V
- MUTE: ON=0 V and OFF=5 V
- MUTE available <50ms
- RF Connectors SMA Female

### Dimensions and Weight

- Dimensions: 83.4x68.4x15 mm
- Weight: 0.190 Kg

### Mechanics and Housing



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## 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

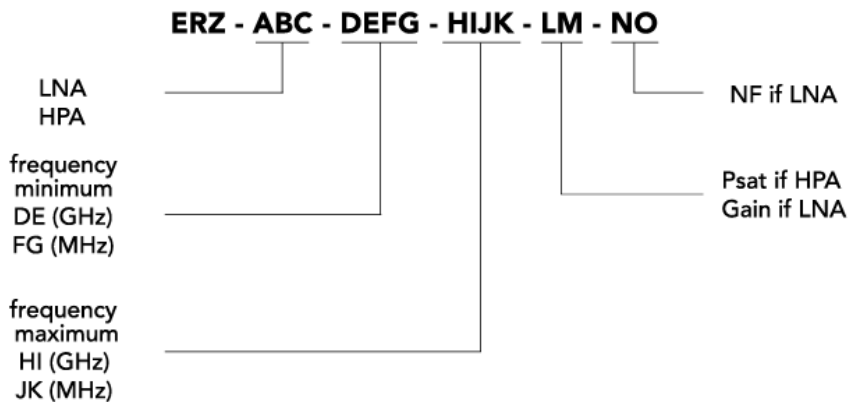
Most of ERZIA's products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

## 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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