ERZIA
DATASHEET

High Power Amplifier

ERZ-HPA-0790-0840-37-E

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)		37.3	37.5	37.8	dBm
Gain		35.2	36	37.2	dB
Noise Figure		8.2	8.8	9.4	dB
VSWR input		1.5:1	1.5:1	1.6:1	-
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	-	
Connectors		SMA Female IN/OUT			-

Specifications at case temperature of 25°C

Output Power at 1 dB Compression

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

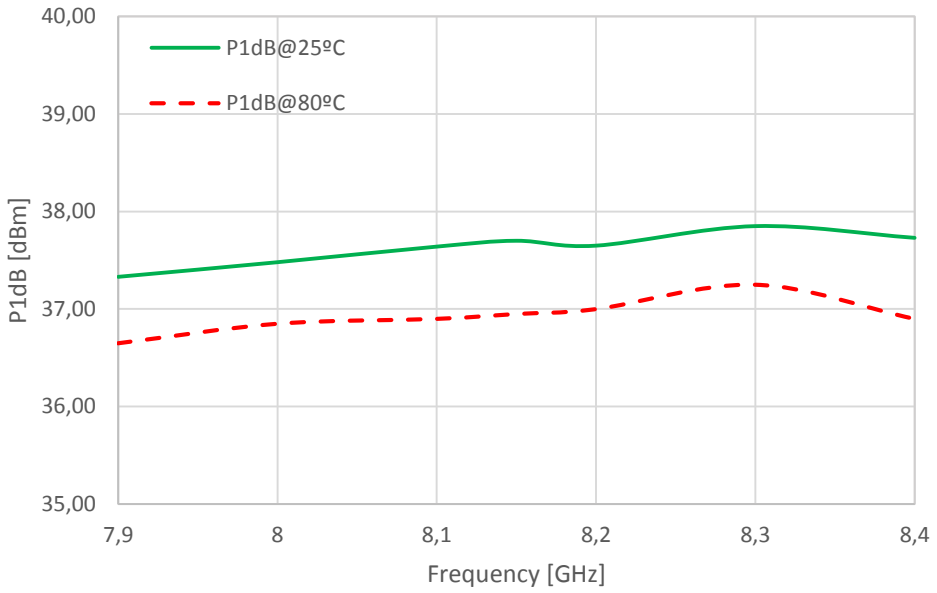


Figure 1: ERZ-HPA-0790-0840-37-E P1dB

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

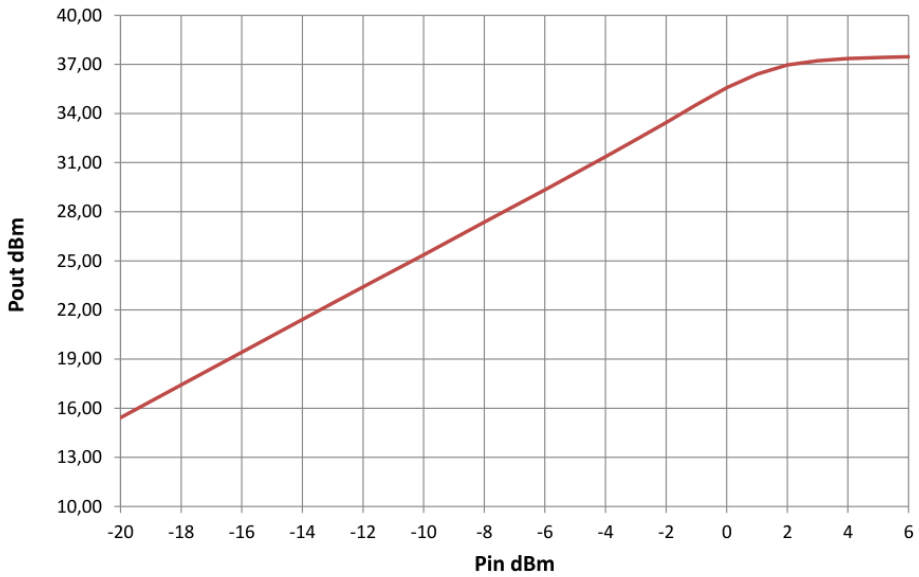


Figure 2: ERZ-HPA-0790-0840-37-E P1dB@7900 MHz

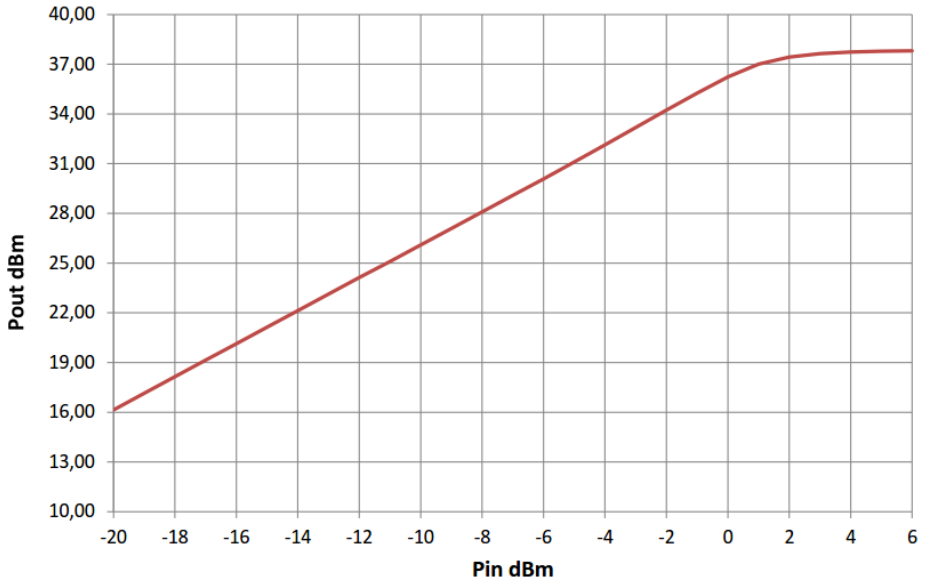


Figure 2: ERZ-HPA-0790-0840-37-E P1dB@8125 MHz

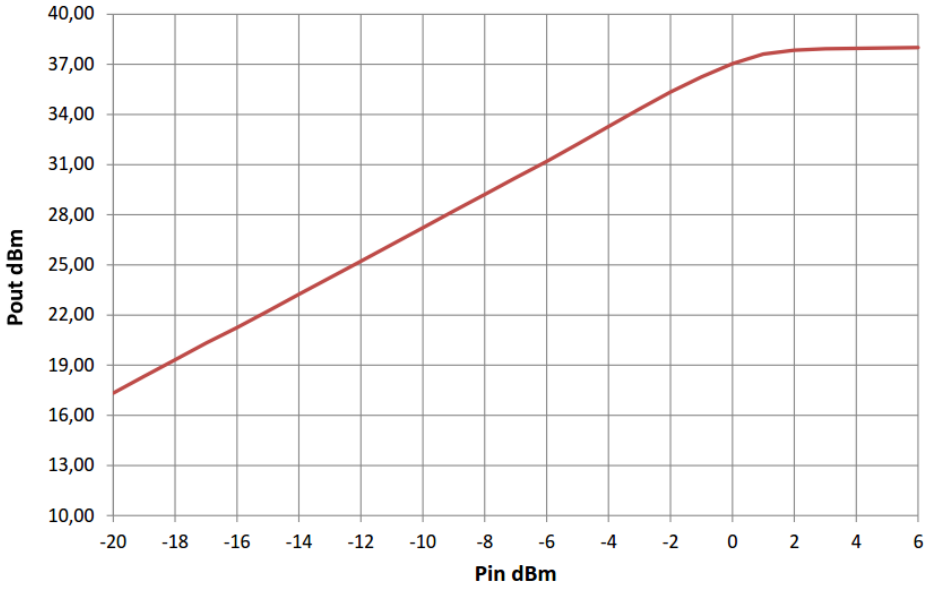


Figure 3: ERZ-HPA-0790-0840-37-E-E P1dB@8400 MHz

Small Signal Gain

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

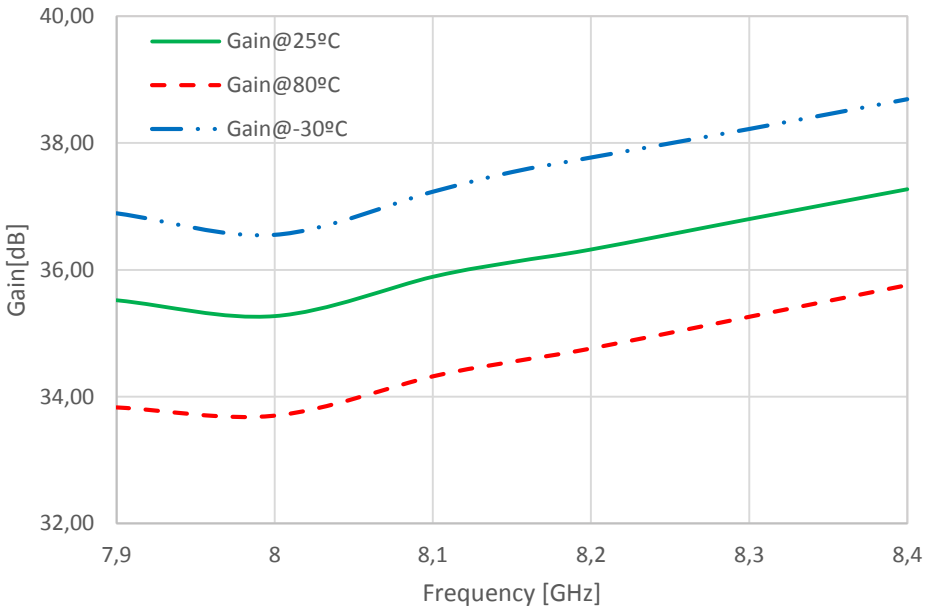


Figure 5: ERZ-HPA-0790-0840-37-E Small Signal Gain

Noise Figure

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

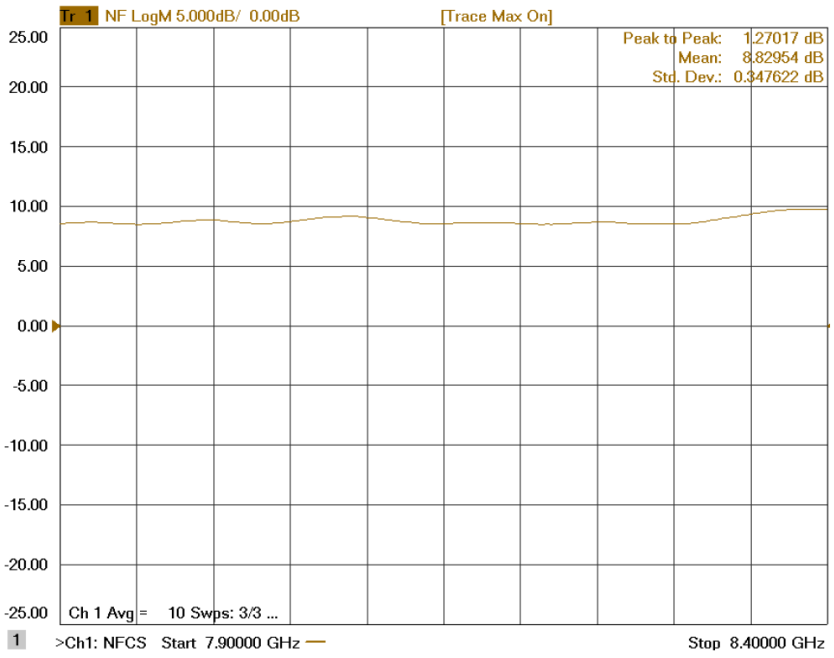


Figure 6: ERZ-HPA-0790-0840-37-E Noise Figure

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).

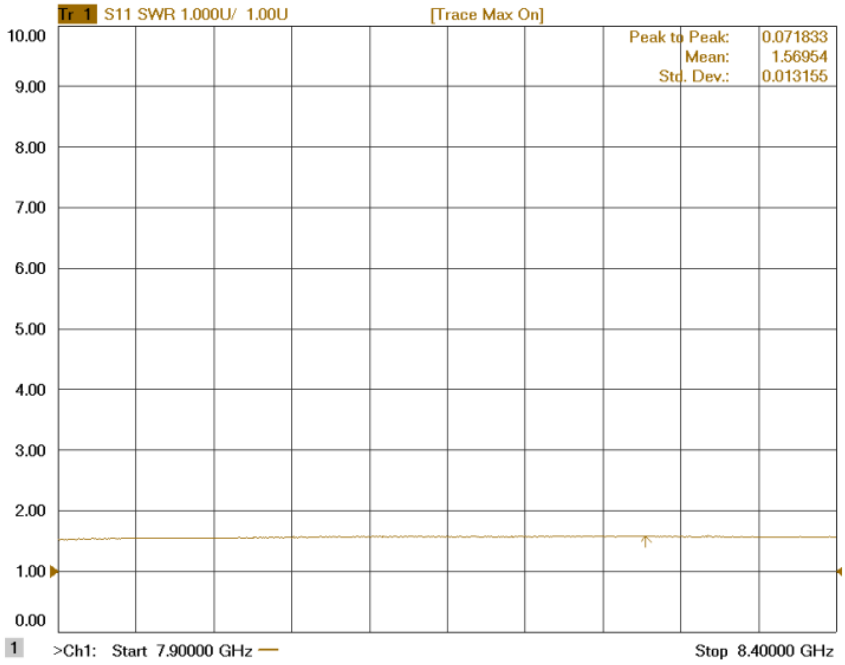


Figure 7: ERZ-HPA-0790-0840-37-E Input Matching

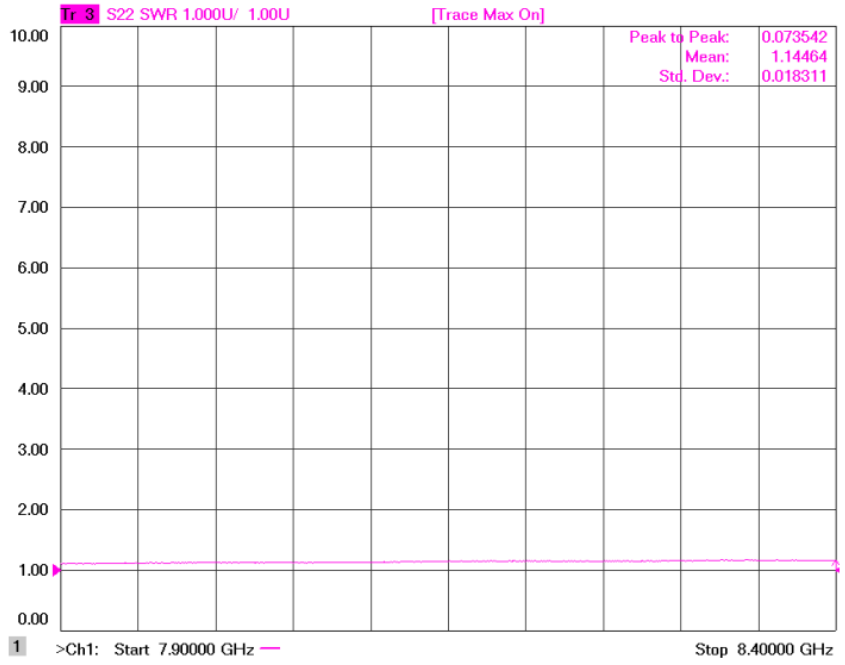


Figure 8: ERZ-HPA-0790-0840-37-E Output Matching

Measurements Conditions

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

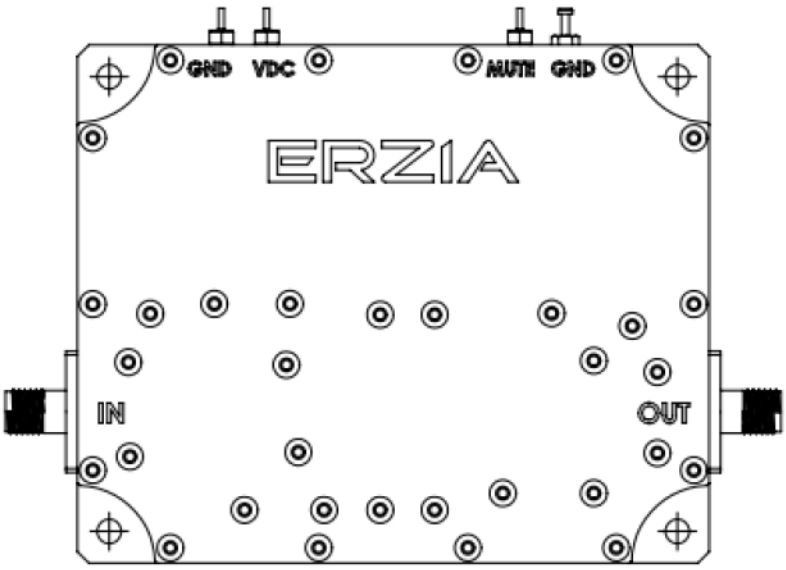
Condition	Value
Temperature	25°C ± 2°C
Humidity	44% ± 10%
DUT Warm up time	60 min
Test equipment warm up time	1 hour

Absolute Maximum Ratings

Condition	Value
DC Voltage	+30 VDC
Maximum Input Power (CW)	10 dBm
Operation temperatura (at case)	-30°C to 80°C
Storage temperature	-50°C to 100°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.

External Electrical Interface



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

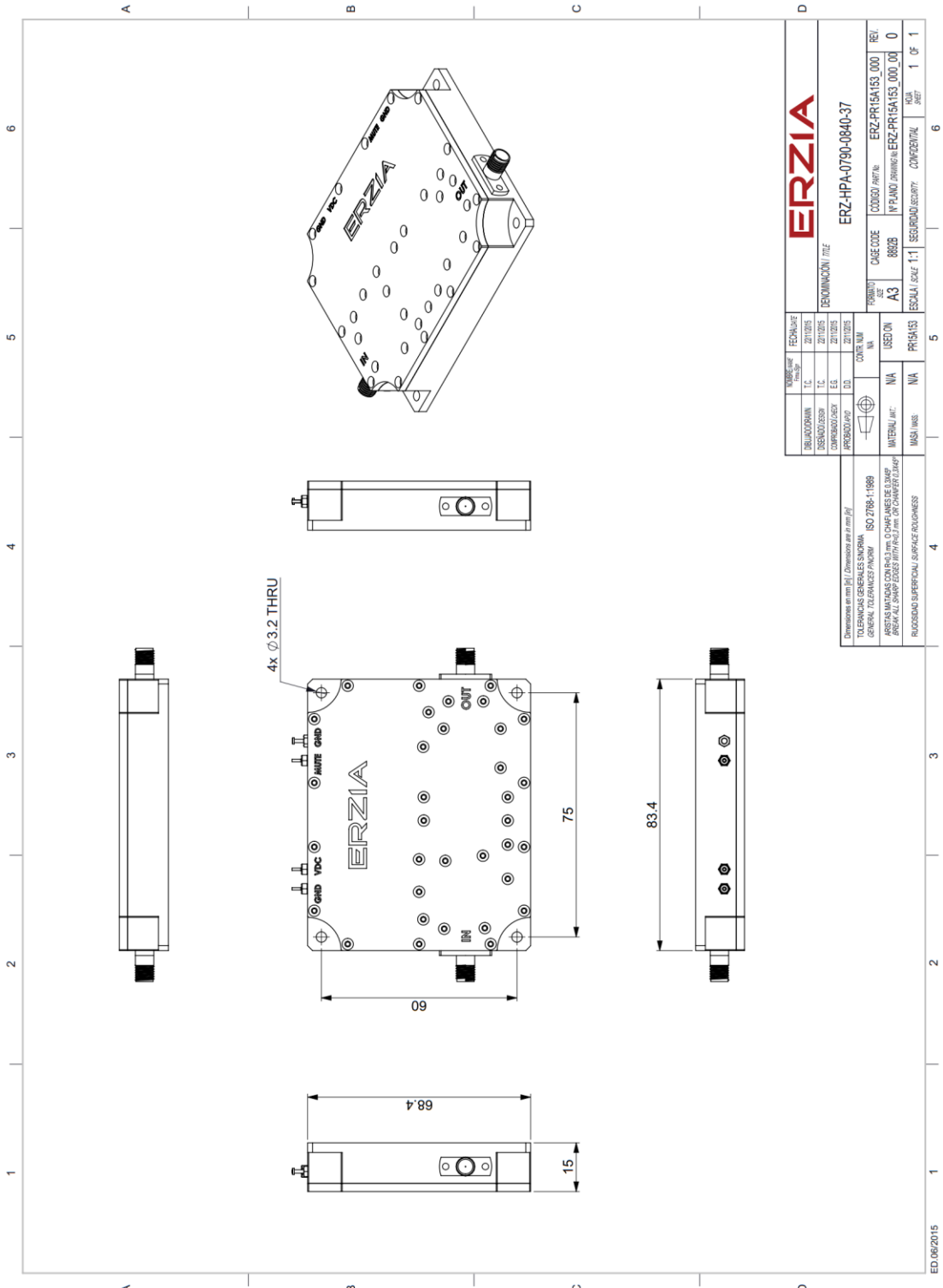
Dimensions and Weight

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

High Power Amplifier

ERZ-HPA-0790-0840-37-E

Mechanics and Housing



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

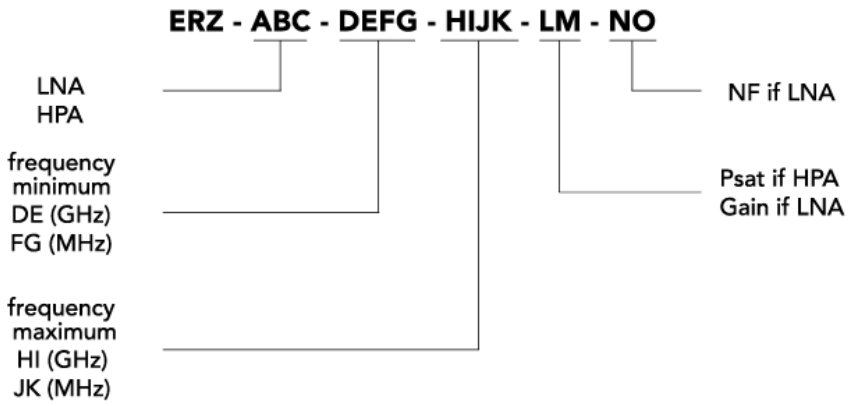
Most of ERZIA´s products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

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



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