ERZIA

DATASHEET

High Power Amplifier

ERZ-HPA-0050-0600-48

Main Features:

- Frequency Range: 500 to 6000 MHz.
- Typical values: Pout 48 dBm, Gain 50 dB
- RF connectors (I/O): SMA Female
- DSUB type connector for DC & Control
- Several mounting options
- Nickel coating in aluminum housing
- Hi-reliability and dedicated screening/ environmental tests available under request

ERZ-HPA-0050-0600-48

The ERZ-HPA-0050-0600-48 is a High Power Amplifier providing an output power of 48 dBm and a gain of 50 dB. The compact size and modularity makes it ideal for a wide range of applications.

Typical applications:

- Industrial / Laboratory
- Satcom / Telecom
- Space / Aerospace

Performance

Parameter	Min	Typ	Max	Unit
Frequency Range	0.5	-	6	GHz
Output Power (Psat)	46.5	48	-	dBm
Small Signal Gain	-	50	-	dB
Gain Flatness	-	+/-2	-	dB
Noise Figure	-	7	-	dB
VSWR input	-	-	2.0:1	-
VSWR output	-	-	3.0:1	-
DC Voltage	18	24	36	V
Power Consumption @ Psat	-	485	500	W
RF Connectors	SMA Female IN/OUT			-

Specifications at a case temperature of 25°C

Output Power

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

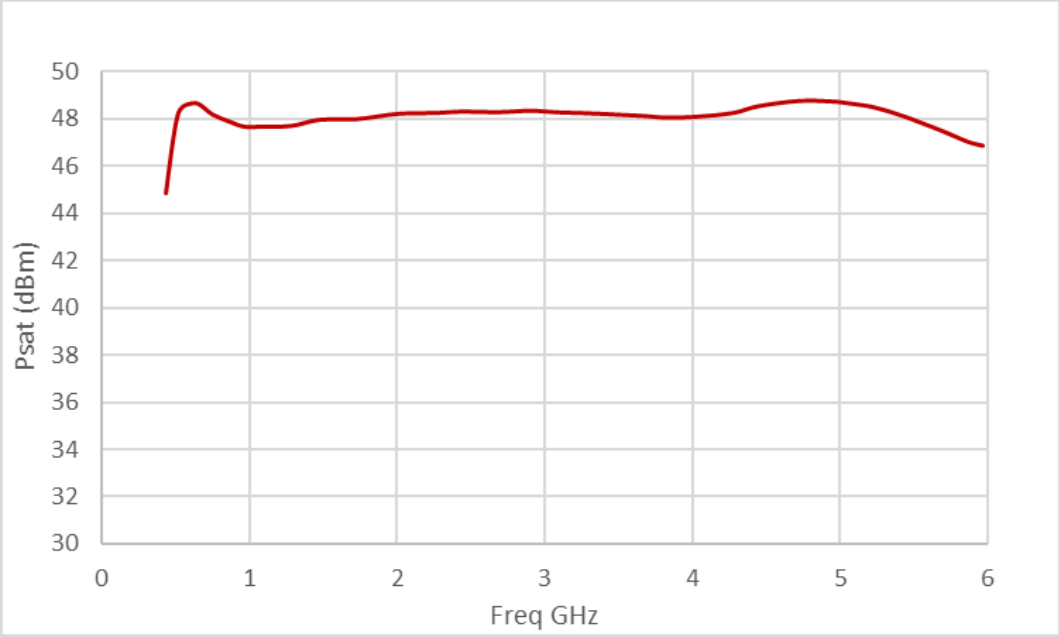
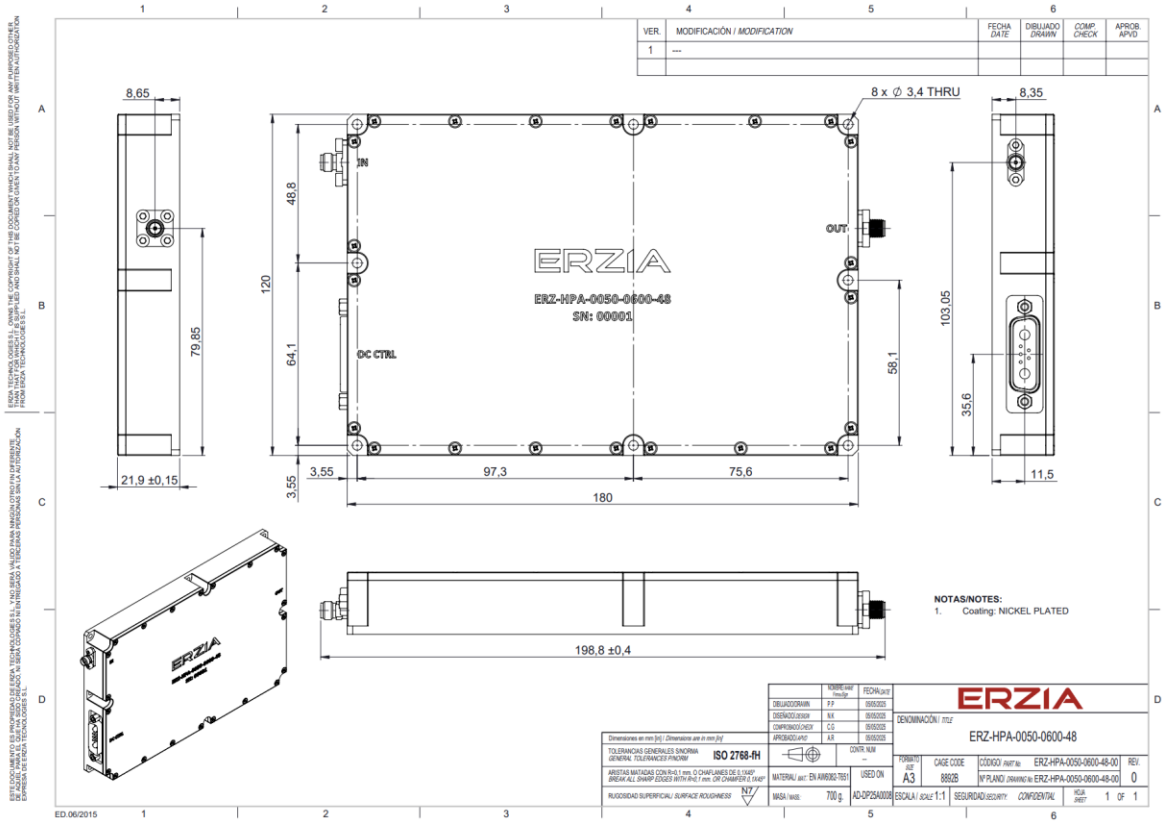


Figure 1: ERZ-HPA-0050-0600-48 Psat

Mechanics and Housing



Parameter	Value
Size	180x120x21.9 mm
Weight	800 grams ±10%
RF Input Connector	SMA Female
RF Output Connector	SMA Female
DC & Control Connector	Dsub7

DC & Control Interface

Power supply characteristics

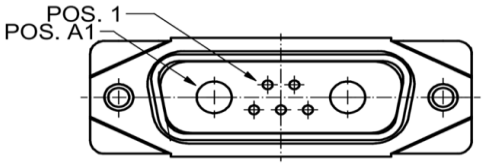
- Input Voltage: 24 VDC

Control characteristics

- TTL command (ON/OFF function).
- Temperature & Current monitoring.

Table below shows D-sub 7 connector (Male) pinout:

PIN	LABEL	SIGNAL	DESCRIPTION
A1	VCC	+24VDC Power Source	Power Supply +(18 to 36) VDC
A2	PGND	Power Ground	Power Ground
1	EN	Enable	TTL Signal OFF (0V to 0.8V); ON (2V to 5.5V);
2	TEMP	Temperature Monitor	Vo = −11.69 mV/°C × T + 1.8663 V
3	I_SEN	Current Sensor	Vo=0.1V/A
4	-	-	-
5	GND	Ground	Ground



D-sub 7W2 Connector Male (Front view)

Absolute Maximum Ratings

Condition	Value
DC Voltage	+36 VDC
Maximum Input Power	+10 dBm @CW
Enable Control Voltage	+5.5 VDC
Operation temperature (at case)	-40 to 70 °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.

Environmental Specifications (By Design)

Operating Temperature:	-40 to +70 °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.

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 / Hi-Rel Usage

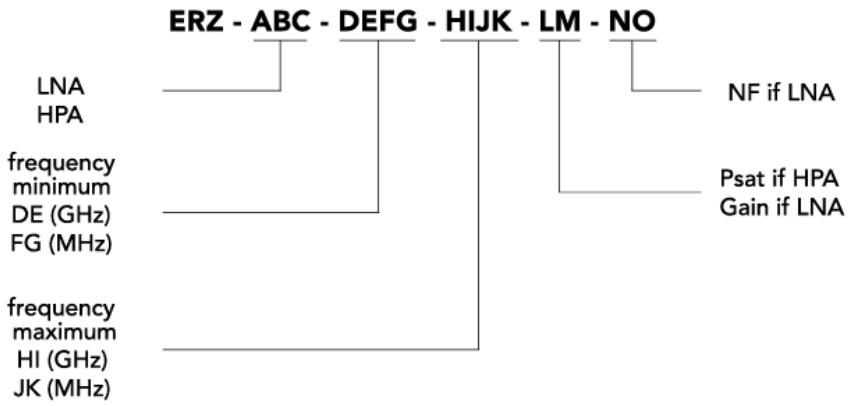
Most of ERZIA´s products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, or specific hi-reliability usage.

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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