

Main Features:

- Frequency Range: 27 to 31 GHz.
- Typical values: 20W (Psat)
- Drop-in
- Test Fixture available
- Gold plated compact housing
- Hi-reliability and dedicated screening/ environmental tests available under request

ERZ-HPA-2700-3100-43-P

The ERZ-HPA-2700-3100-43-P is a Ka band High Power Amplifier based on GaN technology that provides 20 W in saturation. The compact size and modularity makes it ideal for a wide range of applications.

Typical applications:

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

Saturated Output Power

Figure 1 shows saturated output power measurement as a function of frequency and Temperature

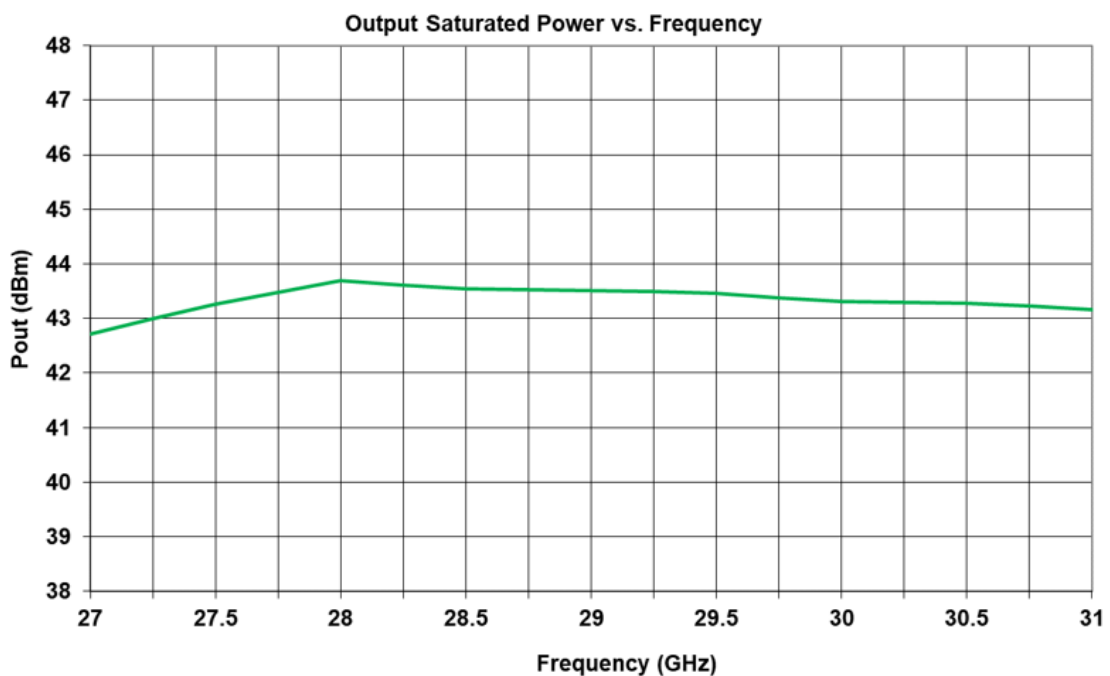


Figure 1: ERZ-HPA-2700-3100-43-P Psat

Electrical Specifications

Parameter		Value			Units
		Min	Typ	Max	
Frequency		27	-	31	GHz
Output Linear Power @ACPR=-28dBc (5GNR Modulation, 100MHz 120KHz QAM64, with a PAR of ~8dB)	@25°C	-	37.5	-	dBm
	@85°C	-	36.5	-	
Power Consumption @Pout=40dBm CW@25°C		-	55	65	W
Power Consumption at Output Linear Power at modulation (Over Temp. Range)		-	-	75	W
Output Saturated Power (Psat) CW	@25°C	42	43.5	-	dBm
	@85°C	41	42.5	-	
Power Consumption @Psat	@25°C	-	115	120	W
	Over Temp. Range	-	-	125	
PAE @Psat @25°C		-	19	-	%
Power Gain (Over Temp. Range)		30	-	-	dB
Power Gain Flatness (Over Temp. Range)		-	+/-1.0	+/-2.0	dB
Intermodulation Products Level at 36dBm/Tone, Δ=5MHz	@25°C	-	-	-23	dBc
	@-40°C	-	-	-20	
Input/Output VSWR		-	-	2:1/2.5:1	-
Operating Voltage	Vd1	-	5	-	V
	Vd2	-	22	-	
	Vg	-	-5	-	
Load VSWR Protection		-	-	3:1	-
Harmonics level @Pout=40dBm		-	-30	-20	dBc
Spurious level @Pout=40dBm		<-60			dBc

Values at 25°C unless otherwise indicated

Mechanical Specifications

Pin	Description
1, 7	Gate Voltage (-5 V)
2, 6	Drain Voltage 1 (+5 V)
3, 5, 10, 12	Ground
4	RF in
8, 9, 13, 14	Drain Voltage 2 (+22 V)
11	RF out

Outline Drawing

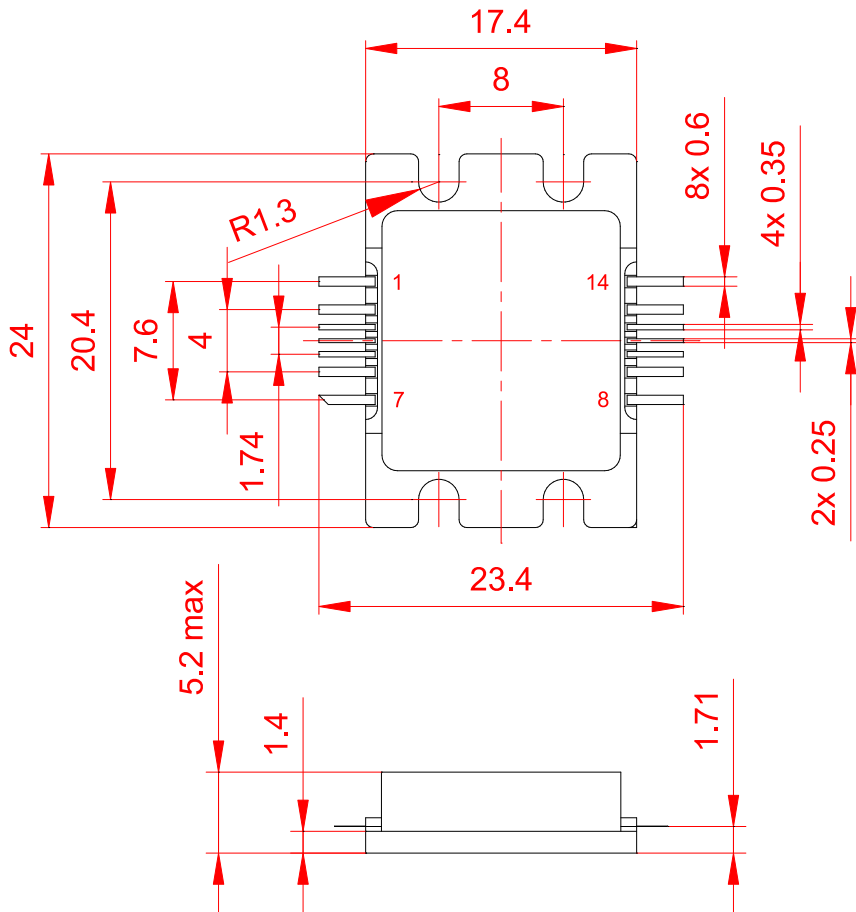


Figure 2: ERZ-HPA-2700-3100-43-P Outline Drawing

Absolute Maximum Ratings

Condition	Value
Drain Voltage 1	+6 VDC
Drain Voltage 2	+22 VDC
Maximum RF Input Power	+23 dBm (TBC)
Maximum Load mismatch	3.0:1
Operation temperature (at case)	-40° 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.

Environmental Specifications (By Design)

Operating Temperature:	-35 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)

Environmental Stress Screening (ESS)

Temperature cycles (x2) in climatic chamber (DUT OFF)	-45 to +85°C
Temperature cycles (x1) in climatic chamber (DUT ON)	-40 to +85°C

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

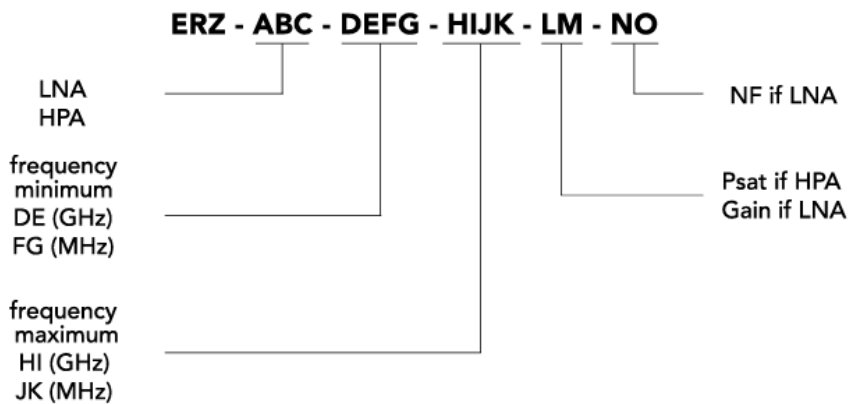
Most of ERZIA's products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

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

20191115_rev1.0

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