100 MHz–6 GHz Broadband Low-Noise Amplifier Module



LCLNA-100-6000-30 amplifies RF signals from 100 MHz to 6 GHz with 30 dB typical gain and a maximum noise figure of 1.2 dB. The broadband low-noise module serves RF front ends and signal-conditioning chains in communication systems and laboratory testing.

Typical saturated output power is 10 dBm, and typical input S11 is −10 dB. PSAT describes saturation; it does not establish a linear operating-power guarantee.

The module runs from a single +5 V supply with 100 mA typical dynamic current. Both interfaces are SMA-K female: IN is the RF input, while OUT/+5V combines the RF output and DC supply input.

Structural illustration constrained by the source outline, not a product photograph. Surface appearance is illustrative and does not specify housing material or finish.

Electrical specifications

Measurement temperature, test frequency, RF drive and reference impedance are not specified.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	BW	100	-	6000	MHz
Gain	G	-	30	-	dB
Noise figure	NF	-	-	1.2	dB
Saturated output power	Psat	-	10	-	dBm
Input reflection coefficient (S11)	S11	-	−10	-	dB
Operating voltage	VDC	-	+5	-	V
Dynamic current	IDD	-	100	-	mA

Absolute maximum ratings

Absolute limits; not recommended operating conditions.

Parameter	Specification	Unit
Maximum supply voltage	+7 maximum (Absolute maximum; nominal operation is +5 V)	V
Maximum RF input power	+12 maximum (Absolute maximum input rating)	dBm

Environmental ranges

Separate operating and storage ranges; full-range RF qualification is not provided.

Parameter	Specification	Unit
Operating temperature	−40 to +70 (Operating range; full-temperature RF performance not specified)	°C
Storage temperature	−40 to +85 (Storage range, separate from operation)	°C

Mechanical specifications

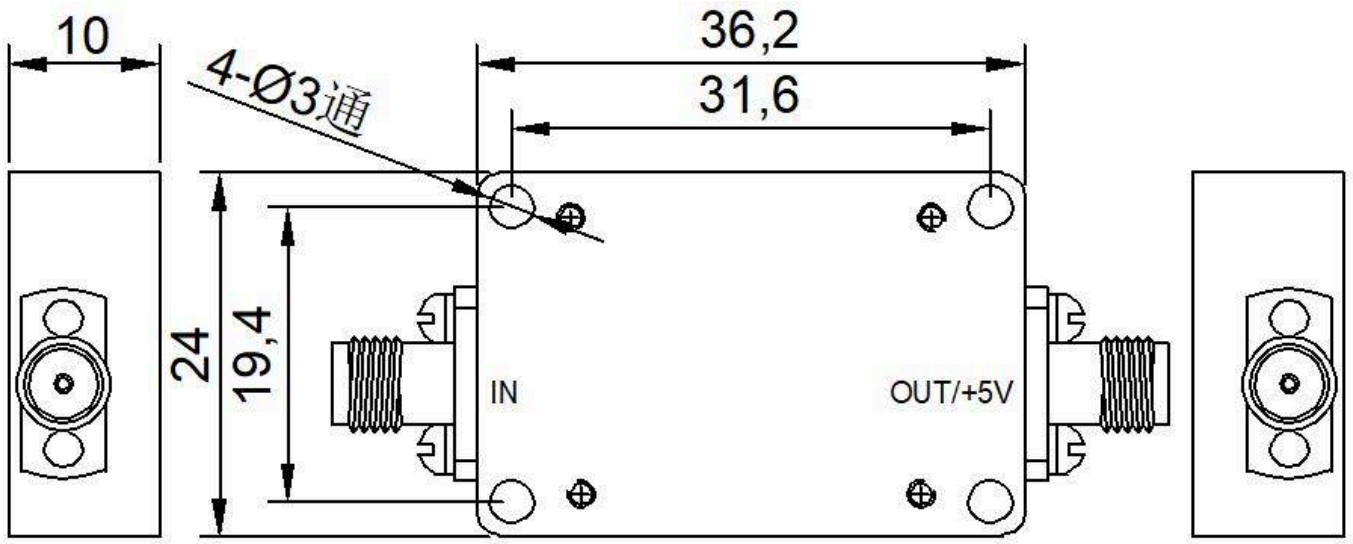
Housing dimensions exclude SMA connector projections.

Parameter	Specification	Unit
Housing dimensions [1]	36.2×24×10	mm
RF input connector [2]	SMA-K female	-
RF output / DC input connector [3]	SMA-K female; shared +5 V input	-

[1] Body only; SMA projections excluded

[2] SMA-K female; marked IN

[3] SMA-K female; shared OUT/+5V interface



Product overview

LCLNA-100-6000-30 amplifies RF signals from 100 MHz to 6 GHz with 30 dB typical gain and a maximum noise figure of 1.2 dB. The broadband low-noise module serves RF front ends and signal-conditioning chains in communication systems and laboratory testing. Typical saturated output power is 10 dBm, and typical input S11 is −10 dB. PSAT describes saturation; it does not establish a linear operating-power guarantee. The module runs from a single +5 V supply with 100 mA typical dynamic current. Both interfaces are SMA-K female: IN is the RF input, while OUT/+5V combines the RF output and DC supply input. Structural illustration constrained by the source outline, not a product photograph. Surface appearance is illustrative and does not specify housing material or finish.

Interfaces and installation

The 36.2×24×10 mm housing has four Ø3 mm through holes on 31.6×19.4 mm mounting centres. The body dimensions exclude the opposed SMA connector projections. Use the original outline to plan the mounting position and allow space for the connectors and mating cables. The operating temperature range is −40 to +70 °C; storage is −40 to +85 °C. Absolute limits of +7 V supply and +12 dBm RF input are separate from the nominal +5 V operating point and normal RF drive. The shared output/DC port needs a system DC-feed arrangement; measurement conditions and the external feed network are not specified.

Document notice

Specifications are subject to revision. Before design release, confirm the current document revision and product-specific requirements with LCRF. The approved quotation and order documentation define the supplied configuration.