32000–52000 MHz GaAs MMIC Low-Noise Amplifier Die — NF 1.8 dB (typical)



LCI-LNA-32000-52000-NF1p8T · 32000–52000 MHz · GaAs MMIC Low-Noise Amplifier Die.

The RF table specifies: NF 1.8 dB (typical); Small-signal gain 26 dB (typical); P1dB 5 dBm (typical). RF test conditions: TA = +25 °C; Vd = +5 V.

Single-supply operation.

Input and output DC-blocking capacitors are integrated.

The RF pads do not require external DC-blocking capacitors; add the specified supply filtering at VDD.

Die dimensions: 1.4 × 0.75 × 0.07 mm.

RF characteristics

TA = +25 °C; Vd = +5 V

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	32000	-	52000	MHz
Output 1 dB compression power	P1dB	-	5	-	dBm
Small-signal gain	Gain	-	26	-	dB
Small-signal gain flatness	ΔGain	-	±1	-	dB
Noise figure	NF	-	1.8	-	dB
Input VSWR	VSWR-in	-	2	-	-
Output VSWR	VSWR-out	-	2	-	-

DC bias and current

TA = +25 °C; Vd = +5 V

Parameter	Symbol	Minimum	Typical	Maximum	Value	Unit
Operating voltage	-	-	-	-	5	V
Quiescent current	-	-	0.012	-	-	A

Absolute limits

Absolute limits; these are not normal operating targets.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum operating voltage	-	-	-	8	V
Maximum input power	-	-	-	15	dBm
Storage temperature	-	-65	-	150	°C
Operating temperature	-	-55	-	85	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	1.4 × 0.75 × 0.07	mm
Plan-view outline tolerance	±50	µm

Bond-pad assignments

Pins	Symbol	mm
1	RFin	0.070 × 0.080
2	RFout	0.070 × 0.080
3	Vd	0.100 × 0.100

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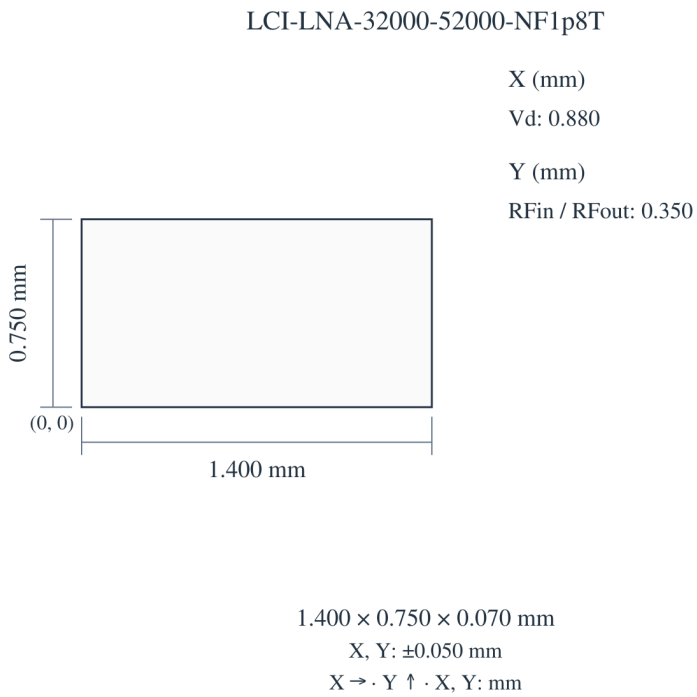
Integration notes

Single-supply operation. Input and output DC-blocking capacitors are integrated. The RF pads do not require external DC-blocking capacitors; add the specified supply filtering at VDD.

Mechanical Outline

Outline and dimensioned coordinates in mm. Use this drawing as a dimensional reference. Fabrication and wire bonding require complete drawings.

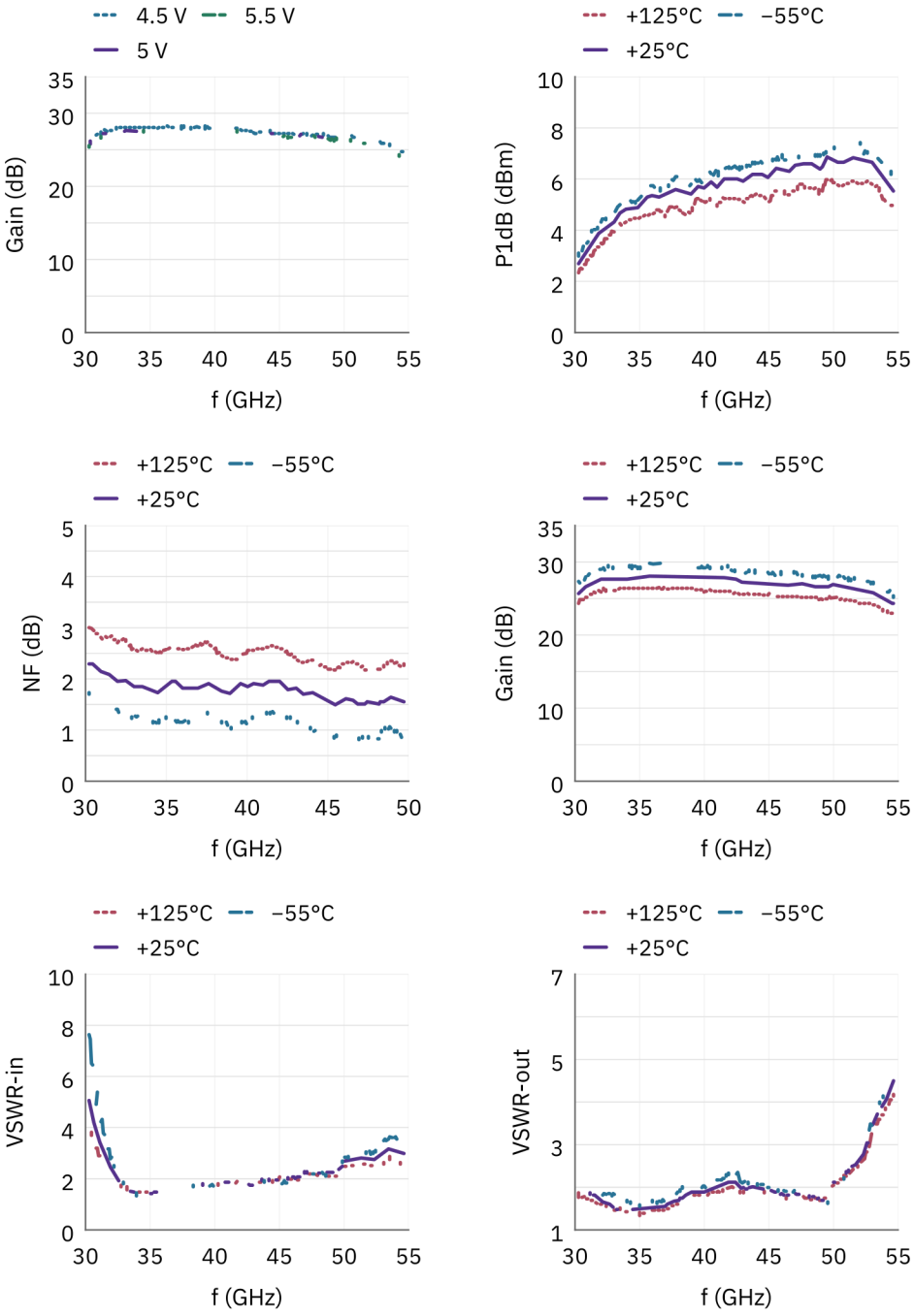


Performance curves

Each performance plot applies to its stated operating conditions.

Small-signal gain; Noise figure; Output power at compression; Input matching; Output matching.

Figure notes: TA=+25°C; Vd=5V; Id=12mA. Readings are approximate. Use the operating conditions in each trace's legend. The first horizontal axis shows frequency. The 4.5/5/5.5 V values identify traces. The voltage node is unspecified.



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.