14000–15000 MHz GaAs MMIC Low-Noise Amplifier Die

LCI-LNA-14000-15000-NF1p1T — 14000–15000 MHz GaAs MMIC Low-Noise Amplifier Die.

Noise figure: 1.1 dB (typical); Small-signal gain: 32 dB (typical); Output 1 dB compression power: 5 dBm (typical). Die dimensions: 1.8 × 1.4 × 0.1 mm.



RF characteristics

TA = +25 °C; Vd = +5 V

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	-	14000	-	15000	MHz
Output 1 dB compression power	-	-	5	-	dBm
Small-signal gain	-	-	32	-	dB
Small-signal gain flatness	-	-	±0.5	-	dB
Noise figure	-	-	1.1	-	dB
Input VSWR	-	-	1.6	2	-
Output VSWR	-	-	1.7	2	-

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating voltage	-	-	5	-	V
Quiescent current	-	-	0.014	-	A

Absolute limits

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum operating voltage	-	-	-	6	V
Maximum input power	-	-	-	18	dBm
Maximum channel temperature	-	-	-	175	°C

Environmental specifications

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Storage temperature	-	-65	-	150	°C

Bond-pad assignments

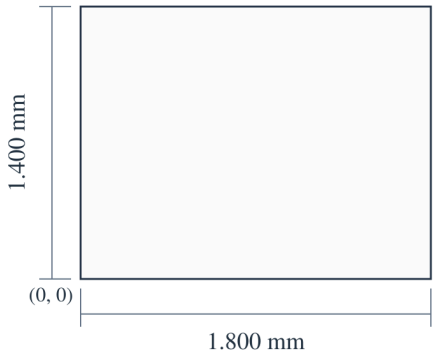
Pins	Symbol	mm
2	RFin	0.150 × 0.100
4	Vd	0.150 × 0.100
6	RFout	0.150 × 0.100
1, 3, 5, 7	GND	0.170 × 0.100

Die dimensions

Parameter	Value	Unit
Die dimensions	1.8 × 1.4 × 0.1	mm

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

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1.800 × 1.400 × 0.100 mm
X, Y: ±0.100 mm
X → · Y ↑ · X, Y: mm

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Die integration and bias sequencing

Input and output DC-blocking capacitors are integrated.

Pad connection notes

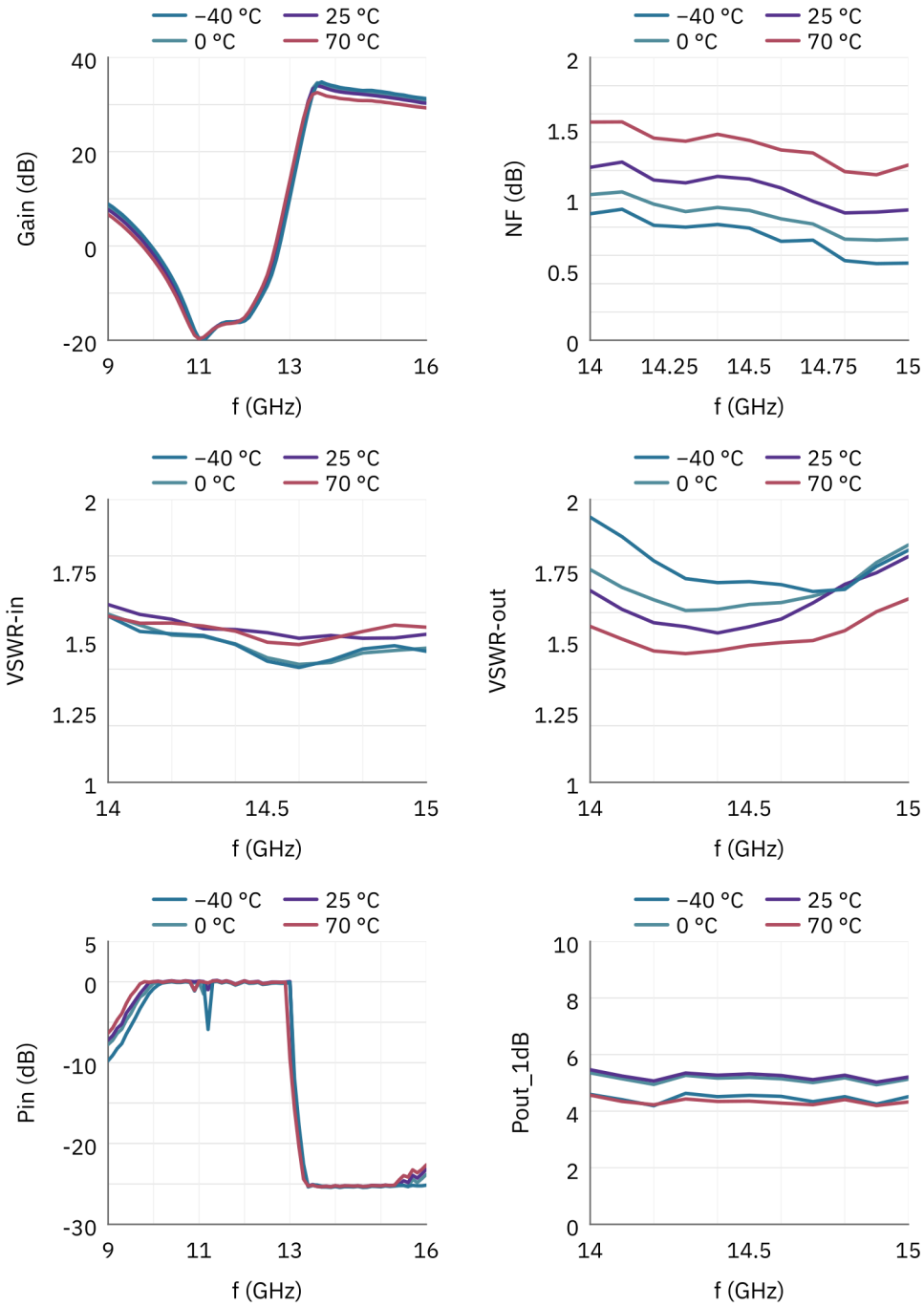
The listed GND pads are test ground pads.

Performance curves

Each performance plot applies to its stated operating conditions.

Series reference curves — Pin (dB); Small-signal gain; Input matching; Output matching; Noise figure; Pout_1dB.

Figure notes: Vd=+5V; Pin=-40dBm. Readings are approximate. VSWR-in and VSWR-out are dimensionless ratios. Pin is shown in dB. No unit is specified for Pout_1dB. Read each trace with the conditions shown in its plot.



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.