17000–22000 MHz GaAs MMIC Low-Noise Amplifier Die

LCI-LNA-17000-22000-NF1p3T — 17000–22000 MHz GaAs MMIC Low-Noise Amplifier Die.

Noise figure: 1.3 dB (typical); Small-signal gain: 26 dB (typical); Output 1 dB compression power: 4 dBm (typical). Die dimensions: 1.5 × 0.75 × 0.07 mm.



RF characteristics

TA = +25 °C; Vd = +5 V

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	-	17000	-	22000	MHz
Small-signal gain	-	-	26	-	dB
Small-signal gain flatness	-	-	±0.5	-	dB
Noise figure	-	-	1.3	-	dB
Output 1 dB compression power	-	-	4	-	dBm
Input VSWR	-	-	1.8	-	-
Output VSWR	-	-	1.6	-	-

DC bias and current

TA = +25 °C; Vd = +5 V

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

Absolute limits

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum operating voltage	-	-	-	8	V
Maximum input power	-	-	-	16	dBm

Environmental specifications

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Storage temperature	-	-65	-	150	°C
Operating temperature	-	-55	-	85	°C

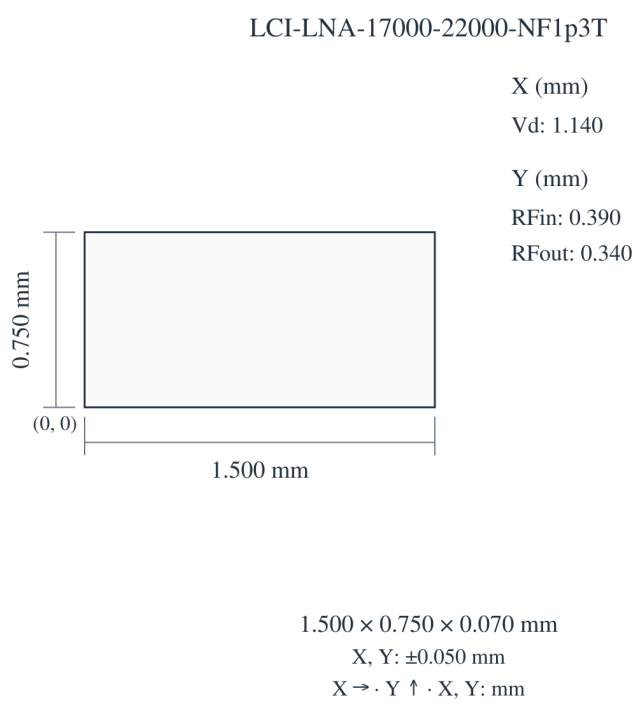
Bond-pad assignments

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

Die dimensions

Parameter	Value	Unit
Die dimensions	1.5 × 0.75 × 0.07	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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Die integration and bias sequencing

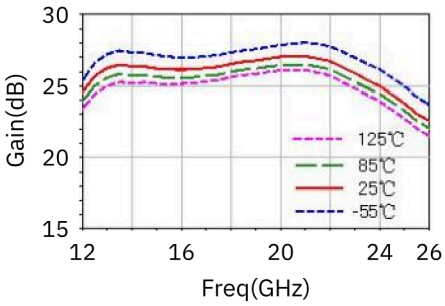
Input and output DC-blocking capacitors are integrated.

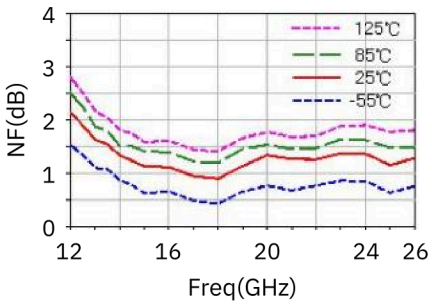
Performance curves

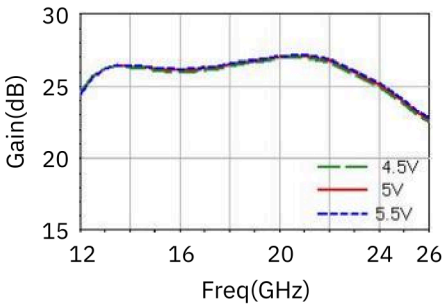
Each performance plot applies to its stated operating conditions.

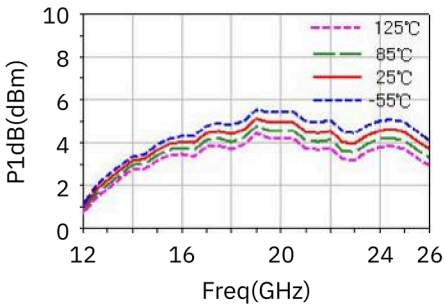
Gain; NF; P1dB; VSWR.

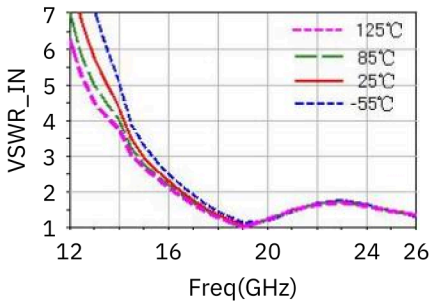
Figure notes: Vd = 5 V; Id = 14 mA; T = +125 / +85 / +25 / −55 °C. (3): f (GHz); Vd = 4.5 / 5 / 5.5 V. Conditions apply to the indicated plots and their own legends. Use the axis labels to identify the plotted quantities.

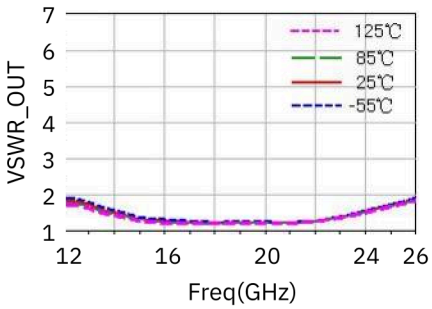












Document notice

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.