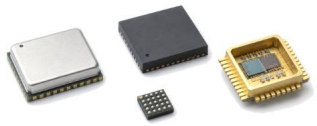
Product catalog

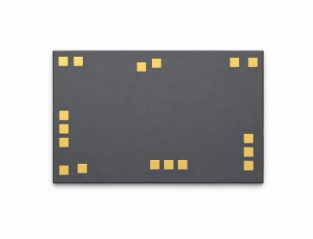
RF Front-End ICs

RF front-end ICs combine antenna-side receive, transmit and switching functions. Compare band topology, cascaded noise, blocker linearity, transmit quality, isolation, control timing, protection and board verification.



Products: 15

Revision: 19 · Revision date: 2026-11-11



LCI-TRPA-5000-13000-PS31T

5000–13000 MHz GaN T/R MMIC Power Amplifier Die

PSAT: 31 dBm (typical); Power gain: 18 dB (typical); PAE: 30 % (typical). Die dimensions: 2.35 × 1.5 × 0.1 mm.

Operating frequency: Symbol: f; Minimum: 5000; Maximum: 13000; Value: 5000–13000; Unit: MHz

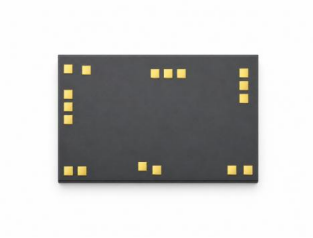
Saturated output power: Symbol: Psat; Typical: 31; Unit: dBm

Power gain: Symbol: Gp; Typical: 18; Unit: dB

Power-gain flatness: Symbol: ΔGp; Maximum: ±1.5; Unit: dB

TA = +25 °C; Vd = +16 V; Vg = -2.8 V

Product details Product datasheet



LCI-TRPA-5000-13000-PS31T-M

5000–13000 MHz GaN T/R MMIC Power Amplifier Die

PSAT: 31 dBm (typical); Power gain: 18 dB (typical); PAE: 30 % (typical). Die dimensions: 2.35 × 1.5 × 0.1 mm.

Operating frequency: Symbol: f; Minimum: 5000; Maximum: 13000; Value: 5000–13000; Unit: MHz

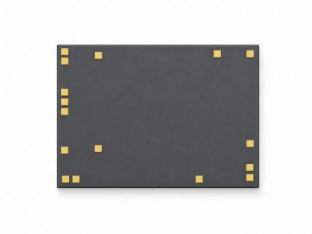
Saturated output power: Symbol: Psat; Typical: 31; Unit: dBm

Power gain: Symbol: Gp; Typical: 18; Unit: dB

Power-gain flatness: Symbol: ΔGp; Maximum: ±1.5; Unit: dB

TA = +25 °C; Vd = +16 V; Vg = -2.8 V

Product details Product datasheet



LCI-TRPA-8000-12000-PS41T

8000–12000 MHz GaN T/R MMIC Power Amplifier Die

PSAT: 41 dBm (typical); Power gain: 25 dB (typical); PAE: 38 % (typical). Die dimensions: 3.2 × 2.3 × 0.1 mm.

Operating frequency: Symbol: f; Minimum: 8000; Maximum: 12000; Value: 8000–12000; Unit: MHz

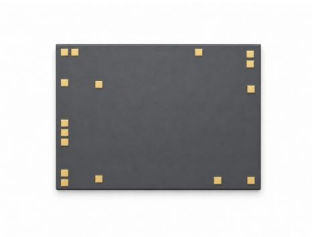
Saturated output power: Symbol: Psat; Typical: 41; Unit: dBm

Power gain: Symbol: Gp; Typical: 25; Unit: dB

Power-gain flatness: Symbol: ΔGp; Maximum: ±0.5; Unit: dB

TA = +25 °C; Vd = +28 V; Vg = -2.6 V

Product details Product datasheet



LCI-TRPA-8000-12000-PS41T-M

8000–12000 MHz GaN T/R MMIC Power Amplifier Die

PSAT: 41 dBm (typical); Power gain: 25 dB (typical); PAE: 38 % (typical). Die dimensions: 3.2 × 2.3 × 0.1 mm.

Operating frequency: Symbol: f; Minimum: 8000; Maximum: 12000; Value: 8000–12000; Unit: MHz

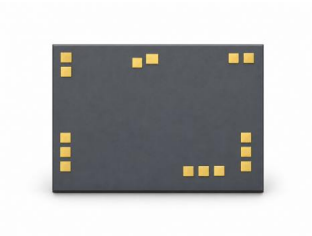
Saturated output power: Symbol: Psat; Typical: 41; Unit: dBm

Power gain: Symbol: Gp; Typical: 25; Unit: dB

Power-gain flatness: Symbol: ΔGp; Maximum: ±0.5; Unit: dB

TA = +25 °C; Vd = +28 V; Vg = -2.6 V

Product details Product datasheet



LCI-TRPA-9000-10000-PS35T

9000–10000 MHz GaN T/R MMIC Power Amplifier Die

PSAT: 35 dBm (typical); Power gain: 21 dB (typical); PAE: 35 % (typical). Die dimensions: 2.1 × 1.5 × 0.1 mm.

Operating frequency: Symbol: f; Minimum: 9000; Maximum: 10000; Value: 9000–10000; Unit: MHz

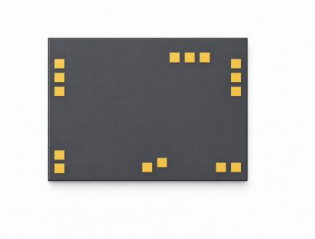
Saturated output power: Symbol: Psat; Typical: 35; Unit: dBm

Power gain: Symbol: Gp; Typical: 21; Unit: dB

Power-gain flatness: Symbol: ΔGp; Maximum: ±0.2; Unit: dB

TA = +25 °C; Vd = +28 V; Vg = -2.6 V

Product details Product datasheet



LCI-TRPA-9000-10000-PS35T-M

9000–10000 MHz GaN T/R MMIC Power Amplifier Die

PSAT: 35 dBm (typical); Power gain: 21 dB (typical); PAE: 35 % (typical). Die dimensions: 2.1 × 1.5 × 0.1 mm.

Operating frequency: Symbol: f; Minimum: 9000; Maximum: 10000; Value: 9000–10000; Unit: MHz

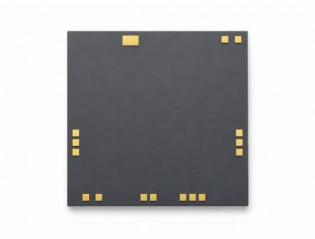
Saturated output power: Symbol: Psat; Typical: 35; Unit: dBm

Power gain: Symbol: Gp; Typical: 21; Unit: dB

Power-gain flatness: Symbol: ΔGp; Maximum: ±0.2; Unit: dB

TA = +25 °C; Vd = +28 V; Vg = -2.6 V

Product details Product datasheet



LCI-TRPA-300-6000-PS39T

300–6000 MHz GaN T/R MMIC Power Amplifier Die

pulsed: PSAT: 38.7 dBm (minimum) / 39 dBm (typical) / 40.5 dBm (maximum); Power gain: 10.7 dB (minimum) / 11 dB (typical) / 12.5 dB (maximum); PAE: 30 % (minimum) / 35 % (typical) / 53 % (maximum). Die dimensions: 3.1 × 3.1 × 0.1 mm.

Operating frequency: Symbol: f; Minimum: 300; Maximum: 6000; Value: 300–6000; Unit: MHz

Saturated output power: Symbol: Psat; Minimum: 38.7; Typical: 39; Maximum: 40.5; Unit: dBm

Power gain: Symbol: Gp; Minimum: 10.7; Typical: 11; Maximum: 12.5; Unit: dB

Power-gain flatness: Symbol: ΔGp; Typical: ±0.9; Unit: dB

TA = +25 °C; Vd = +28 V; Vg = -2.6 V; pulsed

Product details Product datasheet



LCI-APC-8000-12000-D-G7p5MIN

8000–12000 MHz GaAs MMIC Amplitude and Phase Control RF Front-End Die

Phase step: 5.625 °; Attenuation range: 0–31.5 dB; Output 1 dB compression power: 11 dBm (minimum) / 13 dBm (typical). Die dimensions: 3.8 × 4.7 × 0.1 mm.

Operating frequency: Minimum: 8000; Maximum: 12000; Value: 8000–12000; Unit: MHz

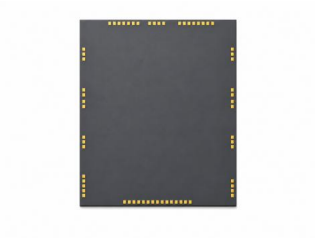
Small-signal gain: Minimum: 7.5; Maximum: 10; Value: TX / RX; Unit: dB

Isolation: Minimum: 35; Unit: dB

Attenuation range: Value: 0–31.5; Unit: dB

TA = +25 °C; f(Typ) = 10000 MHz; f(Min/Max) = 8000–12000 MHz

Product details Product datasheet



LCI-BF-14000-18000-4CH

14000–18000 MHz Four-Channel SiGe T/R Beamformer Die

Phase step: 5.625 °; Attenuation range: 0–31.5 dB; Switching time: 100 ns (maximum). Plan-view die dimensions: 5 × 6.2 mm.

Operating frequency: Minimum: 14000; Maximum: 18000; Value: 14000–18000; Unit: MHz

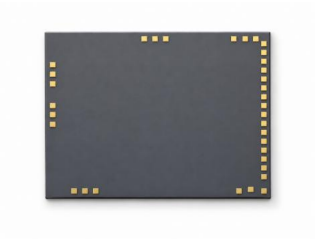
Input/output VSWR: Typical: 1.8

RMS phase error: Maximum: 3; Unit: °

RMS attenuation error: Maximum: 0.3; Unit: dB

TA = +25 °C

Product details Product datasheet



LCI-APC-7000-13000

7000–13000 MHz GaAs MMIC Amplitude and Phase Control RF Front-End Die

Phase step: 5.625 ° (typical); Attenuation range: 0.5 dB (minimum) / 31.5 dB (maximum); Small-signal gain: 12 dB (typical) (RX). Die dimensions: 4.55 × 3.54 × 0.1 mm.

Operating frequency: Minimum: 7000; Maximum: 13000; Value: 7000–13000; Unit: MHz

Small-signal gain: Typical: 12; Value: RX; Unit: dB

Output 1 dB compression power: Typical: 11; Value: RX; Unit: dBm

Saturated output power: Typical: 24; Value: TX; Unit: dBm

TA = +25 °C

Product details Product datasheet



LCI-BF-8000-12000-2CH

8000–12000 MHz Dual-Channel Si T/R Beamformer Die

Phase step: 5.625 ° (typical); Attenuation step: 0.5 dB (typical). Die dimensions: 3.6 × 2.7 × 0.15 mm.

Operating frequency: Minimum: 8000; Maximum: 12000; Value: 8000–12000; Unit: MHz

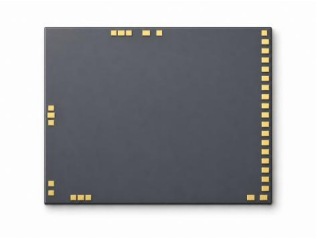
Phase-control resolution: Value: 6; Unit: bit

Attenuation-control resolution: Value: 6; Unit: bit

Phase shift range: Minimum: 0; Maximum: 360; Unit: °

CLK = 50 MHz; RFVDD = AVDD = DVDD = 3.3 V; TA = +27 °C

Product details Product datasheet



LCI-APC-5000-6000

5000–6000 MHz GaAs MMIC Amplitude and Phase Control RF Front-End Die — Rx 13 dB / Tx 27 dB (typical)

5000–6000 MHz; Rx 13 dB / Tx 27 dB (typical); Rx P1dB ≥ 10 dBm; Tx PSAT ≥ 23 dBm.

Operating frequency: Symbol: f; Minimum: 5000; Maximum: 6000; Value: 5000–6000; Unit: MHz

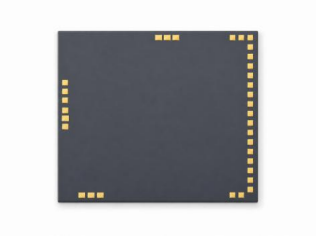
Phase shift range: Minimum: 5.625; Maximum: 354.375; Unit: °

Attenuation range: Minimum: 0.5; Maximum: 31.5; Unit: dB

Small-signal gain (Rx): Typical: 13; Unit: dB

TA = +25 °C; VS = -5 V; Vd1 = Vd2 = +5 V

Product details Product datasheet



LCI-APC-8000-12000-D-RXG10T

8000–12000 MHz GaAs MMIC Amplitude and Phase Control RF Front-End Die — Rx 10 dB / Tx 26 dB (typical)

8000–12000 MHz; Rx 10 dB / Tx 26 dB (typical); Rx P1dB ≥ 13.5 dBm; Tx PSAT ≥ 25 dBm.

Operating frequency: Symbol: f; Minimum: 8000; Maximum: 12000; Value: 8000–12000; Unit: MHz

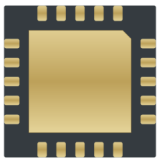
Phase shift range: Minimum: 5.625; Maximum: 354.375; Unit: °

Attenuation range: Minimum: 0.5; Maximum: 31.5; Unit: dB

Small-signal gain (Rx): Typical: 10; Unit: dB

TA = +25 °C; VS = -5 V; Vd1 = Vd2 = +5 V

Product details Product datasheet



LCI-BDA-8000-18000-RXP1DB23T

8000–18000 MHz Bidirectional RF Front-End IC — RX / TX P1dB 23 dBm (typical)

8000–18000 MHz; Small-signal gain (Rx) 20 dB (typical); Small-signal gain (Tx) 20 dB (typical); Output 1 dB compression power (Rx) 23 dBm (typical); Output 1 dB compression power (Tx) 23 dBm (typical).

Operating frequency: Symbol: f; Minimum: 8000; Maximum: 18000; Value: 8000–18000; Unit: MHz

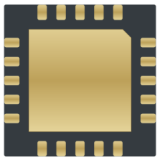
Small-signal gain (Rx): Symbol: Gain; Typical: 20; Unit: dB; Notes: RX

Small-signal gain (Tx): Symbol: Gain; Typical: 20; Unit: dB; Notes: TX

Output 1 dB compression power (Rx): Symbol: P_1; Typical: 23; Unit: dBm; Notes: RX

TA = +25 °C; VD = +5 V; Pin = -20 dBm

Product details Product datasheet



LCI-BDA-6000-18000-RXP1DB20T

6000–18000 MHz Bidirectional RF Front-End IC — RX / TX P1dB 20 dBm (typical)

6000–18000 MHz; Small-signal gain (Rx) 18 dB (typical); Small-signal gain (Tx) 18 dB (typical); Output 1 dB compression power (Rx) 20 dBm (typical); Output 1 dB compression power (Tx) 20 dBm (typical).

Operating frequency: Symbol: f; Minimum: 6000; Maximum: 18000; Value: 6000–18000; Unit: MHz

Small-signal gain (Rx): Symbol: Gain; Typical: 18; Unit: dB; Notes: RX

Small-signal gain (Tx): Symbol: Gain; Typical: 18; Unit: dB; Notes: TX

Output 1 dB compression power (Rx): Symbol: P_1; Typical: 20; Unit: dBm; Notes: RX

TA = +25 °C; VD = +5 V; Pin = -20 dBm

Product details Product datasheet

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.