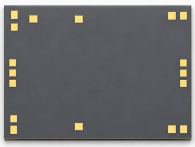
13000–15000 MHz GaN MMIC Power Amplifier Die

LCI-PA-13000-15000-PS42T is a GaN MMIC power amplifier supplied as bare die for 13000–15000 MHz. It supports CW and pulsed operation.

pulsed: PSAT: 42 dBm (typical); Power gain: 21 dB (typical); PAE: 35 % (minimum) / 37 % (typical). Die dimensions: 2.8 × 2 × 0.1 mm.



RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -3.05 V; pulsed

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	13000	-	15000	MHz
Saturated output power	Psat	-	42	-	dBm
Power gain	Gp	-	21	-	dB
Power-gain flatness	ΔGp	-	±0.35	-	dB
Power-added efficiency	PAE	35	37	-	%
Input VSWR	VSWR(in)	-	1.8	-	-

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	Vd	24	28	32	V
Gate voltage	Vg	-5	-3.05	-2.6	V
Quiescent drain current	Id	-	0.11	-	A
Dynamic drain current	Idd	-	1.7	-	A
Dynamic gate current	Igg	-	0.5	-	mA

Absolute limits

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	Vd	-	-	32	V
Minimum gate bias	Vg	-5	-	-	V
Maximum input power	Pin	-	-	24	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	225	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	2.8 × 2 × 0.1	mm

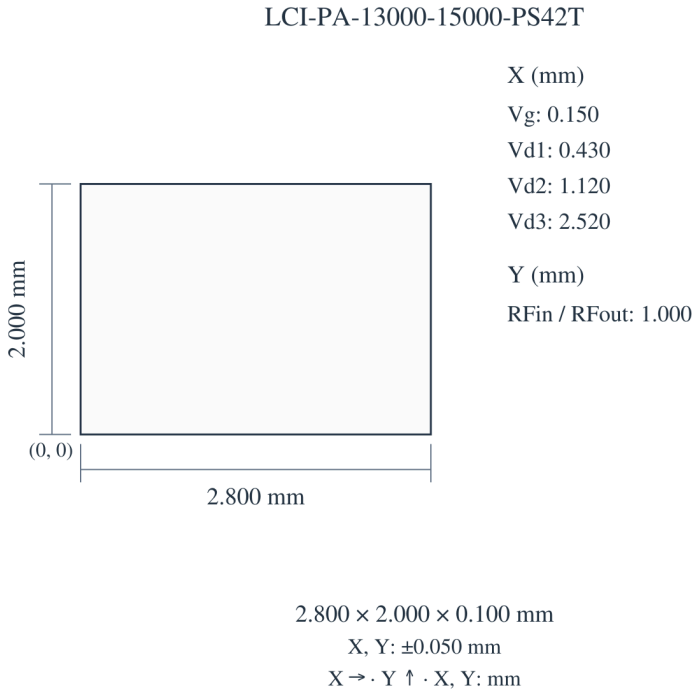
Current publication record · 1.7 · 2026-11-12. Product description or editorial content updated. Replaces revision 1.6.

Die integration and bias sequencing

Integrated DC blocking: RFin / RFout. DC path to ground: RFin → GND. Separate characterization: Vd = +28 V; Vg = -3.05 V; CW; Pin = 21 dBm. Apply gate bias before drain bias. Remove drain bias before gate bias. Two-sided bias feed is recommended.

Mechanical Outline

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

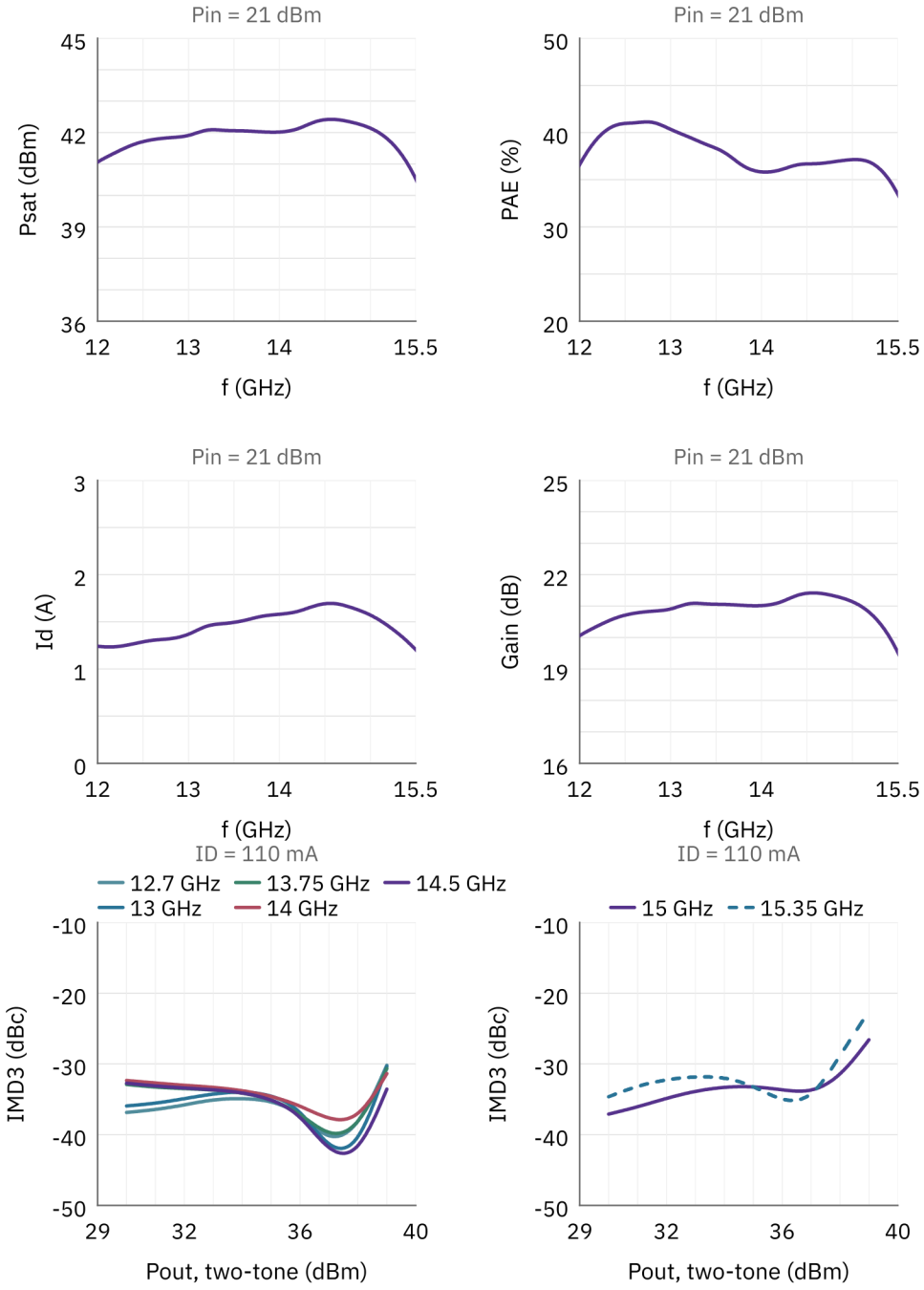


Performance curves

Each performance plot applies to its stated operating conditions.

Saturated output power; Power-added efficiency; Dynamic drain current; Power gain; IMD3.

Figure notes: Vd=+28V; Vg=-3.05V. Readings are approximate. Psat/PAE/Id/Gain: Pin = 21 dBm. IMD3: Id = 110 mA.



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.