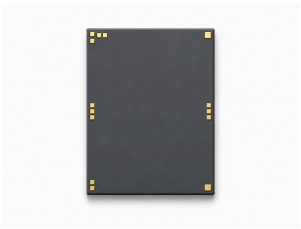
2000–6000 MHz GaN MMIC Power Amplifier Die

LCI-PA-2000-6000-PS45p5T is a GaN MMIC power amplifier supplied as bare die for 2000–6000 MHz. It supports CW operation.



The RF table specifies: PSAT 45.5 dBm (typical); Power gain 20.5 dB (typical); PAE 35% (typical). RF test conditions: TA = +25 °C; Vd = +24 V; Vg = -2.4 V; Pin = 25 dBm; CW.

Die dimensions: 3.85 × 5 mm. Thickness is not specified.

RF characteristics

TA = +25 °C; Vd = +24 V; Vg = -2.4 V; Pin = 25 dBm; CW

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	2000	-	6000	MHz
Saturated output power	Psat	45	45.5	-	dBm
Power gain	Gp	20	20.5	-	dB
Power-gain flatness	ΔGp	-	-	1.5	dB
Power-added efficiency	PAE	30	35	-	%
Small-signal gain	S21	28.5	30	31.5	dB
Small-signal gain flatness	ΔS21	-	-	±1.5	dB
Input VSWR	VSWR(in)	-	1.8	2	-

DC bias and current

Parameter	Symbol	Minimum	Typical	Maximum	Value	Unit
Drain voltage	Vd	-	24	-	-	V
Gate voltage	Vg	-	-2.4	-	-	V
Quiescent drain current	Id	-	-	-	2.3 (Vd = +24 V; CW)	A

Absolute limits

Absolute limits; these are not normal operating targets.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	Vd	-	-	32	V
Minimum gate bias	Vg	-5	-	-	V
Maximum input power	Pin	-	-	29	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	200	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	3.85 × 5	mm
Plan-view outline tolerance	±100 (Plan-view outline only; the source does not specify thickness tolerance.)	µm

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

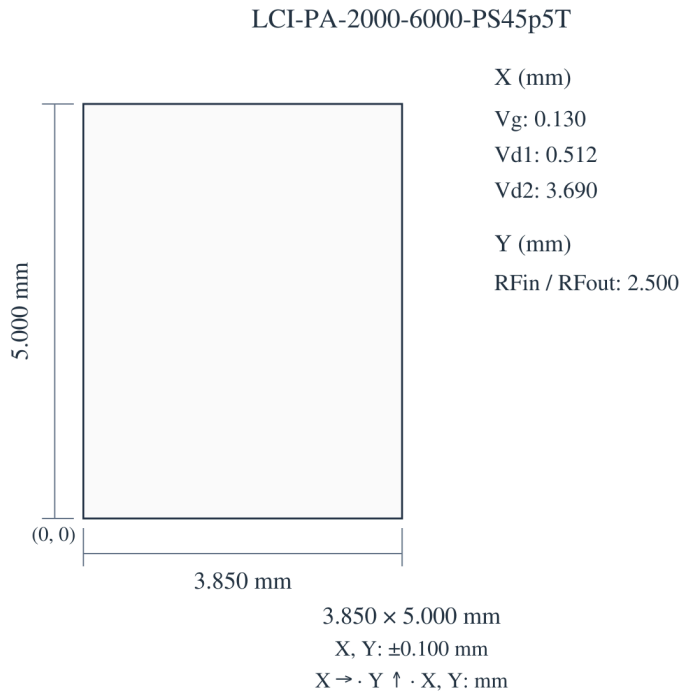
Die integration and bias sequencing

Integrated DC blocking: RFin / RFout. DC path to ground: RFin → GND. Separate characterization: Vd = +28 V; Vg = -2.4 V; Pin = 25 dBm; CW. Apply gate bias before drain bias. Remove drain bias before gate bias. Outline and dimensioned coordinates in mm. Use this drawing as a dimensional reference. Fabrication and wire bonding require complete drawings.

Bond-pad dimensions

RFin: 100 × 100 µm. Vg: 120 × 120 µm. Vd1: 120 × 120 µm. Vd2: 180 × 150 µm. RFout: 110 × 120 µm.

Mechanical Outline

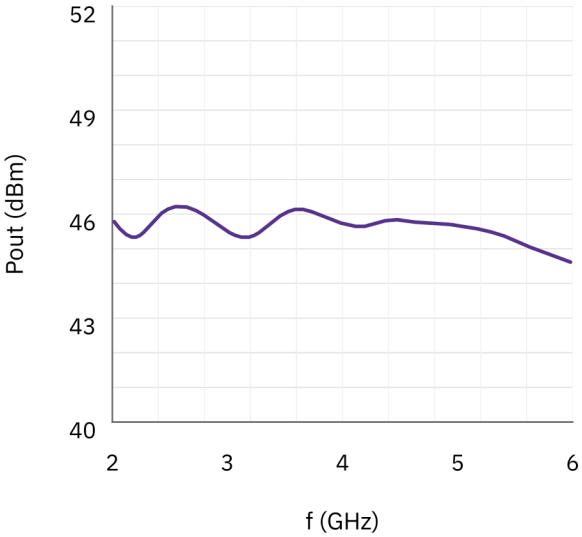


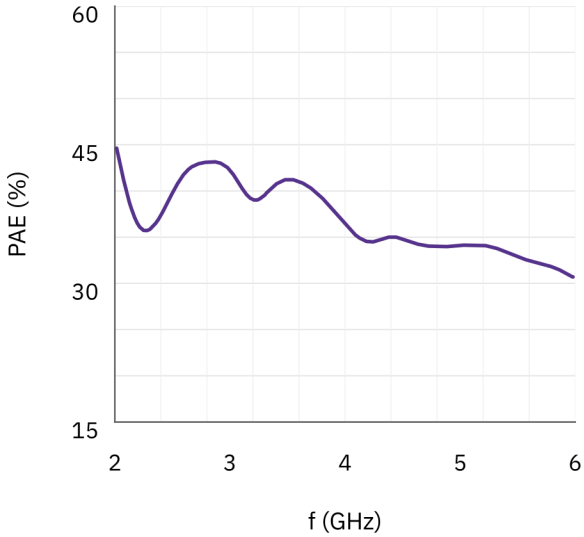
Performance curves

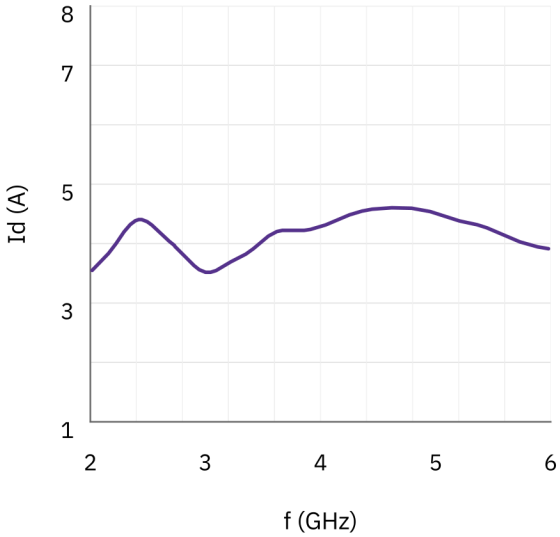
Read each figure with its stated operating conditions.

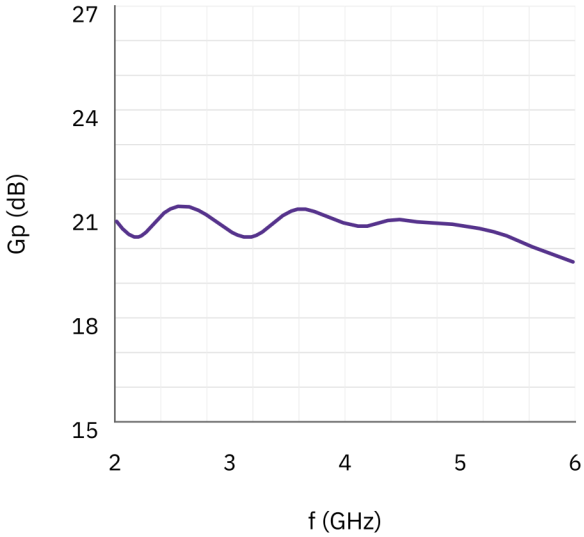
Continuous wave (CW) — Saturated output power; Dynamic drain current; Power-added efficiency; Power gain.

Figure notes: TA=+25°C; Vd=+24V; Vg=-2.4V; Pin=25dBm. Readings are approximate.



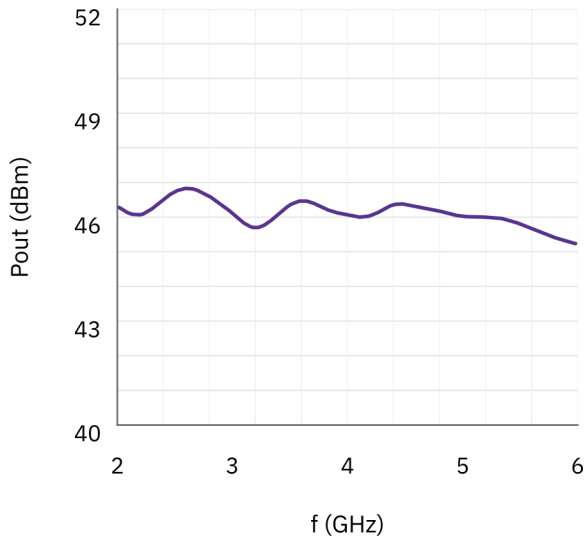


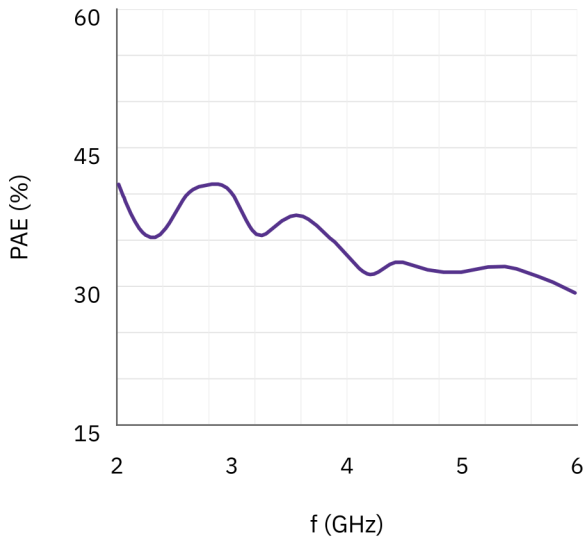


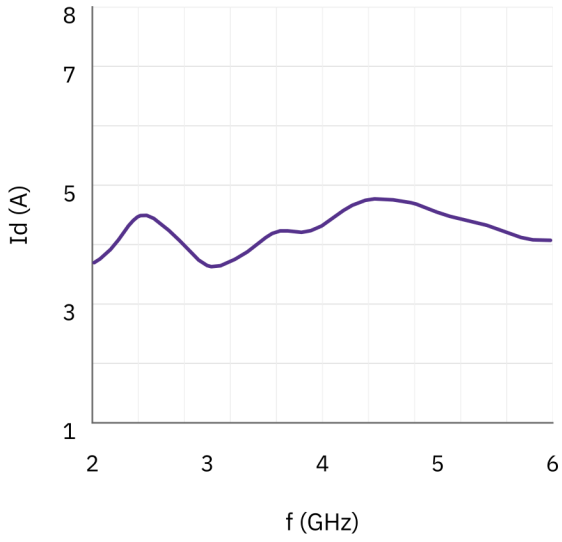


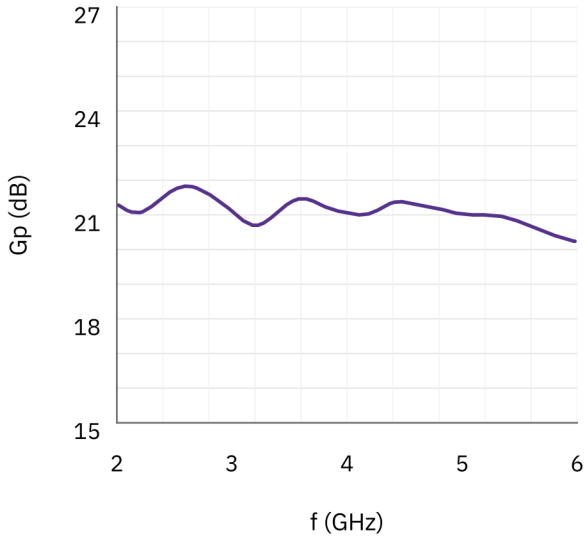
Continuous wave (CW) — Saturated output power; Dynamic drain current; Power-added efficiency; Power gain.

Figure notes: TA=+25°C; Vd=+28V; Vg=-2.4V; Pin=25dBm. Readings are approximate.









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.