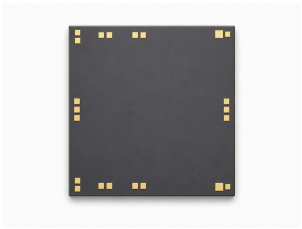
3700–5000 MHz GaN MMIC Power Amplifier Die

LCI-PA-3700-5000-PS45p2T is a GaN MMIC power amplifier supplied as bare die for 3700–5000 MHz. It supports CW and pulsed operation.



The RF table specifies: PSAT 45.2 dBm (typical); Power gain 27 dB (typical); PAE 48% (typical). RF test conditions: TA = +25 °C; Vd = +28 V; Vg = -2.8 V; Pin = 18 dBm; τ = 100 µs; D = 10%.

Die dimensions: 3.36 × 3.58 mm. Thickness is not specified.

RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -2.8 V; Pin = 18 dBm; τ = 100 µs; D = 10%

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	3700	-	5000	MHz
Saturated output power	Psat	45	45.2	-	dBm
Power gain	Gp	26.8	27	-	dB
Power-gain flatness	ΔGp	-	-	0.5	dB
Power-added efficiency	PAE	46	48	-	%
Small-signal gain	S21	36	37	37.6	dB
Small-signal gain flatness	ΔS21	-	-	±0.8	dB
Input VSWR	VSWR(in)	-	1.8	2	-

DC bias and current

Parameter	Symbol	Minimum	Typical	Maximum	Value	Unit
Drain voltage	Vd	-	28	-	-	V
Gate voltage	Vg	-	-2.8	-	-	V
Quiescent drain current	Id	-	-	-	0.6 (Vd = +28 V; Adjustable bias point.)	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	-	-	20	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	200	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	3.36 × 3.58	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.

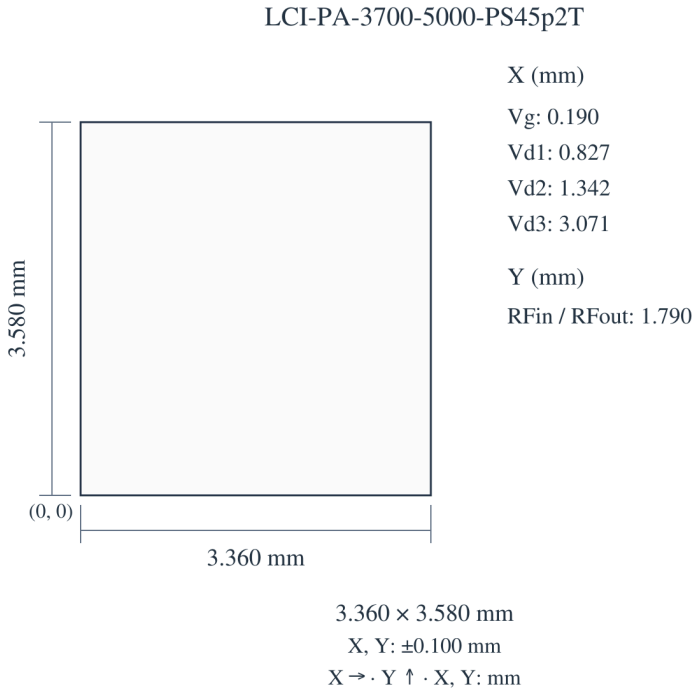
Die integration and bias sequencing

Integrated DC blocking: RFin / RFout. DC path to ground: RFin / RFout → GND. Internally connected gate pads: Vg ↔ Vg. Optional drain capacitors for third-order intermodulation: C4 = 12 nF; C5 = 82 nF. Separate characterization: Vd = +28 V; Vg = -2.87 V; Idq = 400 mA; 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: 100 × 100 µm. Vd1: 120 × 120 µm. Vd2: 120 × 120 µm. Vd3: 160 × 150 µm. RFout: 110 × 120 µm.

Mechanical Outline

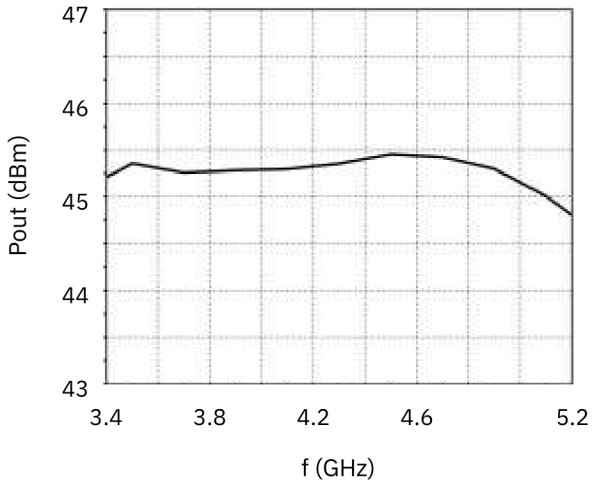


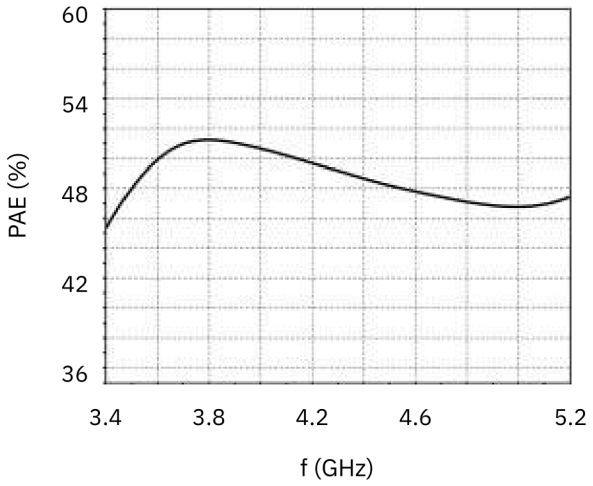
Performance curves

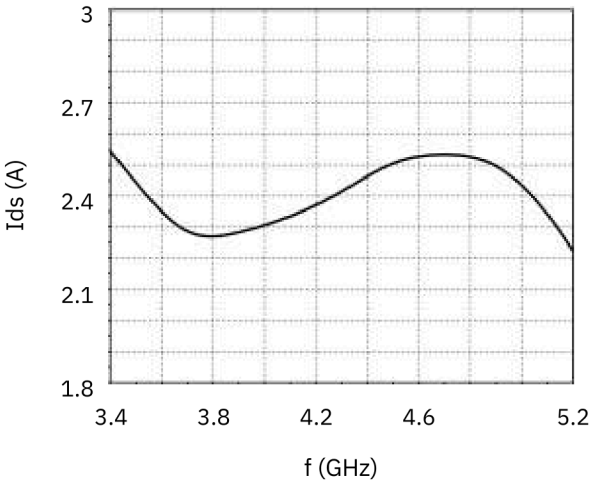
Read each figure with its stated operating conditions.

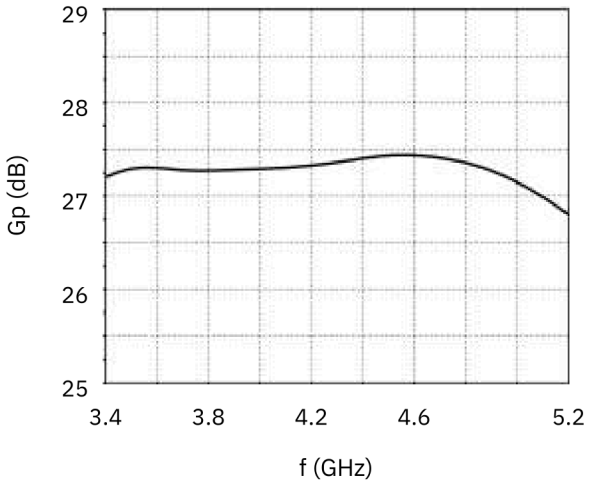
Pulsed — Saturated output power; Dynamic drain current; Power-added efficiency; Power gain.

Figure notes: TA=+25°C; Vd=+28V; Vg=-2.8V; Pin=18dBm. τ = 100 µs; D = 10%. Conditions apply to the indicated plots and their own legends.



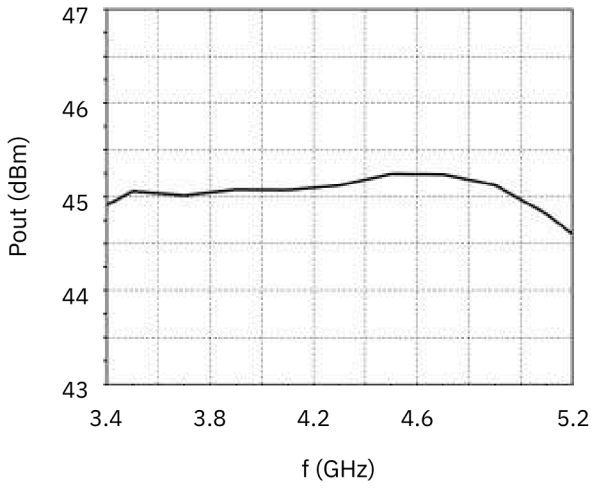


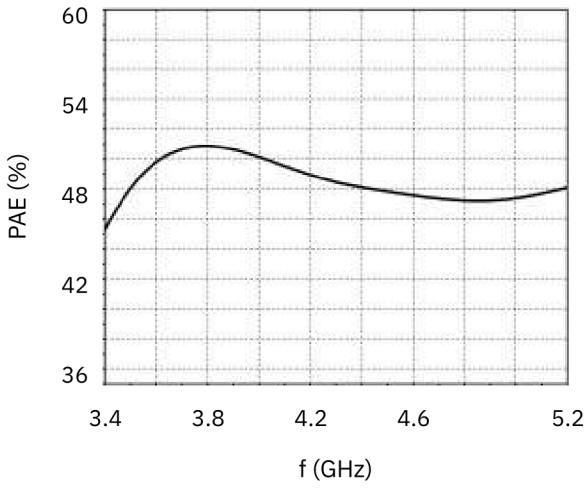


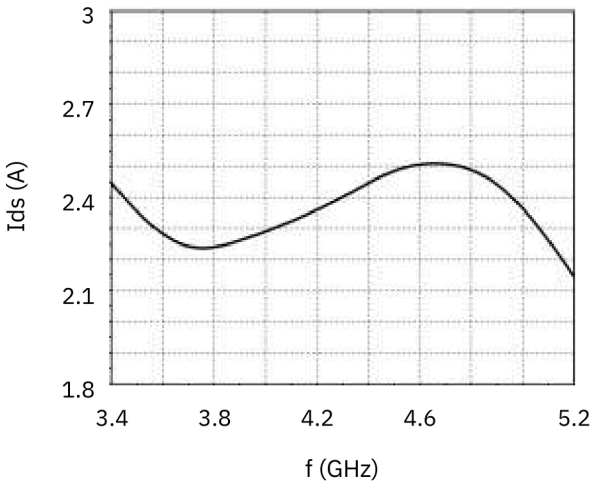


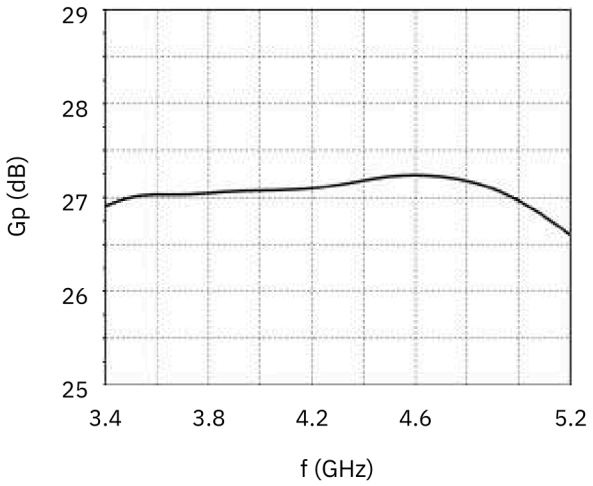
Continuous wave (CW) — Saturated output power; Dynamic drain current; Power-added efficiency; Power gain.

Figure notes: TA=+25°C; Vd=+28V; Vg=-2.8V; Pin=18dBm.









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.