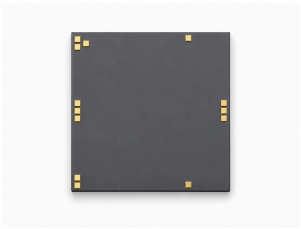
2000–8000 MHz GaN MMIC Power Amplifier Die

LCI-PA-2000-8000-PS42T is a GaN MMIC power amplifier supplied as bare die for 2000–8000 MHz. It supports CW and pulsed operation.

The RF table specifies: PSAT 42 dBm (typical); Power gain 15 dB (typical); PAE 30% (typical). RF test conditions: TA = +25 °C; Vd = +28 V; Vg = -2.2 V.

Die dimensions: 3.4 × 3.5 × 0.1 mm.



RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -2.2 V

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	2000	-	8000	MHz
Saturated output power	Psat	41	42	-	dBm
Power gain	Gp	14	15	-	dB
Power-gain flatness	ΔGp	-	-	±1.5	dB
Power-added efficiency	PAE	-	30	-	%
Small-signal gain	S21	-	22	-	dB
Small-signal gain flatness	ΔS21	-	-	±3	dB
Input VSWR	VSWR(in)	-	2	3	-

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	Vd	-	28	32	V
Gate voltage	Vg	-3	-2.2	-1.8	V
Quiescent drain current	Id	-	2	-	A
Dynamic drain current	Idd	-	2.6	2.9	A
Dynamic gate current	Igg	-	3	10	mA

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	-	-	30	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	225	°C

Die dimensions

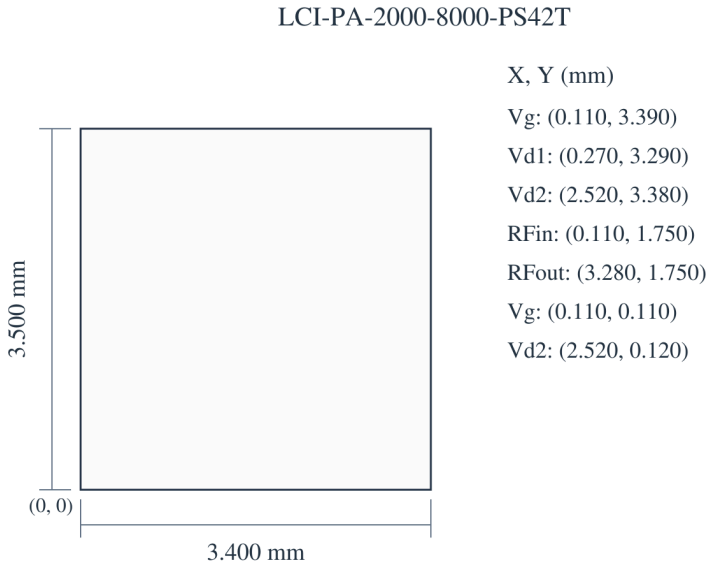
Parameter	Value	Unit
Die dimensions	3.4 × 3.5 × 0.1	mm
Plan-view outline tolerance	±100 (Plan-view outline only; the source does not specify thickness tolerance.)	µm

Current publication record · 1.6 · 2026-11-12. Product description or editorial content updated. Replaces revision 1.5.

Die integration and bias sequencing

Integrated DC blocking: RFin / RFout. DC path to ground: RFout → GND. 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.

Mechanical Outline



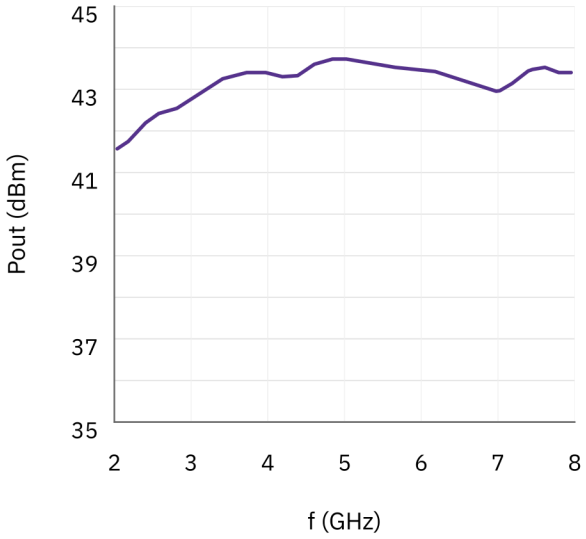
3.400 × 3.500 × 0.100 mm
X, Y: ±0.100 mm
X → · Y ↑ · X, Y: mm

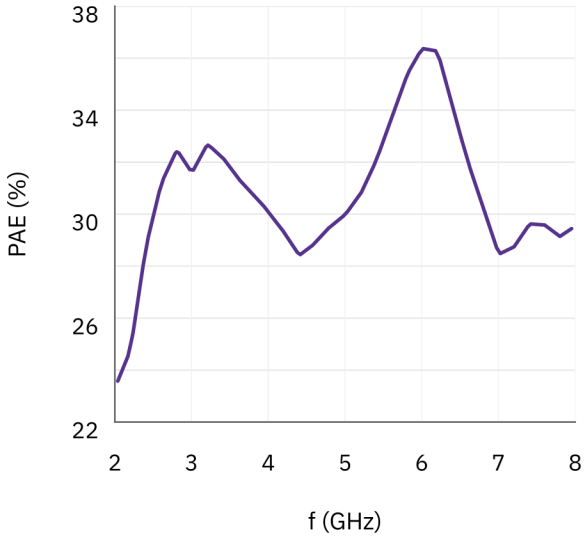
Performance curves

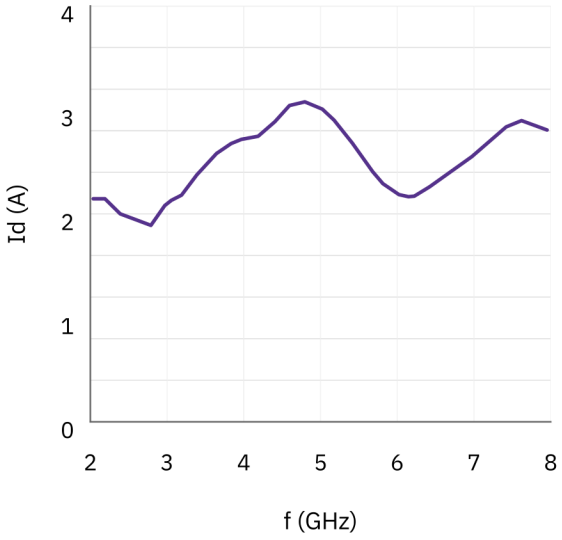
Read each figure with its stated operating conditions.

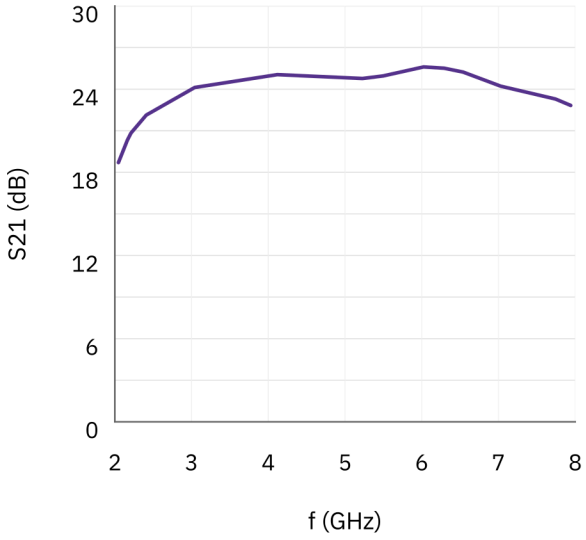
Continuous wave (CW) — Saturated output power; Power-added efficiency; Dynamic drain current; Gain.

Figure notes: Vd=+28V; Vg=-2.2V. Readings are approximate. Pout / PAE / Id: Pin = 27 dBm; S21: Pin = −10 dBm.









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.