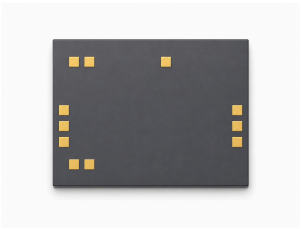
4000–8000 MHz GaN MMIC Power Amplifier Die

LCI-PA-4000-8000-PS37T is a GaN MMIC power amplifier supplied as bare die for 4000–8000 MHz. It supports CW and pulsed operation.

The RF table specifies: PSAT 37 dBm (typical); Power gain 20 dB (typical); PAE 35% (typical). RF test conditions: TA = +25 °C; Vd = +28 V; Vg = -2.4 V.

Die dimensions: 2 × 1.6 × 0.1 mm.



RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -2.4 V

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	4000	-	8000	MHz
Saturated output power	Psat	36.5	37	-	dBm
Power gain	Gp	19.5	20	-	dB
Power-gain flatness	ΔGp	-	-	±0.5	dB
Power-added efficiency	PAE	-	35	-	%
Small-signal gain	S21	-	27	30	dB
Small-signal gain flatness	ΔS21	-	-	±2	dB
Input VSWR	VSWR(in)	-	1.6	2	-

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	Vd	-	28	32	V
Gate voltage	Vg	-3.4	-2.4	-2.2	V
Quiescent drain current	Id	-	0.3	-	A
Dynamic drain current	Idd	-	0.5	0.55	A
Dynamic gate current	Igg	-	0.2	1	mA

Absolute limits

Absolute limits; these are not normal operating targets.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	Vd	-	-	36	V
Minimum gate bias	Vg	-5	-	-	V
Maximum input power	Pin	-	-	22	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	225	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	2 × 1.6 × 0.1	mm
Plan-view outline tolerance	±100 (Plan-view outline only; the source does not specify thickness tolerance.)	µm

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Die integration and bias sequencing

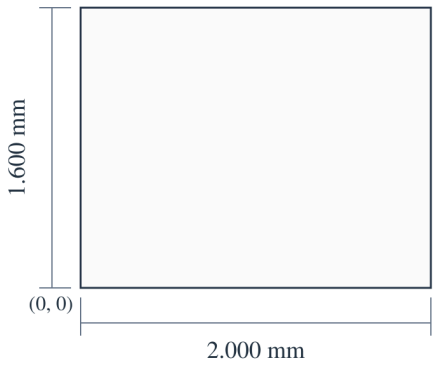
Integrated DC blocking: RFin / RFout. Apply gate bias before drain bias. Remove drain bias before gate bias. Outline and dimensioned coordinates in mm. Use this drawing as a dimensional reference. Fabrication and wire bonding require complete drawings.

Bond-pad dimensions

RFin: 100 × 100 µm. Vg: 100 × 100 µm. Vd1: 100 × 100 µm. Vd2: 100 × 100 µm. RFout: 100 × 100 µm.

Mechanical Outline

LCI-PA-4000-8000-PS37T



X, Y (mm)
Vd1: (0.360, 1.300)
Vd2: (1.150, 1.300)
RFin: (0.110, 0.620)
RFout: (1.900, 0.620)
Vg: (0.330, 0.220)

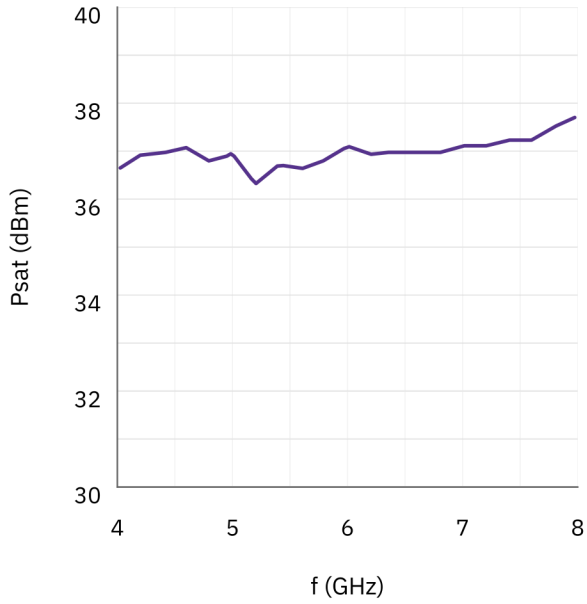
2.000 × 1.600 × 0.100 mm
X, Y: ±0.100 mm
X → · Y ↑ · X, Y: mm

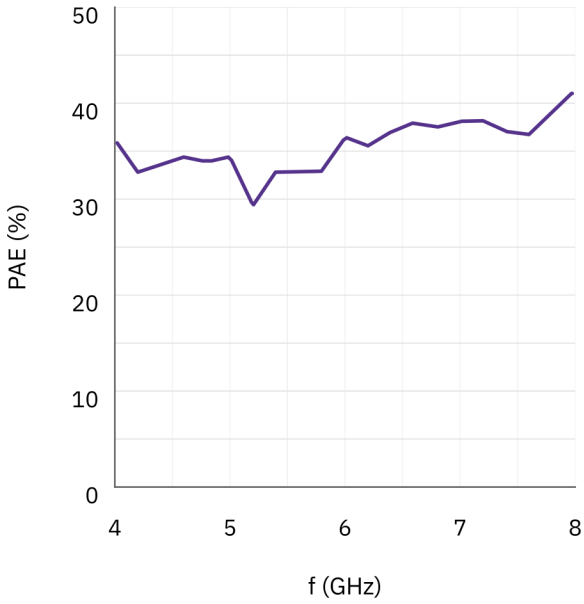
Performance curves

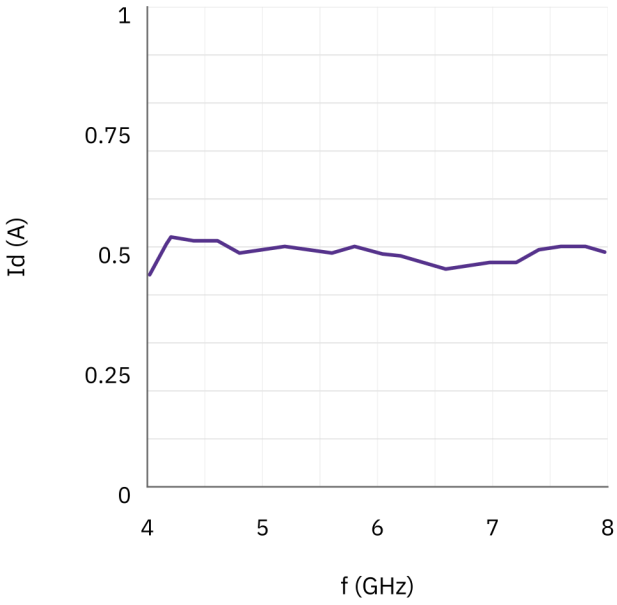
Read each figure with its stated operating conditions.

Saturated output power; Power-added efficiency; Drain current.

Figure notes: Vd=+28V; Vg=-2.4V. 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.