2000–18000 MHz GaN MMIC Power Amplifier Die

LCI-PA-2000-18000-PS40T is a GaN MMIC power amplifier supplied as bare die for 2000–18000 MHz. It supports CW operation.

The RF table specifies: PSAT 40 dBm (typical); Power gain 12 dB (typical); PAE 20% (typical). RF test conditions: TA = +25 °C; Vd = +28 V; Vg = -1.8 V.

Die dimensions: 5 × 3.3 × 0.08 mm.



RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -1.8 V

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	2000	-	18000	MHz
Saturated output power	Psat	-	40	-	dBm
Power gain	Gp	-	12	-	dB
Power-gain flatness	ΔGp	-	-	±1.5	dB
Power-added efficiency	PAE	-	20	-	%
Input VSWR	VSWR(in)	-	-	2	-

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	Vd	-	28	-	V
Gate voltage	Vg	-3	-1.8	-1.6	V
Quiescent drain current	Id	-	1.6	-	A
Dynamic drain current	Idd	-	2	-	A
Dynamic gate current	Igg	-	-	5	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 [1]	Pin	-	-	32	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	200	°C

[1] CW

Die dimensions

Parameter	Value	Unit
Die dimensions	5 × 3.3 × 0.08	mm
Plan-view outline tolerance	±50 (Plan-view outline only; the source does not specify thickness tolerance.)	µm

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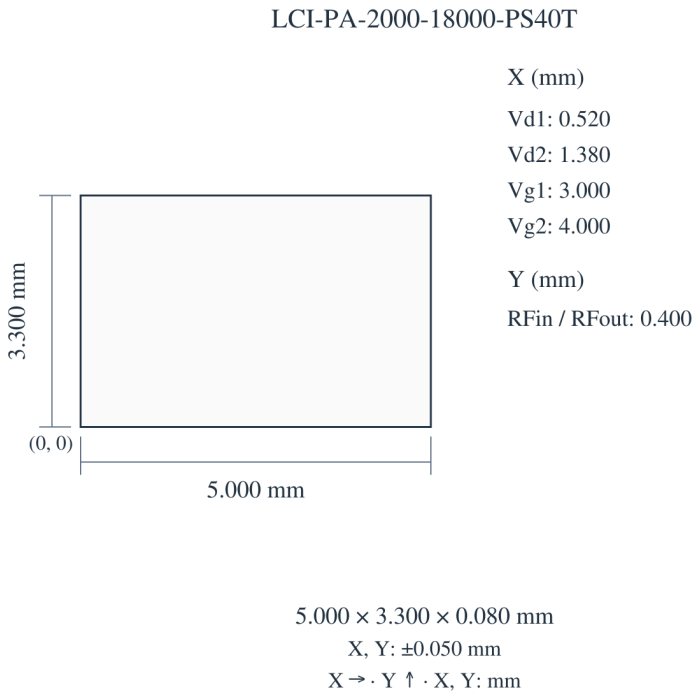
Die integration and bias sequencing

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

Bond-pad dimensions

RFin: 110 × 110 µm. Vg1: 130 × 110 µm. Vg2: 130 × 110 µm. RFout: 120 × 110 µm. Vd2: 190 × 110 µm. Vd1: 140 × 110 µm.

Mechanical Outline

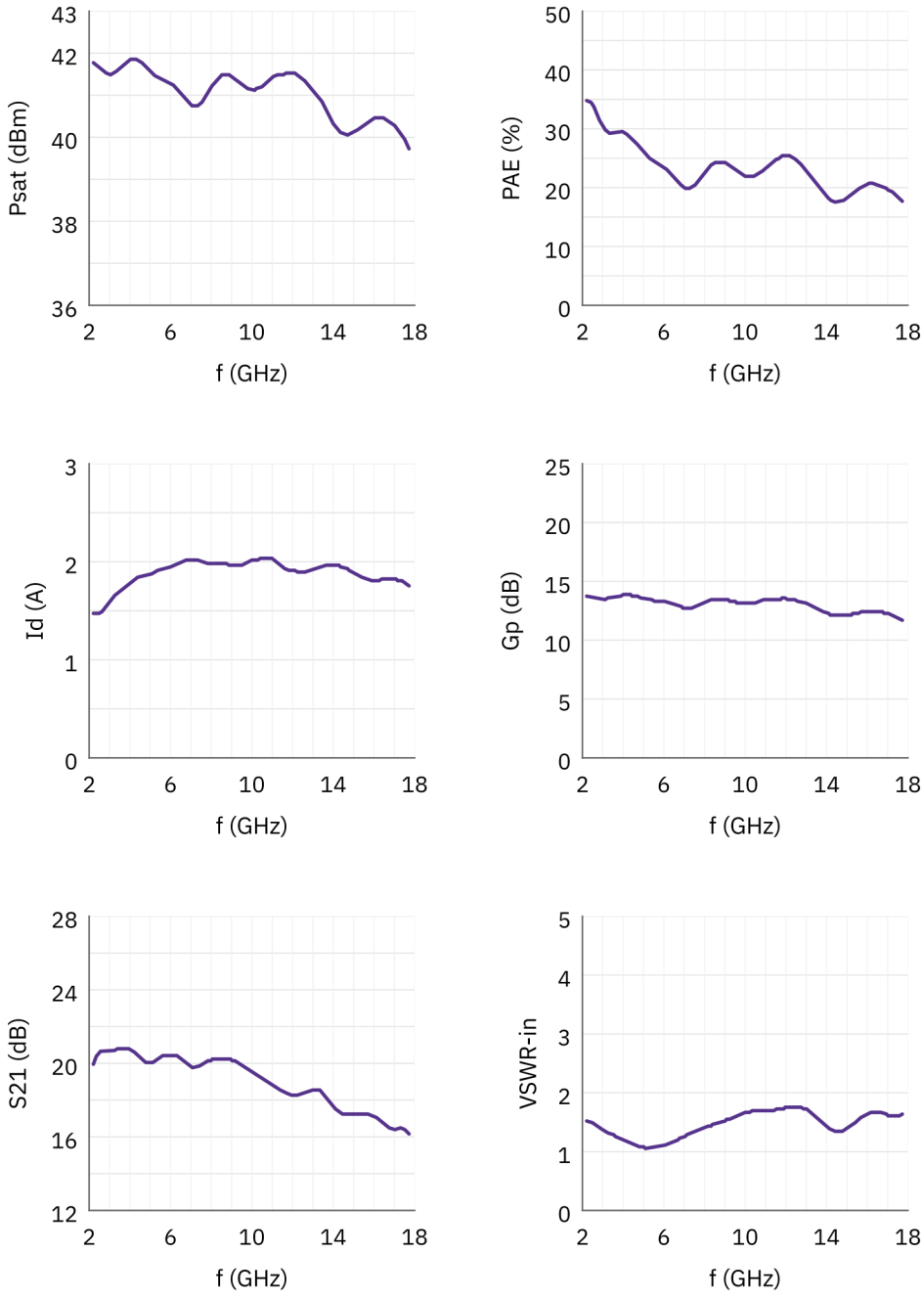


Performance curves

Read each figure with its stated operating conditions.

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

Figure notes: TA = +25°C; Vd=+28V; Vg=-1.8V. Readings are approximate. Pout / PAE / Gp / Id: Pin = 28 dBm. No separate input-power condition is stated for the input-matching or small-signal-gain plots.



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.