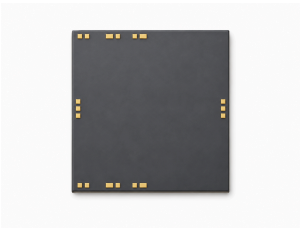
2000–18500 MHz GaN MMIC Power Amplifier Die

LCI-PA-2000-18500-PS43T is a GaN MMIC power amplifier supplied as bare die for 2000–18500 MHz. It supports CW operation.



The RF table specifies: PSAT 43 dBm (typical); Power gain 13 dB (typical); PAE 20% (typical). RF test conditions: TA = +25 °C; Vd = +28 V; Vg = -2 V.

Die dimensions: 4.7 × 5.1 × 0.1 mm.

Power both sides; single-side operation prohibited.

RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -2 V

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	2000	-	18500	MHz
Saturated output power	Psat	-	43	-	dBm
Power gain	Gp	-	13	-	dB
Power-gain flatness	ΔGp	-	±1	-	dB
Power-added efficiency	PAE	-	20	-	%

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	Vd	24	28	30	V
Gate voltage	Vg	-2.8	-2	-2	V
Quiescent drain current	Id	-	3	-	A
Dynamic drain current	Idd	-	4.2	-	A
Dynamic gate current	Igg	-	-	30	mA

Absolute limits

Absolute limits; these are not normal operating targets.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	Vd	-	-	30	V
Minimum gate bias	Vg	-5	-	-	V
Maximum input power	Pin	-	-	32	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	225	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	4.7 × 5.1 × 0.1	mm
Plan-view outline tolerance	±50 (Plan-view outline only; the source does not specify thickness tolerance.)	µm

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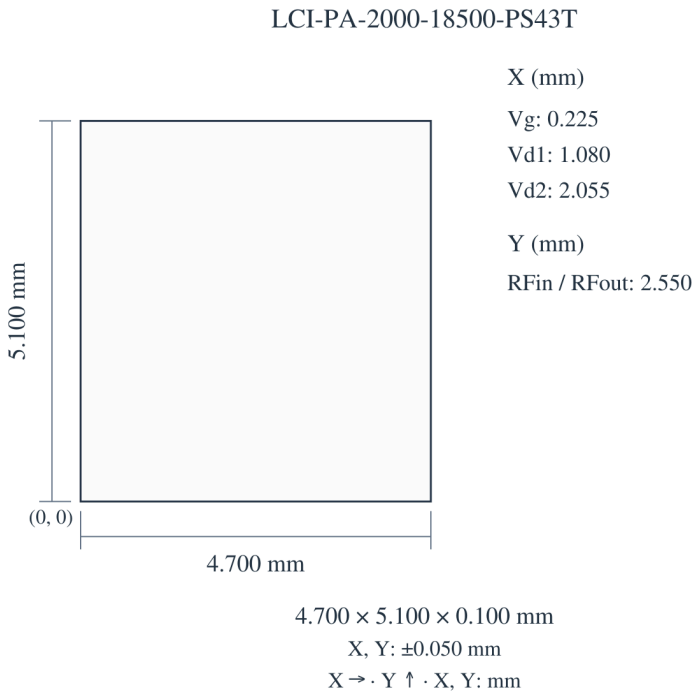
Die integration and bias sequencing

Integrated DC blocking: RFin / RFout. DC path to ground: RFin → GND. Separate characterization: Vd = +28 V; Vg = -2.0 V; Pin = 30 dBm; CW. Apply gate bias before drain bias. Remove drain bias before gate bias. Power both sides; single-side operation prohibited. Outline and dimensioned coordinates in mm. Use this drawing as a dimensional reference. Fabrication and wire bonding require complete drawings.

Mechanical Outline



Performance curves

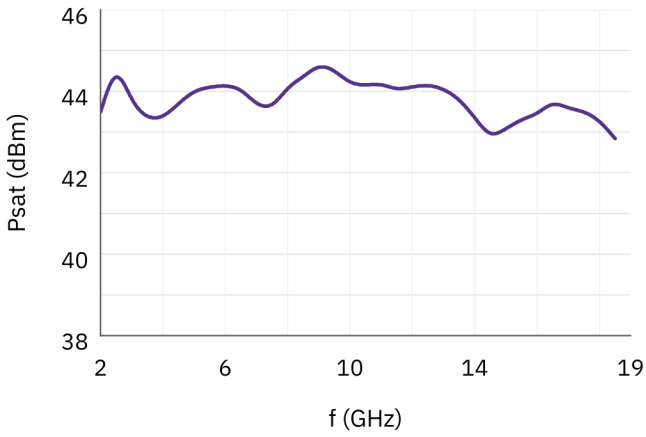
Read each figure with its stated operating conditions.

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

Figure notes: Vd=+28V; Vg=-2.0V; Pin=30dBm. Readings are approximate.

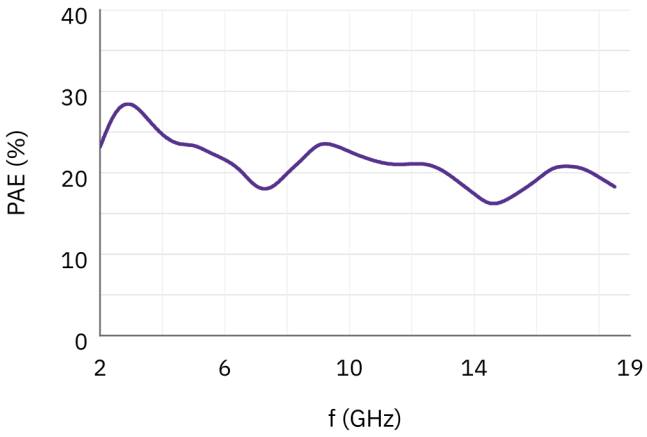
Psat

Pin = 30 dBm



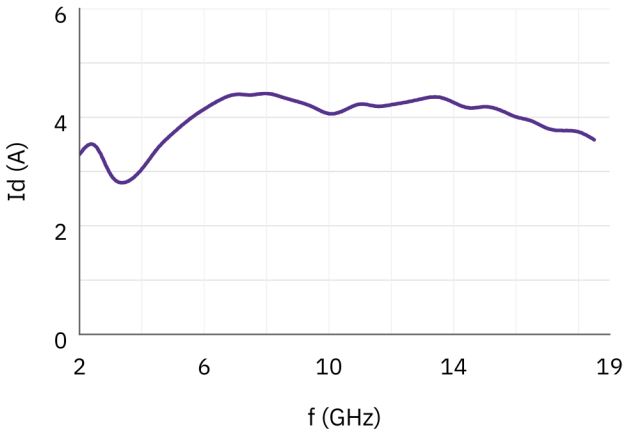
PAE

Pin = 30 dBm



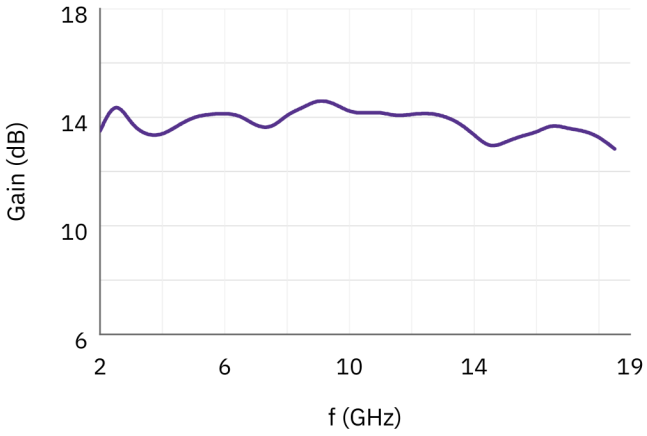
Id

Pin = 30 dBm



Gp

Pin = 30 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.