14000–18000 MHz GaN MMIC Power Amplifier Die

LCI-PA-14000-18000-PS45T is a GaN MMIC power amplifier supplied as bare die for 14000–18000 MHz. It supports pulsed operation.

pulsed: PSAT: 45 dBm (typical); Power gain: 24 dB (typical); PAE: 41 % (typical).
Die dimensions: 3.1 × 2.45 × 0.08 mm.



RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -2.2 V; pulsed

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	14000	-	18000	MHz
Saturated output power	Psat	-	45	-	dBm
Power gain	Gp	-	24	-	dB
Power-gain flatness	ΔGp	-	±0.3	-	dB
Power-added efficiency	PAE	-	41	-	%
Input VSWR	VSWR(in)	-	-	2	-

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	Vd	24	28	32	V
Gate voltage	Vg	-2.4	-2.2	-1.8	V
Quiescent drain current	Id	-	0.3	-	A
Dynamic drain current	Idd	-	2.7	-	A
Dynamic gate current	Igg	-	0.5	5	mA

Absolute limits

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	Vd	-	-	32	V
Minimum gate bias	Vg	-5	-	-	V
Maximum input power	Pin	-	-	24	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	225	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	3.1 × 2.45 × 0.08	mm

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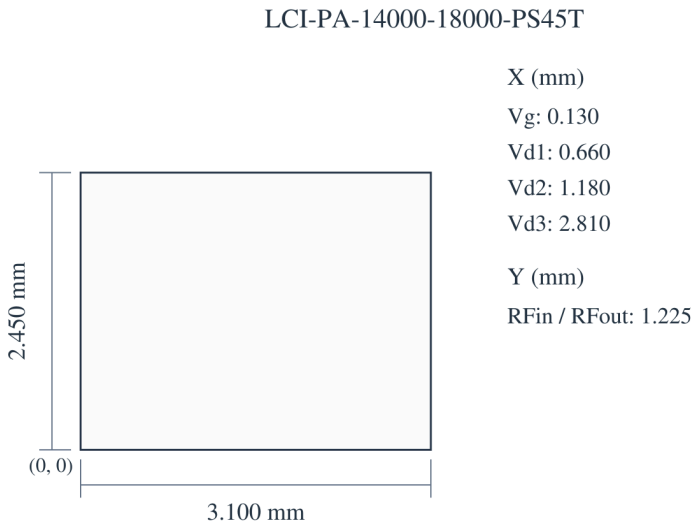
Die integration and bias sequencing

Integrated DC blocking: RFin / RFout. DC path to ground: RFin → GND. Separate characterization: Vd = +28 V; Vg = -2.2 V; τ = 100 µs; D = 10%. Apply gate bias before drain bias. Remove drain bias before gate bias. Two-sided bias feed is recommended.

Mechanical Outline

Outline and dimensioned coordinates in mm. Use this drawing as a dimensional reference. Fabrication and wire bonding require complete drawings.



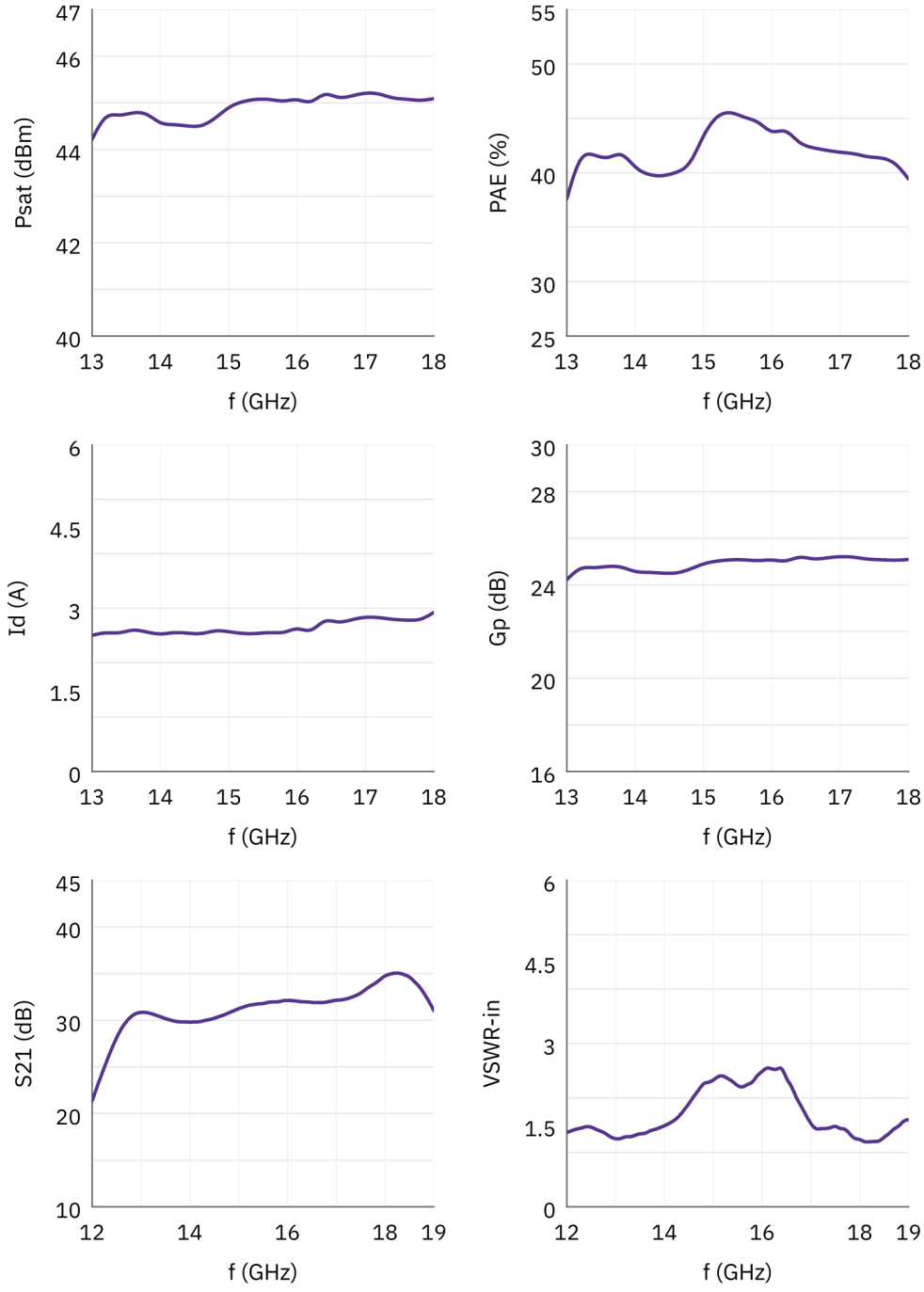
3.100 × 2.450 × 0.080 mm
X, Y: ±0.050 mm
X → · Y ↑ · X, Y: mm

Performance curves

Each performance plot applies to its stated operating conditions.

Saturated output power; Power-added efficiency; Dynamic drain current; Power gain; Small-signal gain; Input matching.

Figure notes: Vd=+28V; Vg=-2.2V. For saturated output power, PAE, dynamic drain current and power gain: Pin = 20 dBm. For small-signal gain and input VSWR: Pin = -20 dBm. 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.