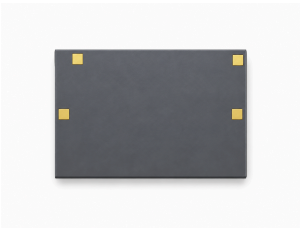
8000–12000 MHz GaN MMIC Power Amplifier Die

LCI-PA-8000-12000-PS29T is a GaN MMIC power amplifier supplied as bare die for 8000–12000 MHz. It supports CW and pulsed operation.

The RF table specifies: Saturated output power: 29 dBm (typical); Power gain: 14 dB (typical); Power-added efficiency: 15 % (typical). RF test conditions: TA = +25 °C; Vd = +28 V. Die dimensions: 1.95 × 1.35 × 0.08 mm.



RF characteristics

TA = +25 °C; Vd = +28 V

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	8000	-	12000	MHz
Power gain	Gp	13	14	-	dB
Power-gain flatness	ΔGp	-	±0.5	-	dB
Saturated output power	Psat	-	29	-	dBm
Power-added efficiency	PAE	-	15	-	%
Small-signal gain	S21	-	16	-	dB
Small-signal gain flatness	ΔS21	-	±0.5	-	dB
Input VSWR	VSWR(in)	-	1.5	2	-

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	Vd	-	28	-	V
Quiescent drain current	Id	0.16	0.17	0.19	A
Dynamic drain current	Idd	0.16	0.17	0.19	A

Absolute limits

Absolute limits; these are not normal operating targets.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	Vd	-	-	32	V
Maximum input power	Pin	-	-	18	dBm
Maximum channel temperature	Top	-	-	225	°C
Storage temperature	TSTG	-65	-	150	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	1.95 × 1.35 × 0.08	mm
Plan-view outline tolerance	±100 (Plan-view outline only; the source does not specify thickness tolerance.)	µm

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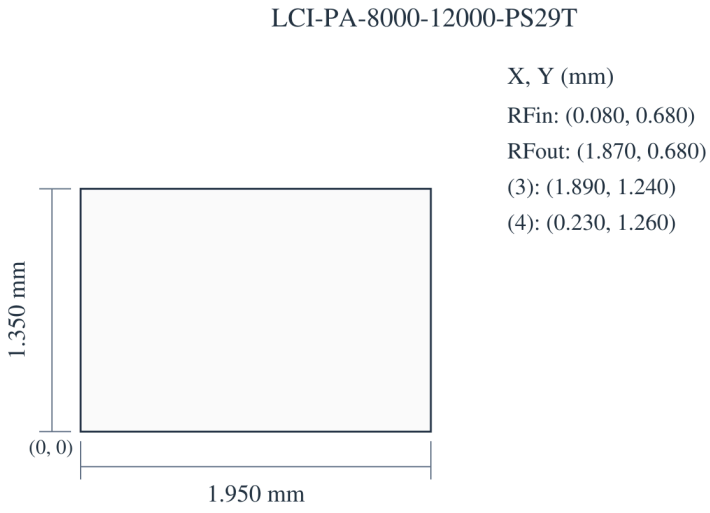
Bond-pad dimensions

Symbol: 1 RFin; Dimensions (µm): 100 × 100. Symbol: 2 RFout; Dimensions (µm): 100 × 100. Symbol: 3 Vd1; Dimensions (µm): 100 × 100. Symbol: 4 Vd2; Dimensions (µm): 100 × 100.

Mechanical Outline

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

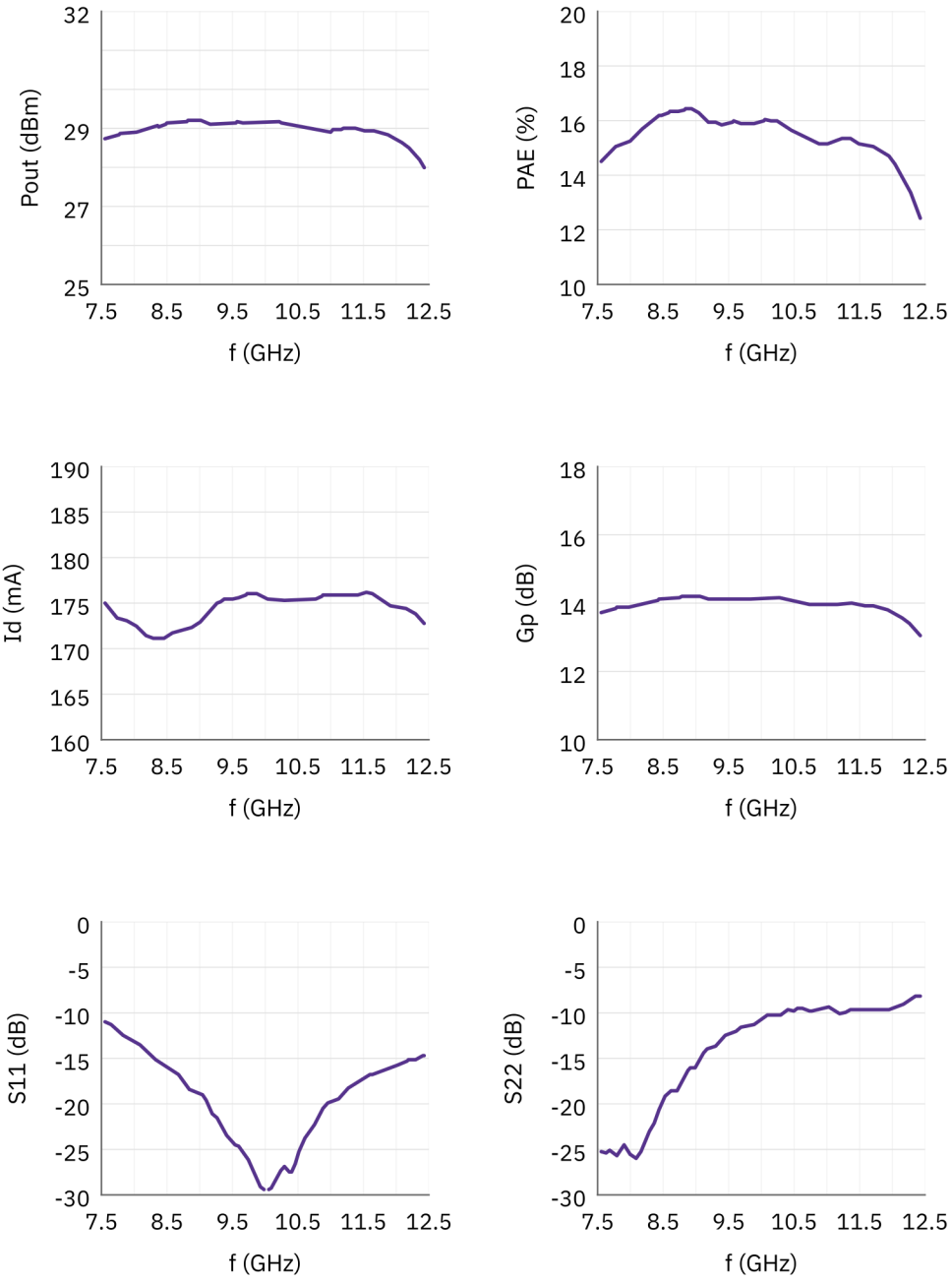


Performance curves

Each performance plot applies to its stated operating conditions.

Output power; Power-added efficiency; Drain current; Power gain; Input matching; Output matching.

Figure notes: TA=+25°C; Vd=28V. 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.