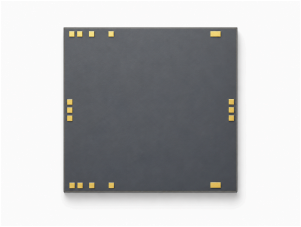
4000–10000 MHz GaN MMIC Power Amplifier Die

LCI-PA-4000-10000-PS45T is a GaN MMIC power amplifier supplied as bare die for 4000–10000 MHz. It supports pulsed operation.

The RF table specifies: Saturated output power: 45 dBm (typical); Power gain: 17 dB (typical); Power-added efficiency: 30 % (typical). RF test conditions: TA = +25 °C; Vd = +28 V; Vg = -2.6 V. Die dimensions: 4.1 × 3.9 × 0.1 mm.



RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -2.6 V

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	4000	-	10000	MHz
Saturated output power	Psat	43.8	45	-	dBm
Power gain	Gp	15.8	17	-	dB
Power-gain flatness	ΔGp	-	±0.8	-	dB
Power-added efficiency	PAE	-	30	-	%

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	Vd	24	28	30	V
Gate voltage	Vg	-3	-2.6	-2.4	V
Quiescent drain current	Id	-	1.6	-	A
Dynamic gate current	Igg	-	-	10	mA

Absolute limits

Absolute limits; these are not normal operating targets.

Parameter	Symbol	Minimum	Typical	Maximum	Value	Unit
Maximum drain-source voltage	Vd	-	-	30	-	V
Minimum gate bias	Vg	-5	-	-	-	V
Maximum input power	Pin	-	-	30	-	dBm
Maximum channel temperature	Top	-	-	225	-	°C
Storage temperature	TSTG	-65	-	150	-	°C
Load mismatch survival	-	-	-	-	3:1	-

Die dimensions

Parameter	Value	Unit
Die dimensions	4.1 × 3.9 × 0.1	mm
Plan-view outline tolerance	±50 (Plan-view outline only; the source does not specify thickness tolerance.)	µm

Current publication record · 1.7 · 2026-11-12. Product description or editorial content updated. Replaces revision 1.6.

Die integration and bias sequencing

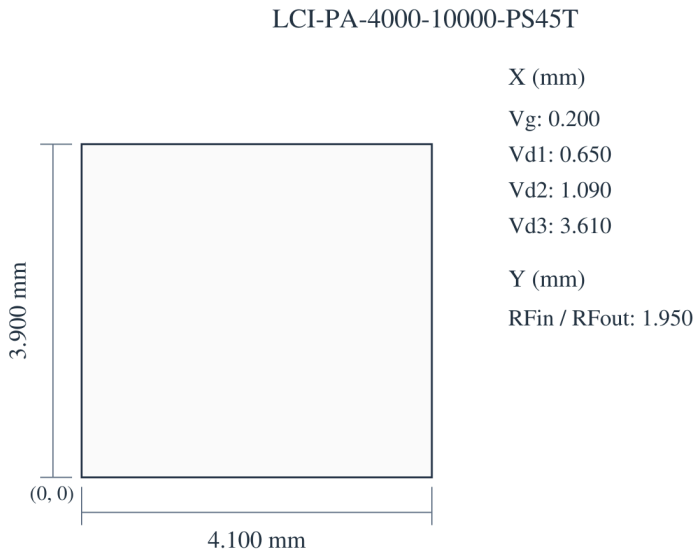
Apply gate bias before drain bias at power-up. At power-down, remove drain bias before gate bias. Use clean handling, ESD protection and a carrier with thermal expansion compatible with the SiC die.

Bond-pad dimensions

Symbol: 1 RFin; Dimensions (µm): 100 × 100. Symbol: 2,10 Vg; Dimensions (µm): 110 × 110. Symbol: 3,9 Vd1; Dimensions (µm): 100 × 110. Symbol: 4,8 Vd2; Dimensions (µm): 110 × 100. Symbol: 5,7 Vd3; Dimensions (µm): 200 × 100. Symbol: 6 RFout; Dimensions (µm): 100 × 110.

Mechanical Outline

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



4.100 × 3.900 × 0.100 mm
X, Y: ±0.050 mm
X → · Y ↑ · X, Y: mm

Performance curves

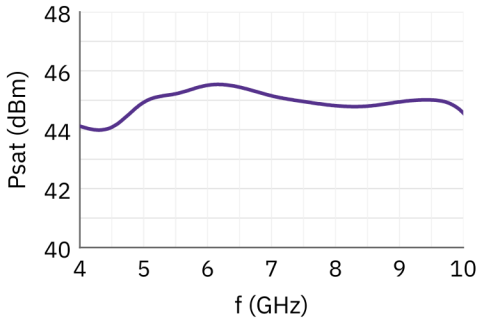
Each performance plot applies to its stated operating conditions.

Pulsed — Saturated output power; Power-added efficiency; Dynamic drain current; Power gain.

Figure notes: Vd=+28V; Vg=-2.6V. The first four plots are pulsed; the bottom Psat and PAE plots are CW. Pin = 28 dBm for all six plots. Readings are approximate.

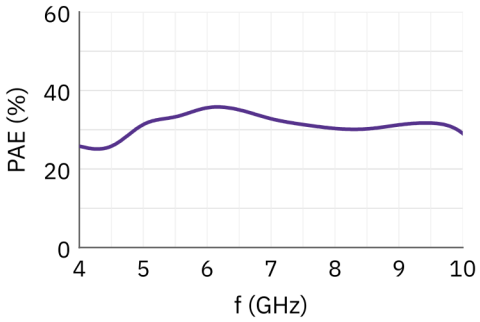
Psat

Pin = 28 dBm



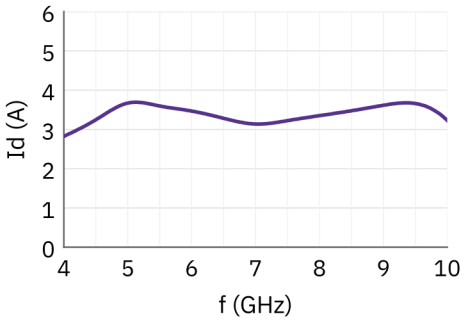
PAE

Pin = 28 dBm



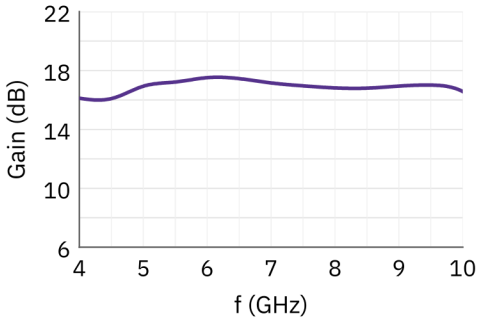
Id

Pin = 28 dBm



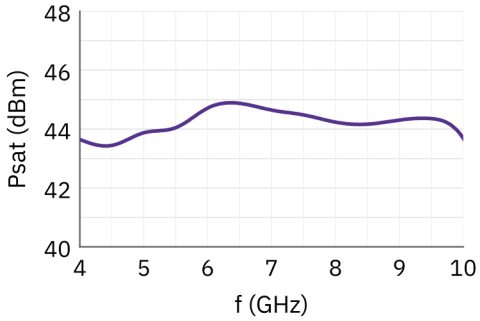
Gp

Pin = 28 dBm



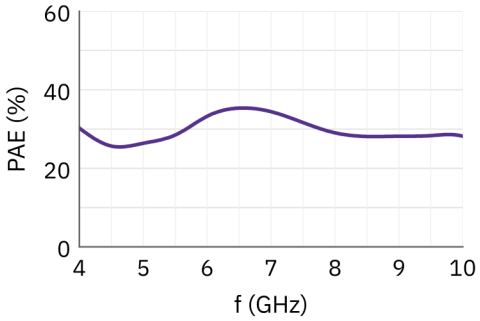
Psat (CW)

Pin = 28 dBm



PAE (CW)

Pin = 28 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.