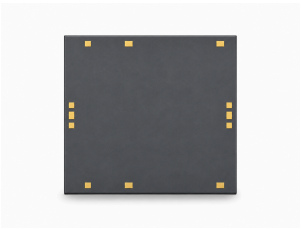
27000–31000 MHz GaN MMIC Power Amplifier Die

LCI-PA-27000-31000-PS42T is a GaN MMIC power amplifier supplied as bare die for 27000–31000 MHz.

PSAT: 42 dBm (typical); PAE: 30 % (typical); Small-signal gain: 23 dB (typical). Die dimensions: 3.26 × 3 × 0.08 mm.



RF characteristics

TA = +25 °C; Vd = +22 V; Id = 0.5 A

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	27000	-	31000	MHz
Small-signal gain	S21	-	23	-	dB
Power-gain flatness	ΔGp	-	±0.5	-	dB
Saturated output power	Psat	-	42	-	dBm
Power-added efficiency	PAE	-	30	-	%
Input VSWR	VSWR(in)	-	1.6	-	-
Output VSWR	-	-	1.6	-	-
Saturation current	-	-	2	2.8	A

DC bias and current

Parameter	Symbol	Minimum	Typical	Maximum	Value	Unit
Drain voltage [1]	Vd	-	-	-	22	V
Gate voltage [1]	Vg	-	-	-	-2.2	V
Bias current [2]	-	-	-	-	0.5	A

[1] Value stated without a Min/Typ/Max qualification.

[2] Vd = +22 V; Vg = -2.2 V; Value stated without a Min/Typ/Max qualification.

Absolute limits

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	Vd	-	-	26	V
Minimum gate bias	Vg	-5	-	-	V
Maximum input power	Pin	-	-	28	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	225	°C

Environmental specifications

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating temperature	-	-55	-	85	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	3.26 × 3 × 0.08	mm

Current publication record · 1.8 · 2026-11-12. Product description or editorial content updated. Replaces revision 1.7.

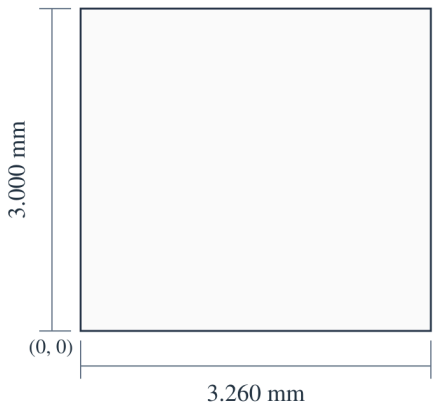
Die integration and bias sequencing

Separate characterization: TA = +25 °C; Vd = +22 V; Id = 0.5 A. Apply gate bias before drain bias. Remove drain bias before gate bias.

Mechanical Outline

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

LCI-PA-27000-31000-PS42T



X (mm)
(3/4): 0.440
(5/6): 1.220
(7/8): 2.960

Y (mm)
RFin / RFout: 1.500

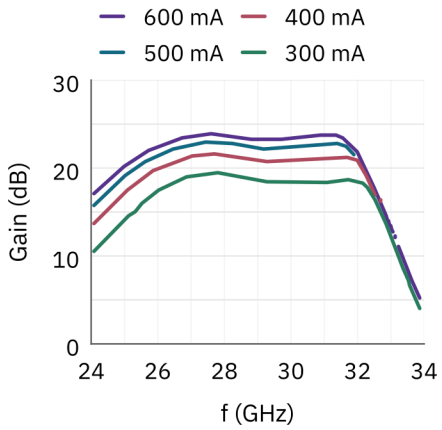
3.260 × 3.000 × 0.080 mm
X, Y: ±0.050 mm
X → · Y ↑ · X, Y: mm

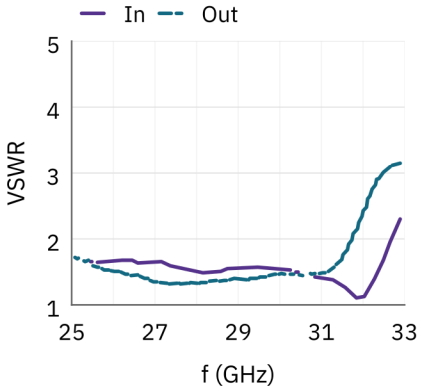
Performance curves

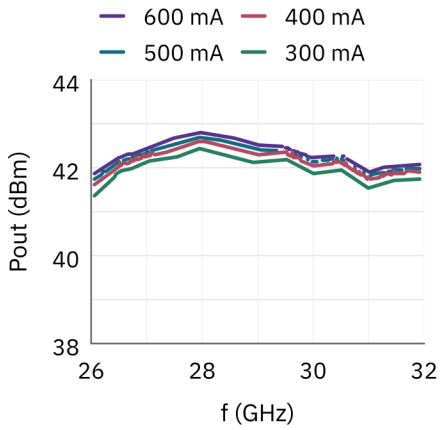
Each performance plot applies to its stated operating conditions.

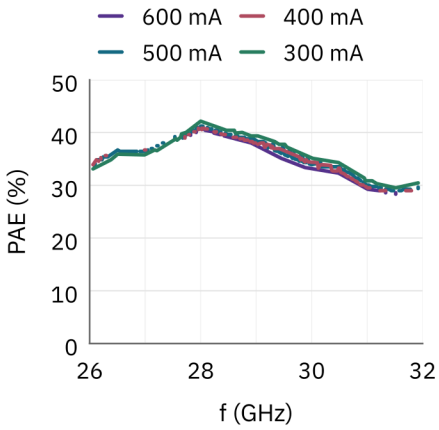
Small-signal gain; Input matching; Output matching; Output power; Power-added efficiency; Output power at compression; Drain current.

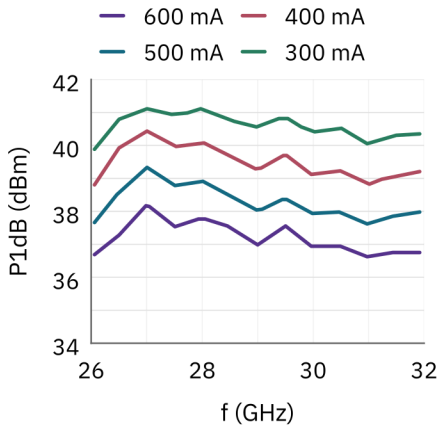
Figure notes: TA=+25°C; Vd=22V; Id=500mA. Readings are approximate. Pout / PAE / Id: Pin = 22 dBm. Id = 600 / 500 / 400 / 300 mA. Use the drain current shown in each trace's legend.

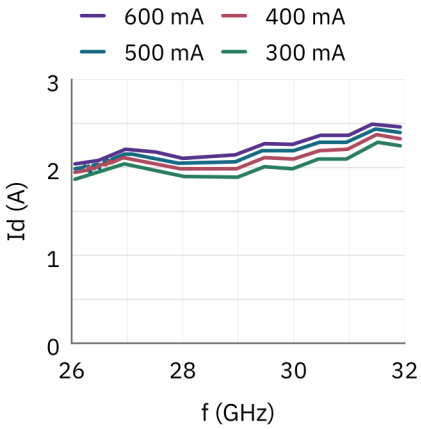






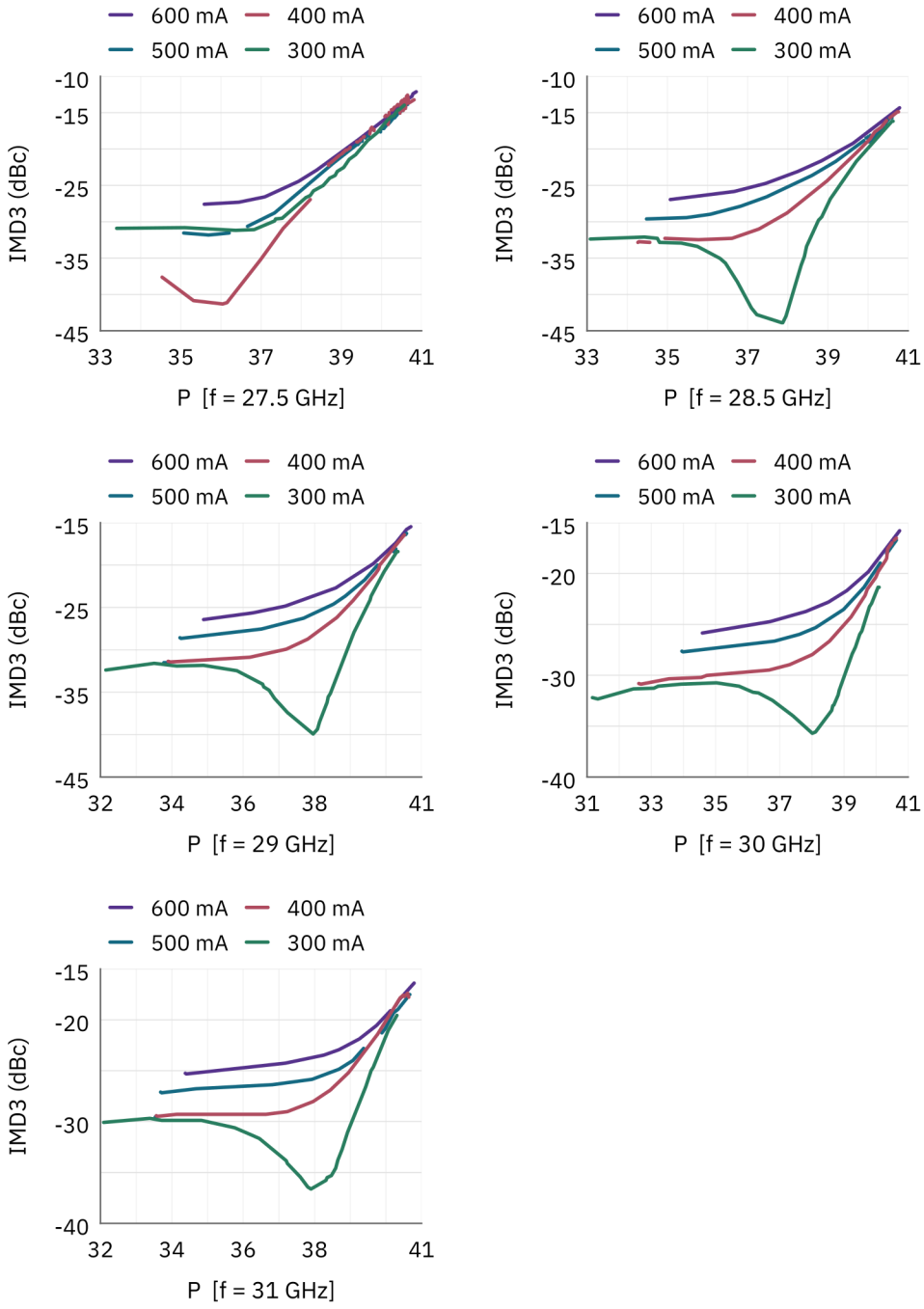






IMD3.

Figure notes: TA=+25°C; Vd=22V; Id=500mA. Readings are approximate. The horizontal axis shows power P. Its reference and unit are unspecified. The two-tone spacing is 10 MHz; each plot uses the RF frequency printed above it. Id = 600 / 500 / 400 / 300 mA. Use the drain current shown in each trace's legend.



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.