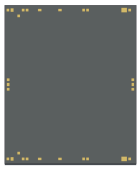
13750–15250 MHz GaN MMIC Power Amplifier Die

LCI-PA-13750-15250-PS46T is a GaN MMIC power amplifier supplied as bare die for 13750–15250 MHz. It supports CW and pulsed operation.

Saturated output power: 46 dBm (typical); Power gain: 21 dB (typical); Power-added efficiency: 33 % (typical). Die dimensions: 5 × 6 × 0.08 mm.



RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -3.05 V; CW

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	-	13750	-	15250	MHz
Saturated output power	-	-	46	-	dBm
Power gain	-	-	21	-	dB
Power-gain flatness	-	-	-	±0.3	dB
Power-added efficiency	-	-	33	-	%
IMD3 (P–3)	-	-	-26	-	dBc

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	-	-	28	-	V
Gate voltage	-	-3.2	-3.05	-2.6	V
Quiescent drain current	-	-	0.28	-	A
Dynamic drain current	-	-	4.3	-	A
Dynamic gate current	-	-	-	5	mA

Absolute limits

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	-	-	-	32	V
Minimum gate bias	-	-5	-	-	V
Maximum input power [1]	-	-	-	28	dBm
Maximum channel temperature	-	-	-	225	°C

[1] CW

Environmental specifications

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Storage temperature	-	-65	-	150	°C

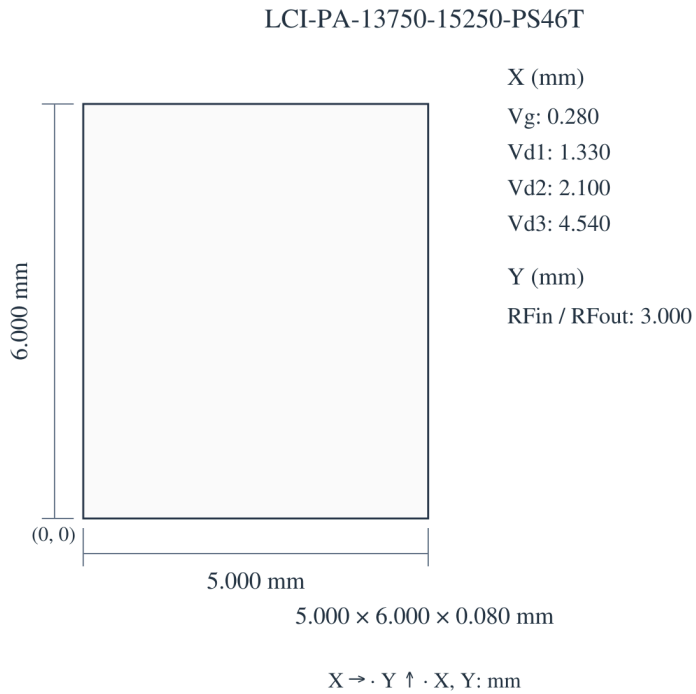
Bond-pad assignments

Pins	Symbol	mm
1	RFin	0.100 × 0.120
2, 10	Vg	0.110 × 0.130
3, 9	Vd1	0.130 × 0.090
4, 8	Vd2	0.130 × 0.090
5, 7	Vd3	0.210 × 0.170
6	RFout	0.090 × 0.120

Die dimensions

Parameter	Value	Unit
Die dimensions	5 × 6 × 0.08	mm

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



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

Die integration and bias sequencing

Apply the negative supply before the positive supply; remove the positive supply before the negative supply. Input and output DC-blocking capacitors are integrated. The RF input includes a DC short to ground.

Performance curves

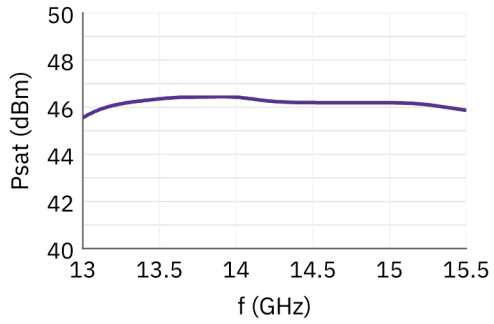
Each performance plot applies to its stated operating conditions.

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

Figure notes: Vd=+28V; Pin=25dBm; Vg=-3.05V; Id=280mA. IM3 (f = 13.75 GHz): TA = 25°C. IM3 (f = 14.25 GHz): TA = 25°C. Readings are approximate.

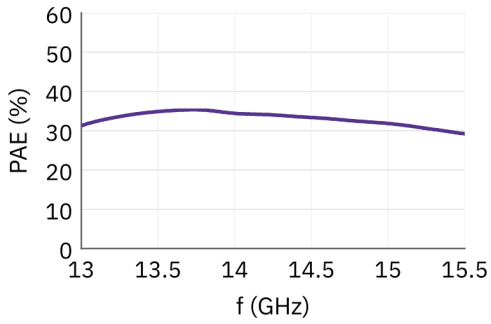
Psat

Pin = 25 dBm



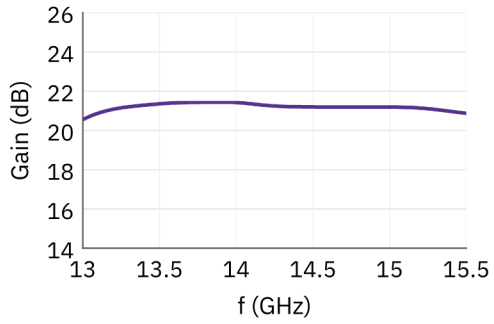
PAE

Pin = 25 dBm



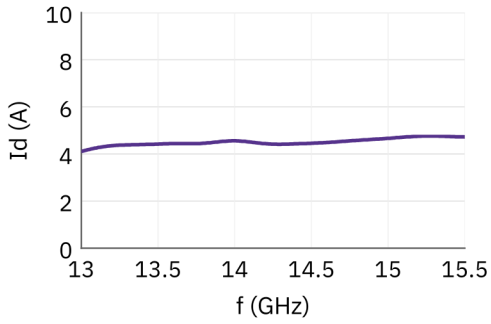
Gain

Pin = 25 dBm



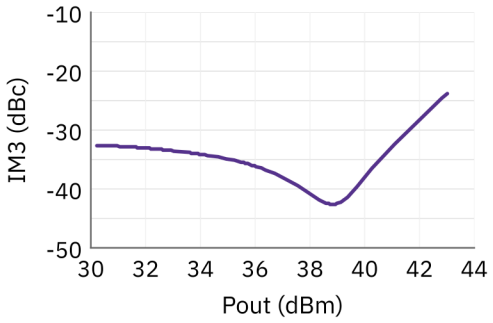
Id

Pin = 25 dBm



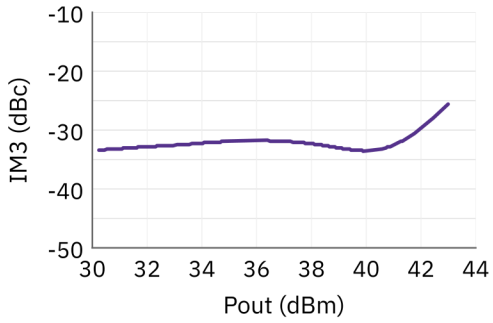
IM3

TA = 25 °C; f = 13.75 GHz



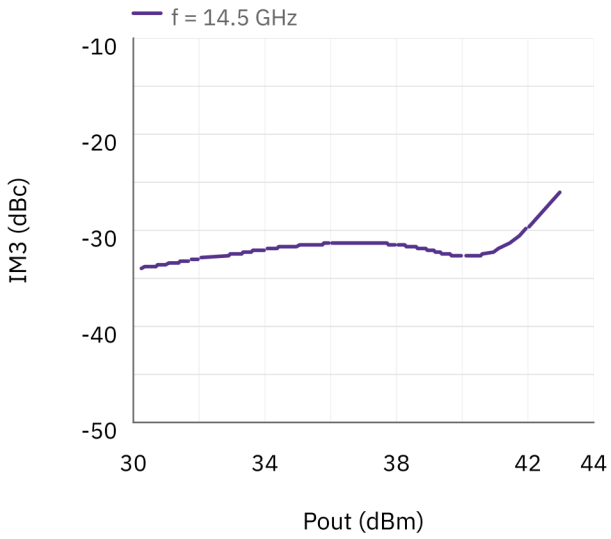
IM3

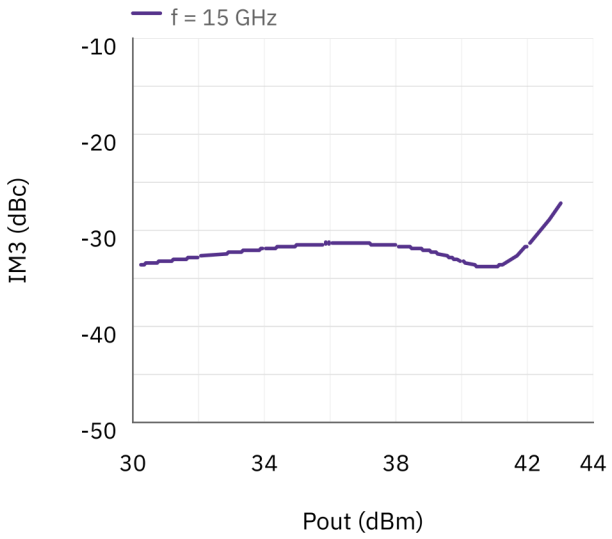
TA = 25 °C; f = 14.25 GHz

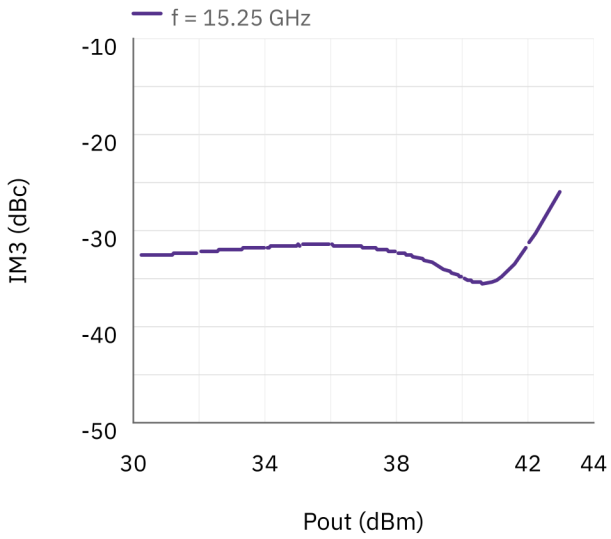


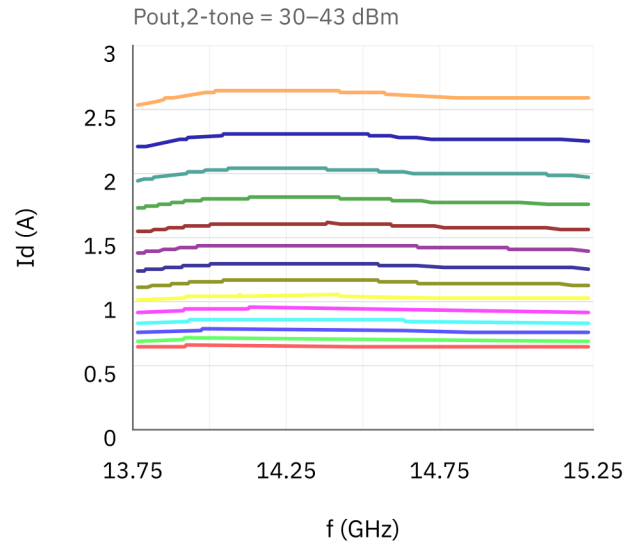
IMD3; Drain current.

Figure notes: Vd=+28V. Readings are approximate. IMD3: f = 14.5 / 15 / 15.25 GHz; TA = +25 °C. The drain-current heading states two-tone output power of 30–43 dBm; individual traces are not assigned to particular output-power values. The +25 °C annotation belongs to the three IMD3 plots.









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.