13750–15350 MHz GaN MMIC Power Amplifier Die

LCI-PA-13750-15350-PS48T is a GaN MMIC power amplifier supplied as bare die for 13750–15350 MHz. It supports CW and pulsed operation.

pulsed: PSAT: 47 dBm (minimum) / 48 dBm (typical); Power gain: 19 dB (minimum) / 20 dB (typical); PAE: 35 % (typical). Die dimensions: 3.7 × 5.9 × 0.1 mm.



RF characteristics

TA = +25 °C; Vd = +28 V; Id = 0.5 A; pulsed

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	13750	-	15350	MHz
Saturated output power	Psat	47	48	-	dBm
Power gain	Gp	19	20	-	dB
Power-gain flatness	ΔGp	-	±0.5	-	dB
Power-added efficiency	PAE	-	35	-	%
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	-5	-2.9	-2.6	V
Quiescent drain current	Id	-	0.5	-	A
Dynamic drain current	Idd	-	6.5	-	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	-	-	31	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	225	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	3.7 × 5.9 × 0.1	mm

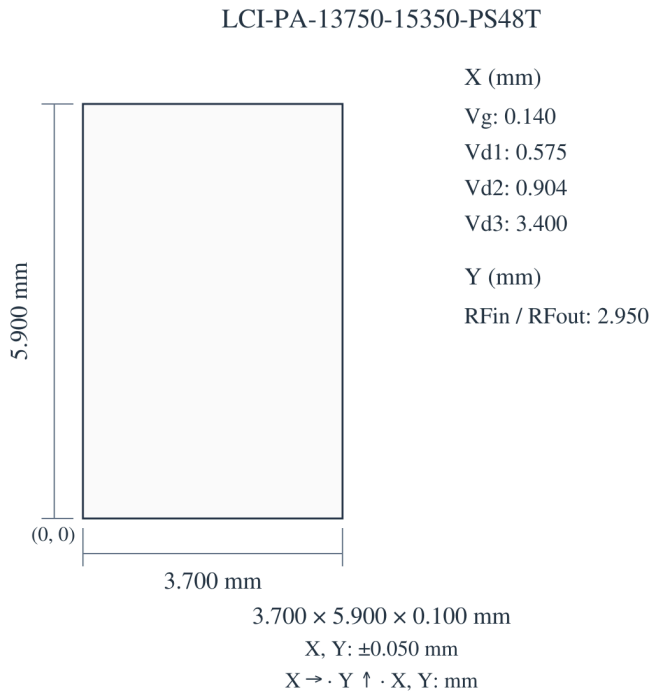
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Die integration and bias sequencing

Integrated DC blocking: RFin / RFout. DC path to ground: RFin → GND. Separate characterization: Vd = +28 V; Id = 0.5 A; CW. Apply gate bias before drain bias. Remove drain bias before gate bias. Power both sides; single-side operation prohibited.

Mechanical Outline

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

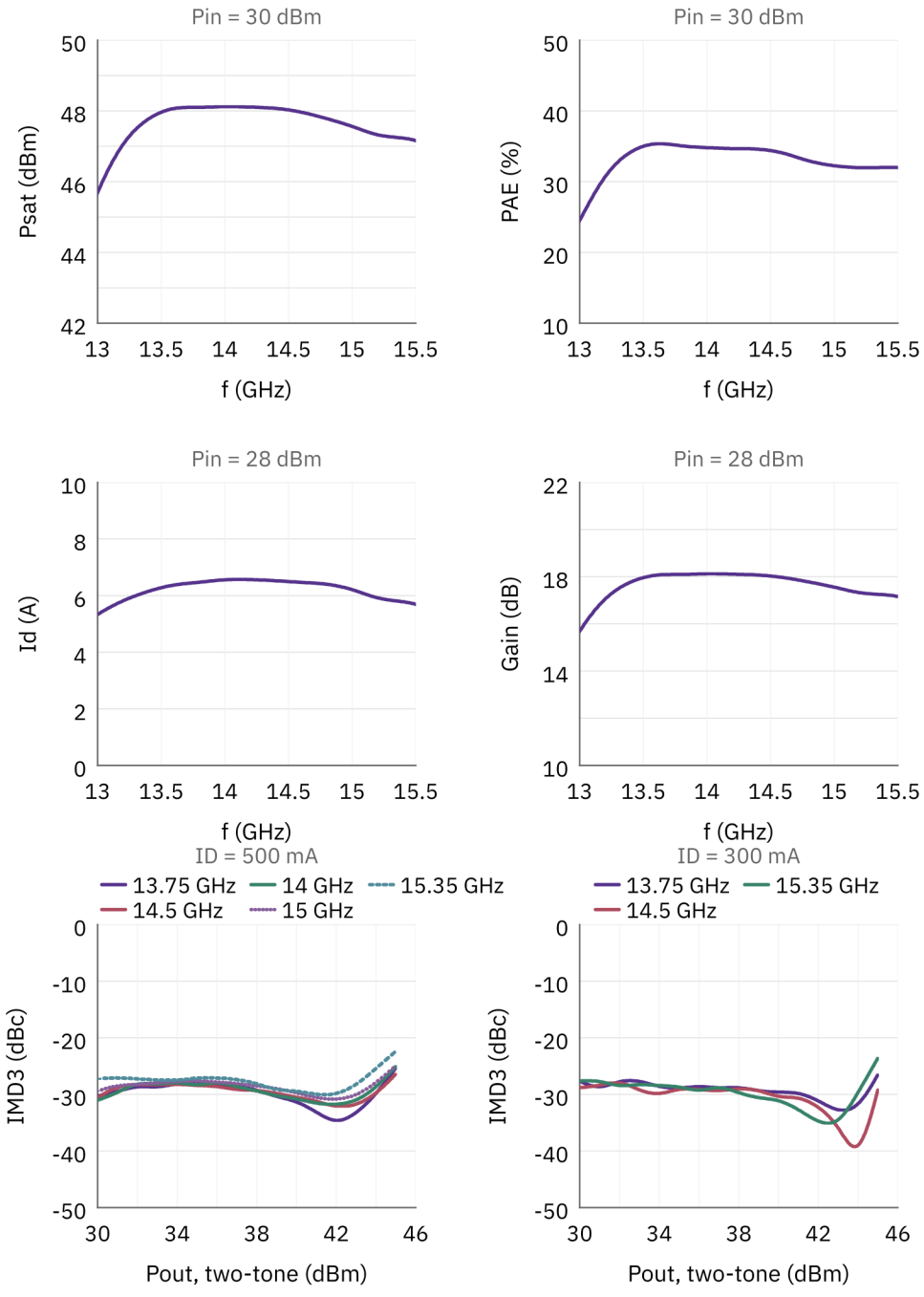


Performance curves

Each performance plot applies to its stated operating conditions.

Continuous wave (CW) — Saturated output power; Power-added efficiency; Dynamic drain current; Power gain; IMD3.

Readings are approximate. Figure notes: Id = 500 mA; Vd = +28 V; CW. Psat/PAE: Pin = 30 dBm. Id/Gain: Pin = 28 dBm. IMD3: Id = 500 mA / 300 mA.



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.