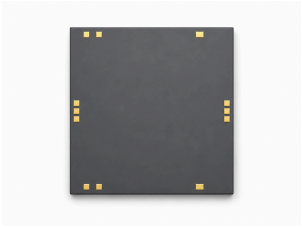
2500–6200 MHz GaN MMIC Power Amplifier Die

LCI-PA-2500-6200-PS45p5T is a GaN MMIC power amplifier supplied as bare die for 2500–6200 MHz. It supports pulsed operation.

The RF table specifies: PSAT 45.5 dBm (typical); Power gain 17.5 dB (typical); PAE 40% (typical). RF test conditions: TA = +25 °C; Vd = +28 V; Vg = -2.8 V.

Die dimensions: 3.2 × 3.35 × 0.08 mm.



RF characteristics

TA = +25 °C; Vd = +28 V; Vg = -2.8 V

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	2500	-	6200	MHz
Saturated output power	Psat	45	45.5	-	dBm
Power gain	Gp	17	17.5	-	dB
Power-gain flatness	ΔGp	-	-	±0.5	dB
Power-added efficiency	PAE	-	40	-	%

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Drain voltage	Vd	-	28	-	V
Gate voltage	Vg	-	-2.8	-2.2	V
Quiescent drain current	Id	-	1.5	-	A
Dynamic drain current	Idd	-	2.5	3.3	A
Dynamic gate current	Igg	-	1	10	mA

Absolute limits

Absolute limits; these are not normal operating targets.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	Vd	-	-	32	V
Minimum gate bias	Vg	-5	-	-	V
Maximum input power [1]	Pin	-	-	30	dBm
Storage temperature	TSTG	-65	-	150	°C
Maximum channel temperature	Top	-	-	225	°C

[1] CW

Die dimensions

Parameter	Value	Unit
Die dimensions	3.2 × 3.35 × 0.08	mm
Plan-view outline tolerance	±50 (Plan-view outline only; the source does not specify thickness tolerance.)	µm

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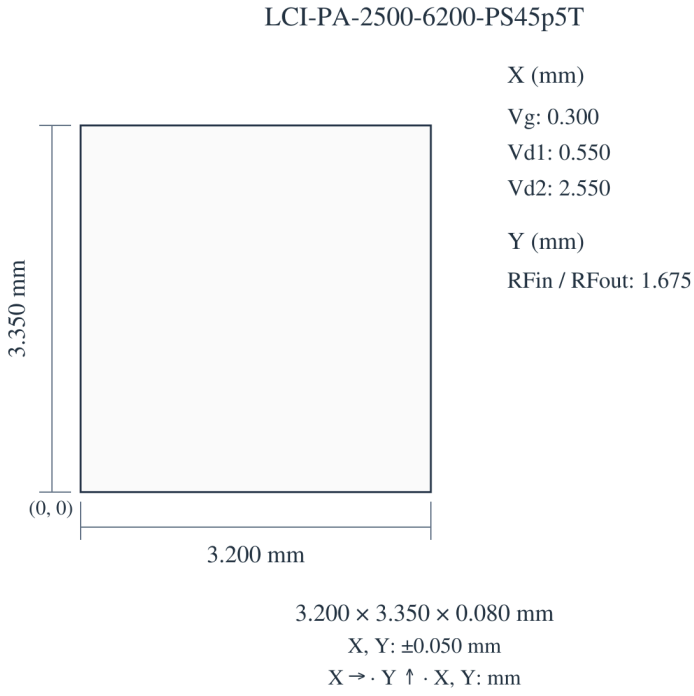
Die integration and bias sequencing

Integrated DC blocking: RFin / RFout. DC path to ground: RFin / RFout → GND. Apply gate bias before drain bias. Remove drain bias before gate bias. Outline and dimensioned coordinates in mm. Use this drawing as a dimensional reference. Fabrication and wire bonding require complete drawings.

Bond-pad dimensions

RFin: 100 × 100 µm. Vg: 100 × 100 µm. Vd1: 100 × 100 µm. Vd2: 150 × 100 µm. RFout: 100 × 110 µm.

Mechanical Outline

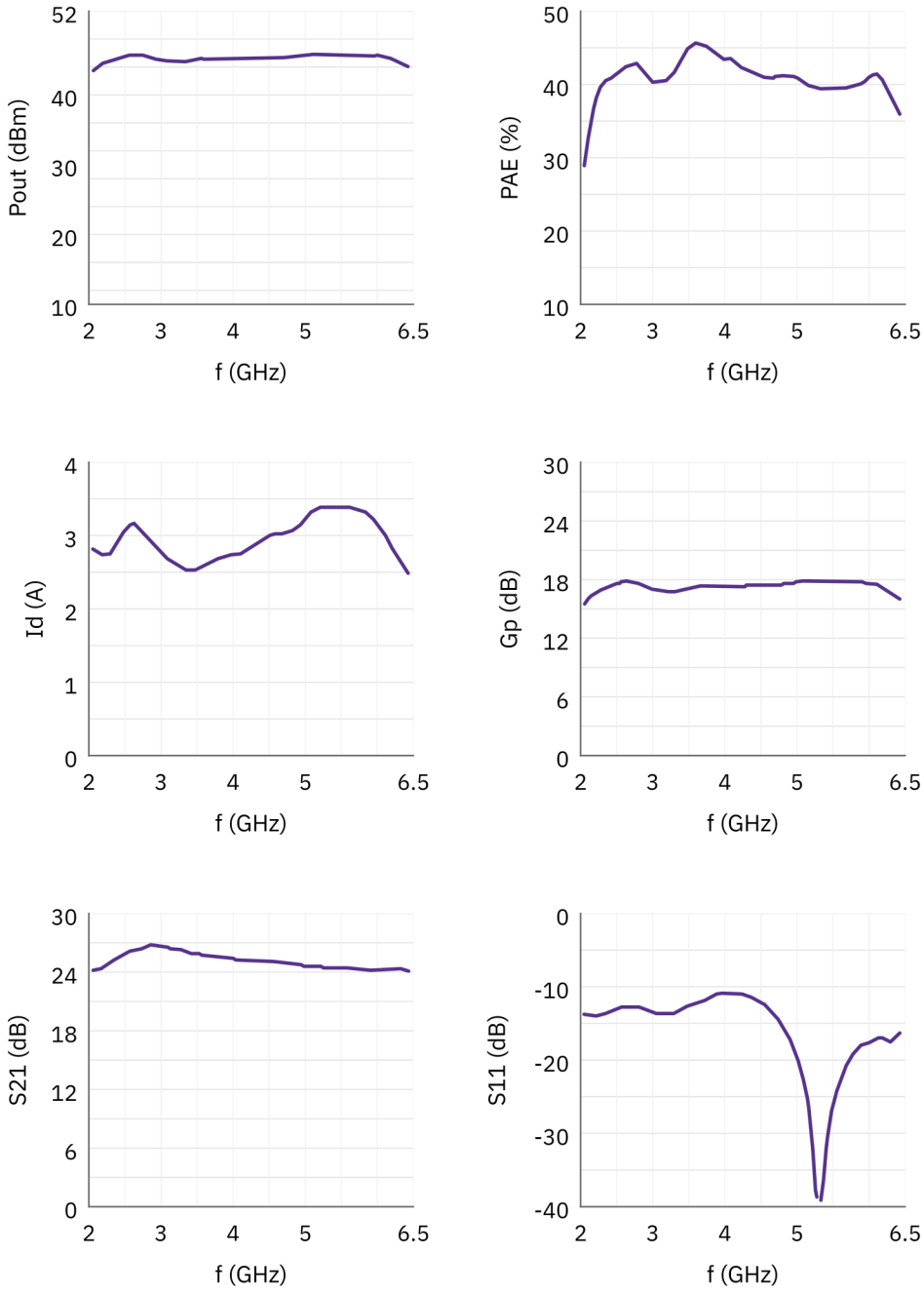


Performance curves

Read each figure with its stated operating conditions.

Small-signal gain; Input matching; Power-added efficiency; Saturated output power; Dynamic drain current; Power gain.

Readings are approximate. Figure notes: Vd = 28 V; Vg = −2.8 V; Pout / PAE / Id / Gp: Pin = 28 dBm; S11 / S21: Pin = −10 dBm. Pulse width = 100 µs; duty cycle = 10%.



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.