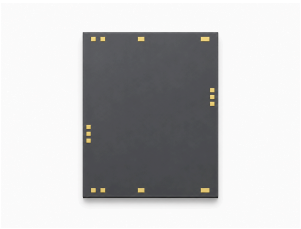
18000–40000 MHz GaN MMIC Power Amplifier Die

LCI-PA-18000-40000-PS40p5T is a GaN MMIC power amplifier supplied as bare die for 18000–40000 MHz.

PSAT: 40.5 dBm (typical); PAE: 15 % (typical); Small-signal gain: 21 dB (typical). Die dimensions: 3.4 × 4.2 × 0.05 mm.



RF characteristics

TA = +25 °C; Vd = +18 V; Id = 2.2 A

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	f	18000	-	40000	MHz
Small-signal gain	S21	-	21	-	dB
Small-signal gain flatness	ΔS21	-	±1	-	dB
Saturated output power	Psat	-	40.5	-	dBm
Power-added efficiency	PAE	-	15	-	%
Input VSWR	VSWR(in)	-	1.5	-	-
Output VSWR	-	-	1.5	-	-
Saturation current	-	-	-	5.5	A

DC bias and current

Parameter	Symbol	Minimum	Typical	Maximum	Value	Unit
Drain voltage [1]	Vd	-	-	-	18	V
Gate voltage [1]	Vg	-	-	-	-1.6	V
Bias current [2]	-	-	-	-	2.2	A

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

[2] Vd = +18 V; Vg = -1.6 V; Value stated without a Min/Typ/Max qualification.

Absolute limits

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum drain-source voltage	Vd	-	-	19	V
Minimum gate bias	Vg	-5	-	-	V
Maximum input power	Pin	-	-	30	dBm
Storage temperature	TSTG	-65	-	150	°C

Environmental specifications

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

Die dimensions

Parameter	Value	Unit
Die dimensions	3.4 × 4.2 × 0.05	mm

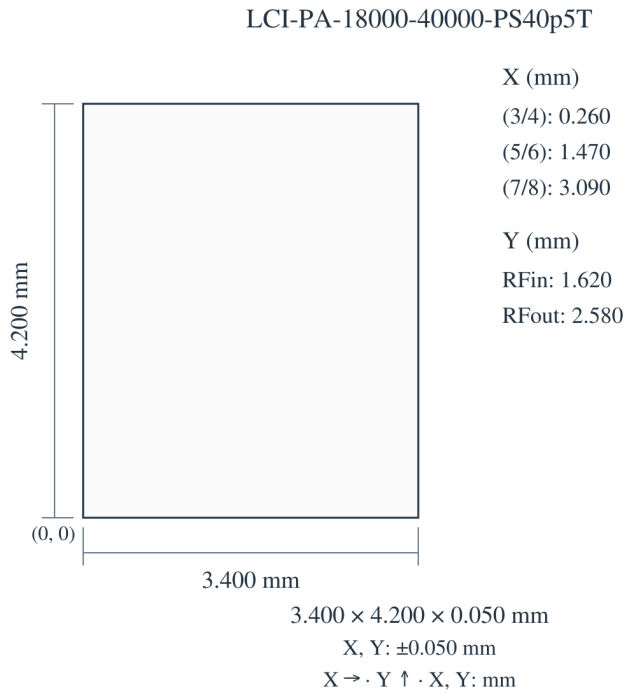
Current publication record · 1.9 · 2026-11-12. Product description or editorial content updated. Replaces revision 1.8.

Die integration and bias sequencing

Separate characterization: TA = +25 °C; Vd = +18 V; Id = 2.2 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.

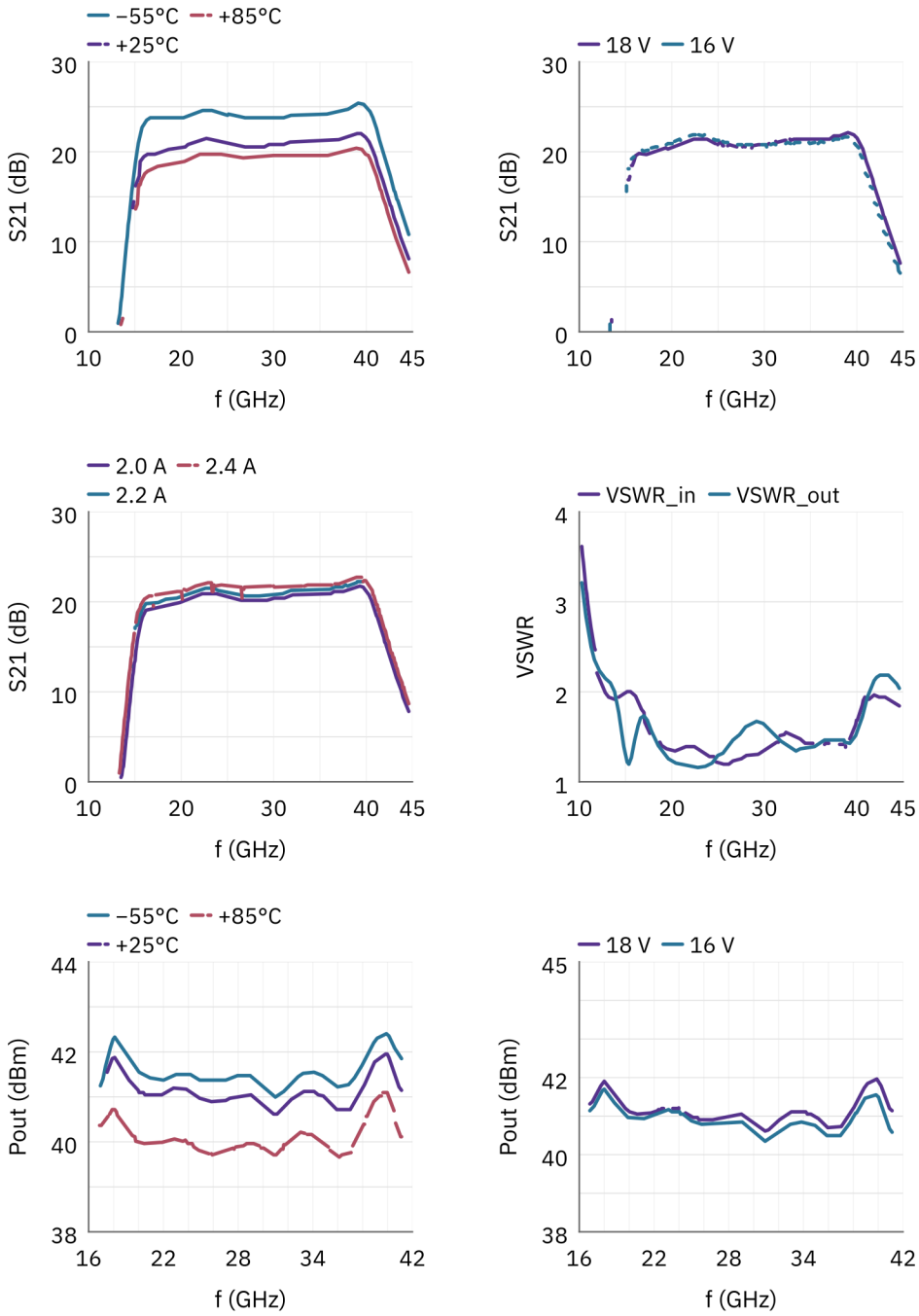


Performance curves

Each performance plot applies to its stated operating conditions.

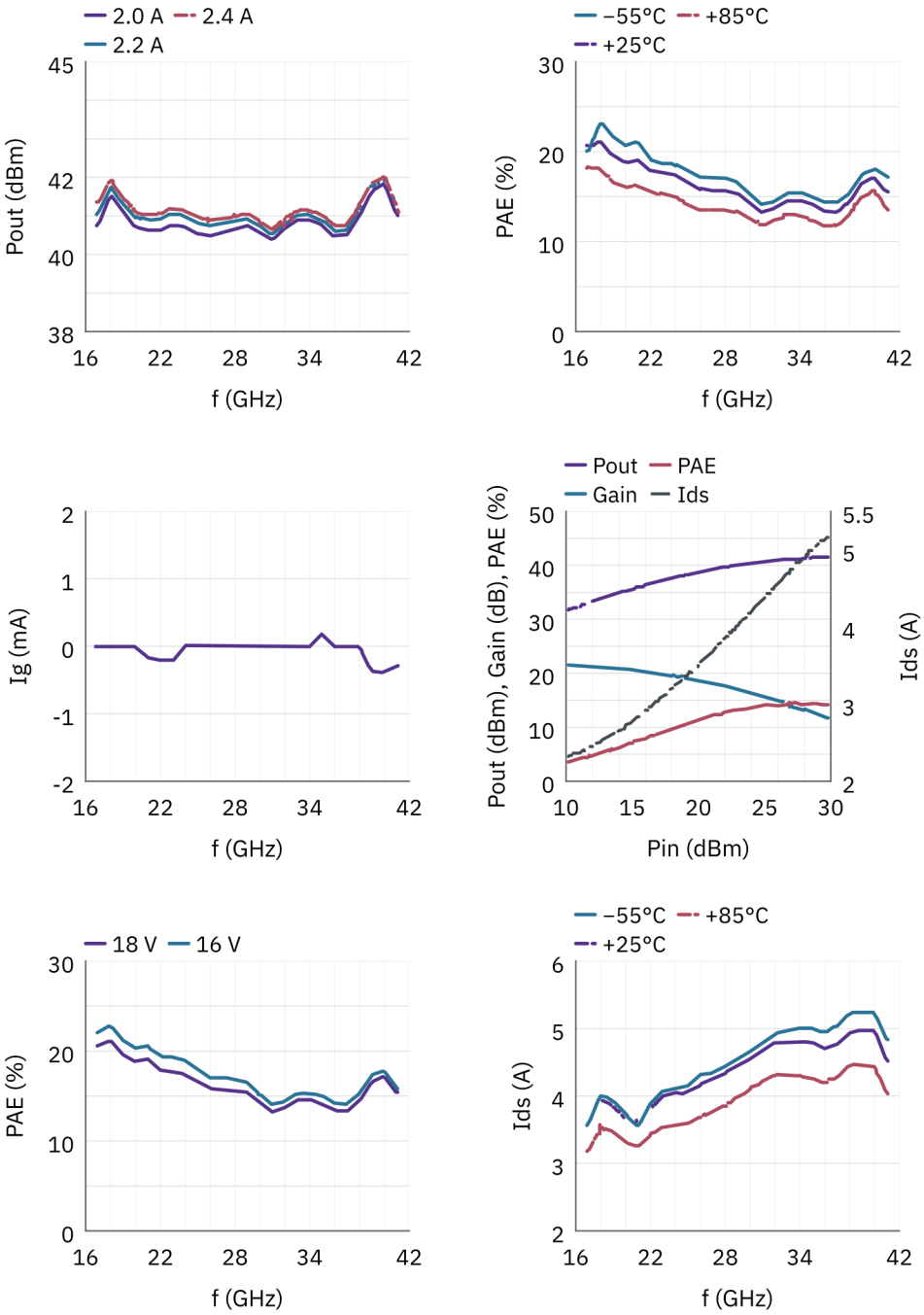
Small-signal gain; Input matching; Output matching; Output power.

Figure notes: TA=+25°C; Vd=18V; Id=2.2A. Readings are approximate. Pout: Pin = 26 dBm. Use the operating conditions in each trace's legend.



Output power; Power-added efficiency; Drain current; Power gain; Gate current.

Figure notes: TA=+25°C; Vd=18V; Id=2.2A. Readings are approximate. Pout / PAE / Ids / Ig: Pin = 26 dBm. Use the operating conditions in each trace's legend. f = 30 GHz; Pin = 10–30 dBm. The fixed Pin applies only to the named frequency plots, not to the variable-Pin sweep.



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.