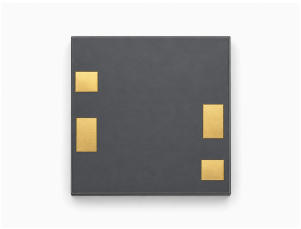
DC–6000 MHz GaAs MMIC Amplifier Die — P1dB 21 dBm (typical)

LCI-AMP-DC-6000-P1DB21T · DC–6000 MHz · GaAs MMIC Amplifier Die.



The RF table specifies: P1dB 21 dBm (typical); Small-signal gain 20 dB (typical); NF 1 dB (typical). RF test conditions: TA = +25 °C; Vd = +5 V.

Single-supply operation.

RFout shares the drain-supply connection. Apply the supply before the external output DC-blocking capacitor; choose the coupling and choke network for the operating band.

Die dimensions: 0.7 × 0.7 × 0.1 mm.

RF characteristics

TA = +25 °C; Vd = +5 V

Parameter	Symbol	Minimum	Typical	Maximum	Value	Unit
Operating frequency	f	DC	-	6000	DC–6000	MHz
Output 1 dB compression power	P1dB	-	21	-	-	dBm
Small-signal gain	Gain	-	20	-	-	dB
Small-signal gain flatness	ΔGain	-	±1	-	-	dB
Noise figure	NF	-	1	-	-	dB
Input VSWR	VSWR-in	-	1.5	-	-	-
Output VSWR	VSWR-out	-	1.2	-	-	-

DC bias and current

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating voltage	Vd	-	5	-	V
Quiescent current	Id	-	0.045	-	A

Absolute limits

Absolute limits; these are not normal operating targets.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum operating voltage	-	-	-	6	V
Maximum input power	-	-	-	15	dBm
Storage temperature	-	-65	-	150	°C
Maximum channel temperature	-	-	-	175	°C

Die dimensions

Parameter	Value	Unit
Die dimensions	0.7 × 0.7 × 0.1	mm
Plan-view outline tolerance	±100	µm

Bond-pad assignments

Pins	Symbol	mm
1	RFin	0.090 × 0.140
2	RFout / Vd	0.090 × 0.140
3, 4	GND	0.100 × 0.090

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Integration notes

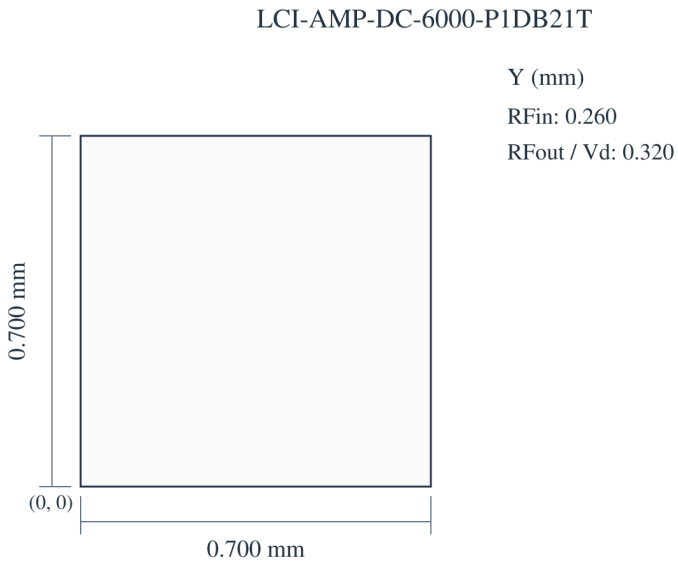
Single-supply operation. RFout shares the drain-supply connection. Apply the supply before the external output DC-blocking capacitor; choose the coupling and choke network for the operating band.

Pad connection notes

The listed GND pads are test ground pads.

Mechanical Outline

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

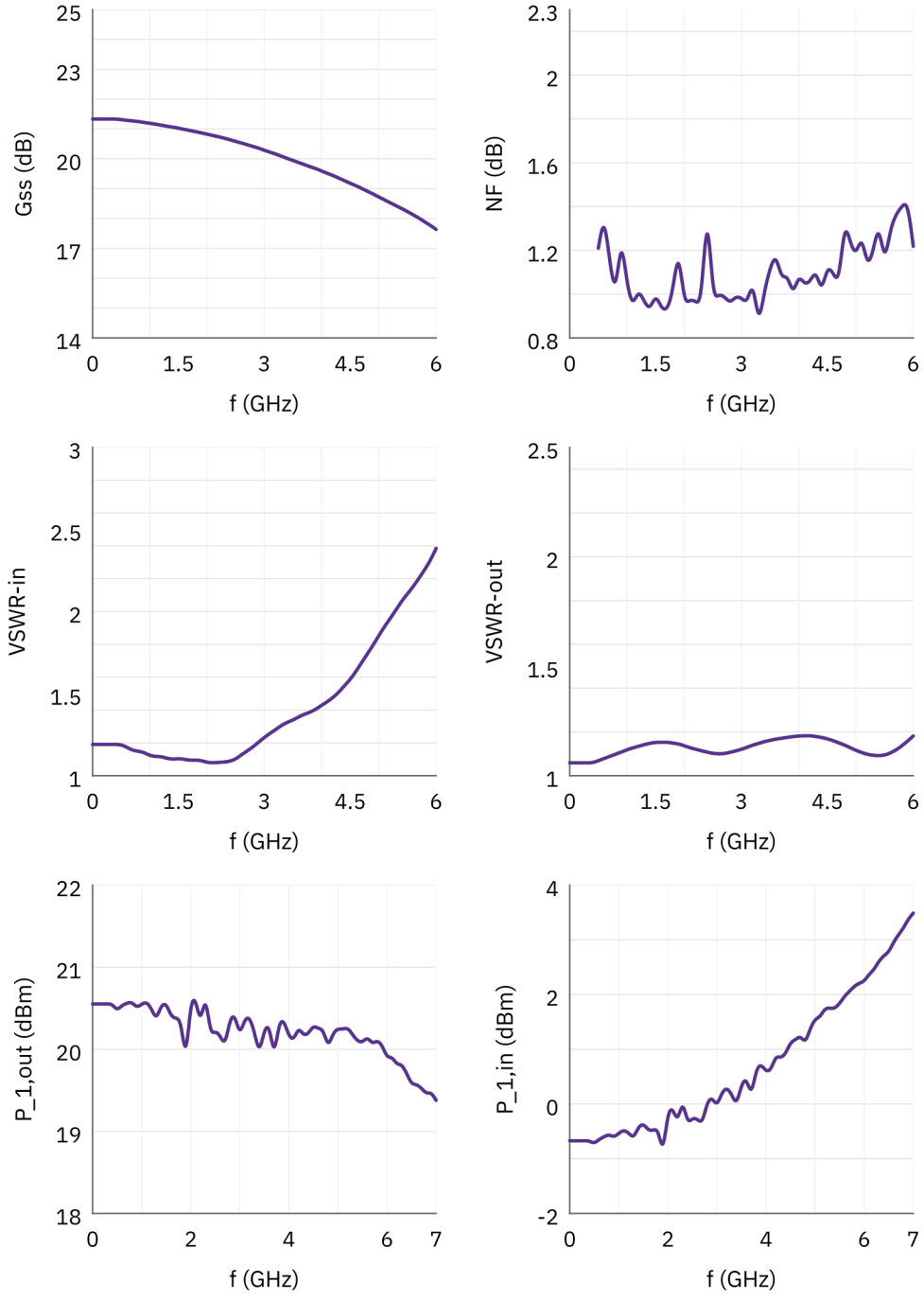


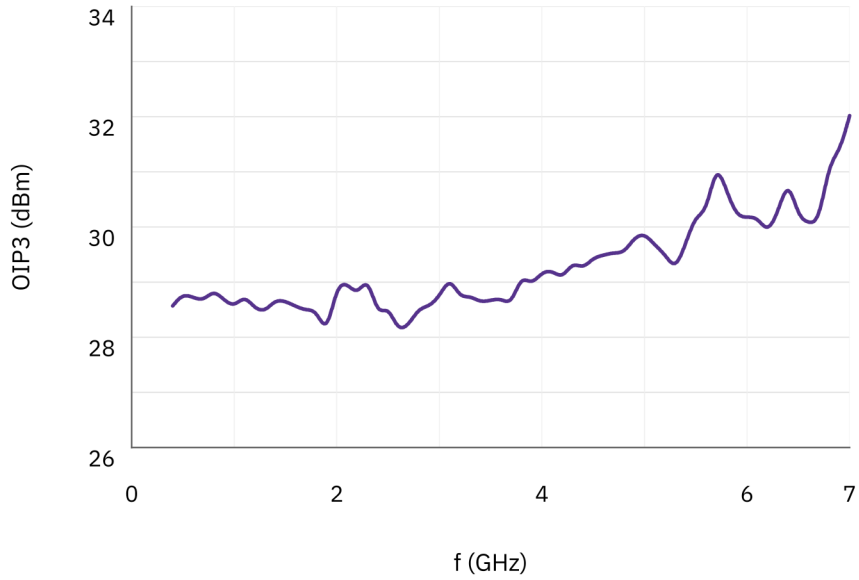
Performance curves

Each performance plot applies to its stated operating conditions.

Noise figure; Output 1 dB compression power; Small-signal gain; Input matching; Output matching; Input power at 1 dB compression.

Figure notes: Vd=+5V; Pin=-30dBm. Readings are approximate.





OIP3. Two-tone spacing = 1 MHz; output power per tone = 15 dBm. Readings are approximate.

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.