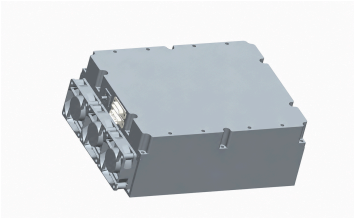
8000–12000 MHz GaN RF Power Amplifier, 100 W Typical

The GaN amplifier covers 8000–12000 MHz with 100 W typical saturated output and 53 dB minimum gain. Typical output at 1 dB compression is 20 W, with ±1.5 dB typical gain flatness.



Maximum dimensions are 250 × 200 × 100 mm and maximum weight is 5.7 kg, with SMA input, N-K output and hybrid D-Sub 7W2. The interface provides TTL enable, 10 mV/°C temperature sensing and 100 mV/A current sensing; the displayed image is an original CAD illustration.

Electrical Specifications

+28.0VDC; 25°C; 50Ω

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	BW	8000	-	12000	MHz
Output power at 1 dB compression	P-1dB	-	20	-	W
RF output power @ PSAT	PSAT	-	100	-	W
Power gain @ PSAT	Gp	53	-	-	dB
Power gain flatness @ PSAT	ΔGp	-	±1.5	-	dB
Input return loss	S11	-	-15	-	dB
Spurious signals @ PSAT	Spur	-	-60	-	dBc
Input/output impedance	Impedance	-	50	-	Ω
Operating voltage	VDC	-	28	-	VDC
DC current @ Pout = 100 W	IDD	-	19	-	A

Absolute Maximum Ratings

Parameter	Rating
RF input drive without damage	+10 dBm maximum
Load VSWR at Pout = 100 W	∞; All load phases and amplitudes; continuous
Thermal overload	85 °C → Shutdown (maximum)

Environmental Specifications

The environmental figures are design targets. Confirm the applicable values for your project.

Parameter	Minimum	Typical	Maximum	Unit
Operating temperature	-20	-	50	°C
Storage temperature [1]	-25	-	65	°C
Relative humidity (non-condensing)	-	-	95	%

[1] Storage temperature

DC and Control Interface

Pin #	Description	Specification
A1	A1 — Ground	Ground
A2	A2 — Positive supply	+28V
1	1 — Enable	TTL logic high (3.3 V); internally pulled low
2	2 — Ground	Ground
3	3 — Temperature sense output	750 ±20 mV @25 °C; 10 mV/°C
4	4 — Current sense output	100 mV/A
5	5 — Ground	Ground

Mechanical Specifications

Parameter	Value	Unit
Dimensions	250 × 200 × 100 mm (maximum)	mm
Weight	5.7 kg (maximum)	kg
RF input connector	SMA, female	-
RF output connector	N-K	-
DC/control interface	Hybrid, D-Sub 7W2, male	-

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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.