8000–12000 MHz GaN RF Power Amplifier System, 400 W Typical



The GaN system specifies 400 W typical saturated output across 8000–12000 MHz and 120 W typical output at 1 dB compression. Gain is 56 dB minimum with ±1.5 dB typical gain flatness.

Maximum dimensions are 430 × 400 × 133 mm and maximum weight is 15 kg; input is SMA and output N-K. D-Sub 7W2 includes analog temperature/current outputs and TTL enable at 3.3 V with an internal pull-down; operating temperature is –20–50 °C. The stated operating temperature is an environmental design target; this source does not establish qualification of that range.

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	-	120	-	W
RF output power @ PSAT	PSAT	-	400	-	W
Power gain @ PSAT	Gp	56	-	-	dB
Power gain flatness @ PSAT	ΔGp	-	±1.5	-	dB
Input return loss	S11	-	-15	-	dB
Harmonics at 300 W	H	-	-15	-	dBc
Spurious signals @ PSAT	Spur	-	-60	-	dBc
Input/output impedance	Impedance	-	50	-	Ω
Operating voltage	-	-	28	-	VDC
Power-added efficiency @ 300W	Eff	-	15	-	%
DC current @ 300W	Curr	-	95	-	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	%

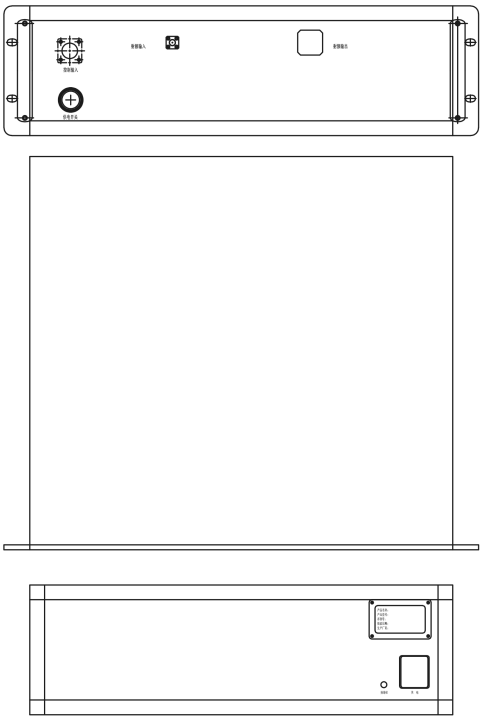
[1] Storage temperature

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	430 × 400 × 133 mm (maximum)	mm
Weight	15 kg (maximum)	kg
RF input connector	SMA, female	-
RF output connector	N-K	-
DC/control interface	Hybrid, D-Sub 7W2, male	-



Current publication record · 1.4 · 2026-11-11. Specification tables updated. Replaces revision 1.3.

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.