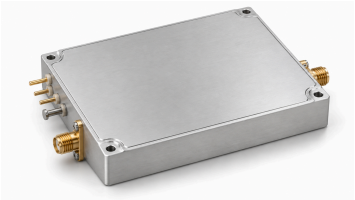
5000–8500 MHz GaN RF Power Amplifier, 25 W Typical

The GaN amplifier covers 5000–8500 MHz with 20 W minimum and 25 W typical saturated output. Gain is 43 dB minimum and 44 dB typical; typical harmonics are −40 dBc at 20 W output.

Dimensions confirmed by the original outline are 80 × 60 × 12 mm, with SMA input/output. Typical current is 2.5 A at 20 W; temperature sensing provides 750 mV at 25 °C with 10 mV/°C scaling, and typical supply is 28 VDC.



Electrical Specifications

+28.0VDC; 25°C; 50Ω

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	BW	5000	-	8500	MHz
RF output power @ PSAT	PSAT	20	25	-	W
Power gain @ PSAT	Gp	43	44	-	dB
Power gain flatness @ PSAT	ΔGp	-	±0.5	-	dB
Input return loss	S11	-	-15	-	dB
Harmonics at 20 W	H	-	-40	-	dBc
Spurious signals @ PSAT	Spur	-	-60	-	dBc
Input/output impedance	Impedance	-	50	-	Ω
Operating voltage	VDC	-	28	-	VDC
Quiescent current	IQ	-	1.8	-	A
DC current @ 20W	IDD	-	2.5	-	A
Power-added efficiency @ 20W	Eff	-	30	-	%

Absolute Maximum Ratings

Parameter	Rating
RF input drive without damage	+10 dBm maximum
Load VSWR at Pout = 25 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	%

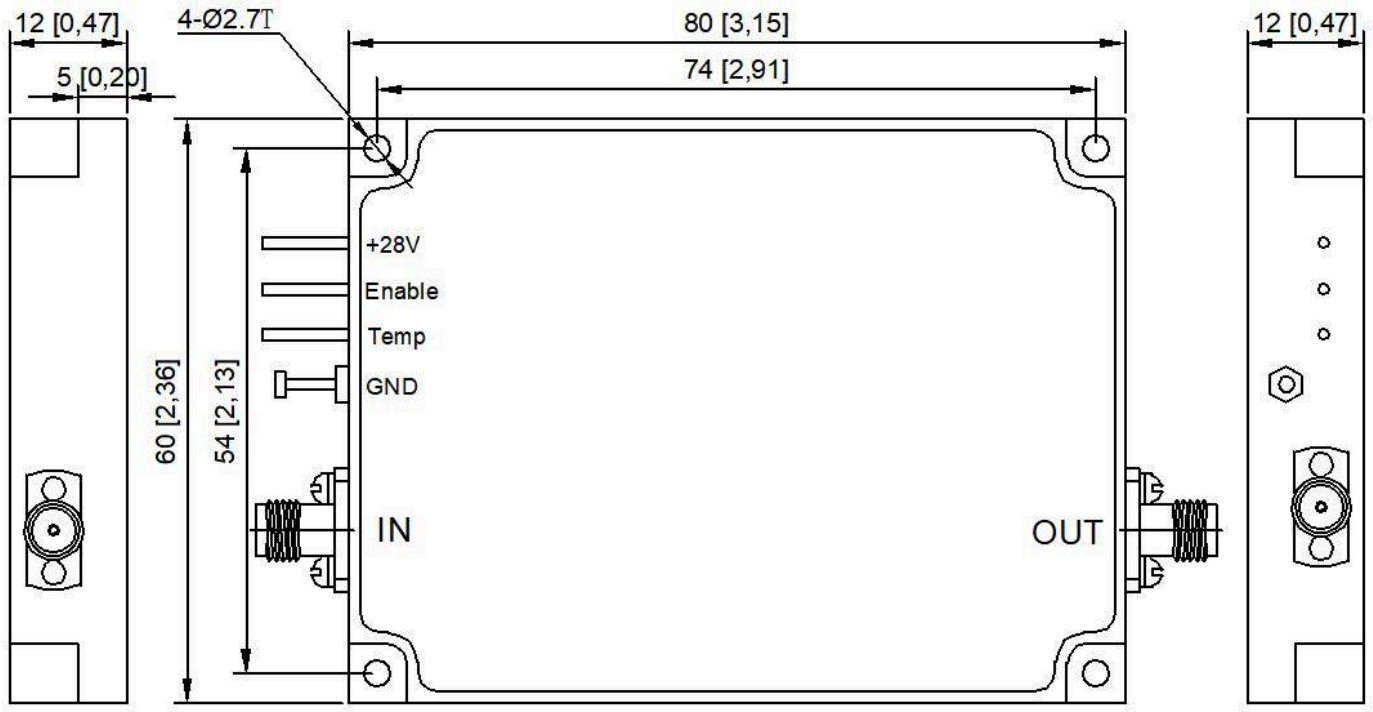
[1] Storage temperature

DC and Control Interface

Pin #	Description	Specification
+28V	+28V — Positive supply	+28 VDC
GND	GND — Ground	Ground
EN	EN — Enable	TTL logic high (3.3 V); internally pulled low
Temp	Temp — Temperature sense output	750 mV @25 °C; 10 mV/°C

Mechanical Specifications

Parameter	Value	Unit
Dimensions	80 × 60 × 12 mm	mm
Weight	0.5[1.1] kg [lb] (typical)	kg [lb]
RF input connector	SMA, female	-
RF output connector	SMA, female	-
DC/control interface	Feed-through pin	-
Ground connector	Ground pole pin	-



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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.