30–1000 MHz RF Power Amplifier, 80 W Typical, RS-485

This amplifier provides 80 W typical output across 30–1000 MHz with 49 dB typical gain. Typical flatness is ±2 dB and typical VSWR is 1.5:1; the typical supply is 28 VDC.

Maximum dimensions are 180 × 120 × 25 mm, with an SMA input, N output and seven-pin hybrid D-Sub. Pins 3 and 4 carry RS-485; enable uses TTL high at 3.3 V with an internal pull-down.



Electrical Specifications

+28.0VDC; 25°C; 50Ω

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	BW	30	-	1000	MHz
Saturated RF output power	Pout	-	80	-	W
Power gain	Gp	-	49	-	dB
Power gain flatness	Gp	-	±2	-	dB
VSWR	S11	-	1.5	-	-
Harmonics at 100 W	H	-	-10	-	dBc
Spurious signals	Spur	-	-60	-	dBc
Input/output impedance	Impedance	-	50	-	Ω
Operating voltage	VDC	24	28	32	VDC
Power-added efficiency	Eff	-	35	-	%
Current consumption at Pout = 100 W	IDD	-	12	-	A

Monitoring and Protection

Parameter	Specification
Monitoring	Voltage, current, output power, reflected power, and temperature
Output VSWR protection	VSWR 3–3.5 → Shutdown
Over-temperature protection	85 °C → Shutdown
Supply protection	(VDC >32 V) or (VDC <24 V) or Reversed polarity → Shutdown
Over-current protection	IDD >17 A → Shutdown

Absolute Maximum Ratings

Parameter	Rating
RF input drive without damage	+10 dBm maximum
Load VSWR at Pout = 100 W	3:1; 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	%

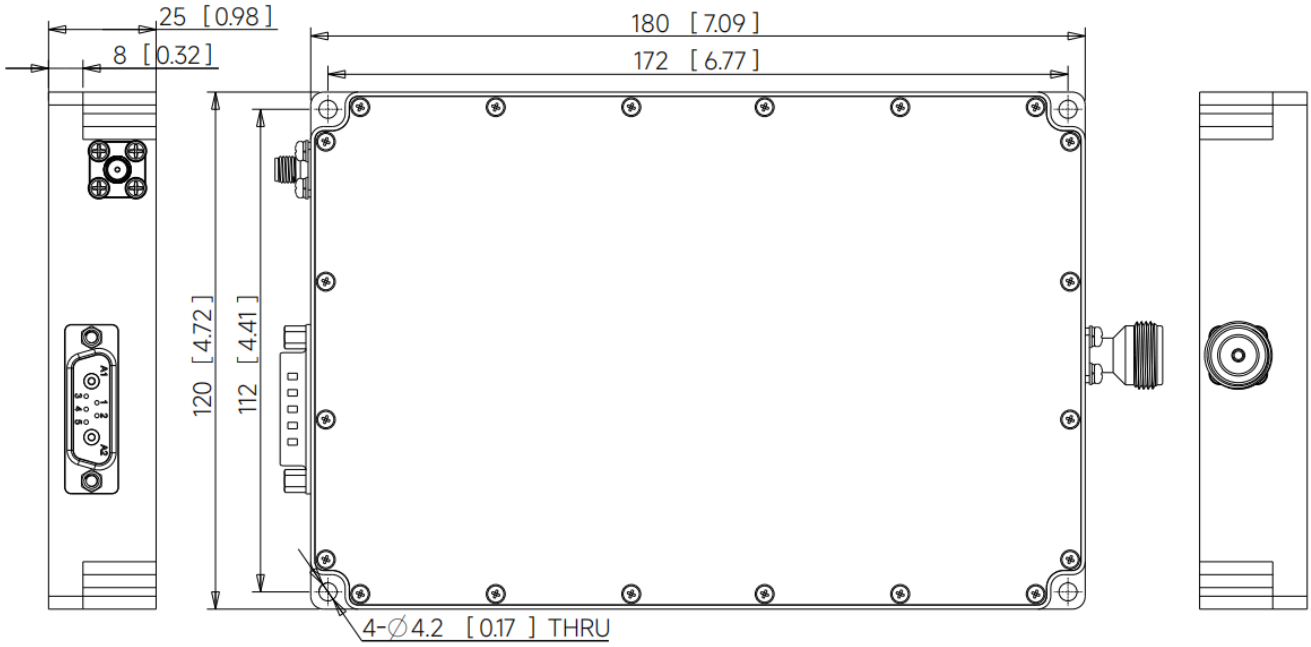
[1] Storage temperature

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 — 485A	RS-485 serial communication
4	4 — 485B	RS-485 serial communication
5	5 — Not connected	Not connected

Mechanical Specifications

Parameter	Value	Unit
Dimensions	180 × 120 × 25[7.09 × 4.72 × 0.98] mm [in] (maximum)	mm [in]
Weight	2[4.4] kg [lb] (maximum)	kg [lb]
RF input connector	SMA, female	-
RF output connector	N, female	-
DC/control interface	Hybrid, D-Sub 7, 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.