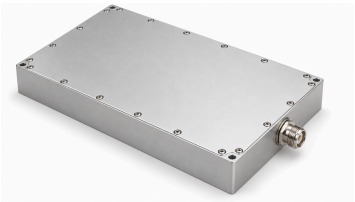
30–500 MHz RF Power Amplifier, 120 W Typical at Saturation

The conservatively presented range is 30–500 MHz. The table states 30–520 MHz, while the opening paragraph names a different model and 30–512 MHz. This document's table specifies 100 W minimum, 120 W typical and 160 W maximum at PSAT, with 50 dB typical gain at PSAT.



Supply is 26–30 VDC, with 15 A typical current at 100 W. Maximum dimensions are 180 × 120 × 25 mm, with SMA-K input, N-K output and a hybrid seven-pin D-Sub connector.

Analog temperature/current sensing and 3.3 V TTL enable with internal pull-down are documented; the frequency extension and semiconductor technology remain unconfirmed.

Electrical Specifications

+28.0VDC; 25°C; 50Ω; Power-added efficiency: The source does not state a unit; a percentage is not inferred.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	BW	30	-	500	MHz
RF output power @ PSAT	PSAT	100	120	160	W
Power gain @ PSAT	Gp	-	50	-	dB
Power gain flatness @ PSAT	ΔGp	-	±2	-	dB
Input return loss	S11	-	-	- 10	dB
Harmonics at 70 W	H	-	-10	-	dBc
Spurious signals @ PSAT	Spur	-	-60	-	dBc
Input/output impedance	Impedance	-	50	-	Ω
Operating voltage	VDC	26	28	30	VDC
Power-added efficiency	Eff	-	15	-	-
DC current @ 100W	IDD	-	15	-	A

Monitoring and Protection

Parameter	Specification
Monitoring	Voltage, current, output power, reflected power, and temperature
Output VSWR protection	VSWR >5 → Shutdown
Over-temperature protection	85 °C → Shutdown
Supply protection	(VDC >32 V) or Reversed polarity → Shutdown
Over-current protection	IDD >20 A → Shutdown

Absolute Maximum Ratings

Parameter	Rating
RF input drive without damage	+10 dBm maximum
Load VSWR	5:1; All load phases and amplitudes; continuous
Thermal overload	85 °C ±5 °C → Shutdown (maximum)

Environmental Specifications

Environmental design targets; qualified test results are not established.

Parameter	Minimum	Typical	Maximum	Unit
Operating temperature	-20	-	50	°C
Storage temperature [1]	-25	-	85	°C
Relative humidity (non-condensing)	-	-	95	%

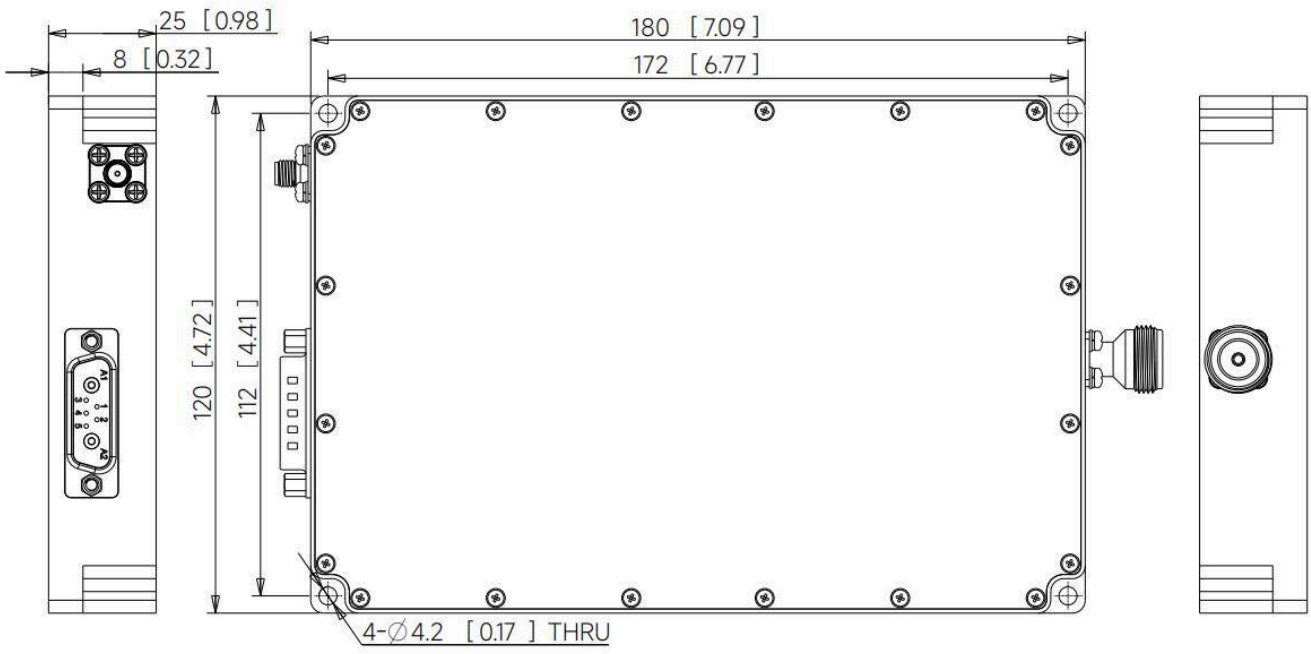
[1] Storage temperature

DC and Control Interface

Pin #	Description	Specification
A1	A1 — Positive supply	26~30VDC
A2	A2 — Ground	Ground
1	1 — Enable	TTL logic high (3.3 V); internally pulled low
2	2 — Temperature sense output	750 ±20 mV @25 °C; 10 mV/°C
3	3 — Current sense output	100 mV/A
4	4 — VSWR alarm	TTL = 0 → Normal; TTL = 1 → Abnormal
5	5 — Ground	Ground

Mechanical Specifications

Parameter	Value	Unit
Dimensions	180 × 120 × 25 [7.09 × 4.72 × 0.98] mm [in] (maximum)	mm [in]
Weight	2.0 [4.4] kg [lb]	kg [lb]
RF input connector	SMA-K, female	-
RF output connector	N-K, female	-
DC/control interface	Hybrid, D-Sub 7, male	-



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.