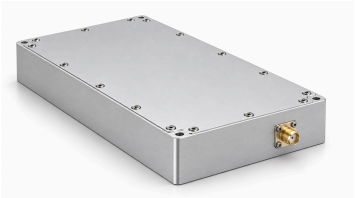
2–6 GHz 50 W RF Power Amplifier Module

LCPAM-2000-6000-50A provides 50 W typical saturated output and 47 dB typical gain at PSAT over 2–6 GHz. Electrical test conditions are 28 VDC, 25 °C and a 50 Ω system.



The RF input and output use SMA-K female connectors, with a hybrid 7-pin male D-Sub interface for supply and control. Control includes 3.3 V TTL enable, analog temperature and current sensing, and a VSWR protection status signal.

Electrical Specifications

28 VDC; 25 °C; 50 Ω

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	BW	2000	-	6000	MHz
Saturated RF output power	PSAT	-	50	-	W
Power gain (PSAT)	Gp	-	47	-	dB
Power gain flatness (PSAT)	ΔGp	-	±2	-	dB
Input reflection (S11)	S11	-	-	- 10	dB
Harmonics at 50 W	H	-	-10	-8	dBc
Spurious signals (PSAT)	Spur	-	-60	-	dBc
Input/output impedance	-	-	50	-	Ω
Operating voltage	VDC	26	28	30	V
DC current @ Pout = 50 W	IDD	-	6	-	A

Monitoring and Protection

Parameter	Specification
Monitoring	Voltage, current, output power, reflected power, and temperature
Output VSWR protection	Shutdown at output VSWR between 3.5 and 4
Over-temperature protection	Shutdown above 85 °C
Supply protection	Shutdown above 32 V or with reverse supply polarity
Over-current protection	Shutdown above 10 A

Absolute Maximum Ratings

Parameter	Rating
RF input drive without damage	+10 dBm
Thermal overload	85 ±5 °C — Shutdown

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	-25	-	85	°C
Relative humidity (non-condensing)	-	-	95	%

DC and Control Interface

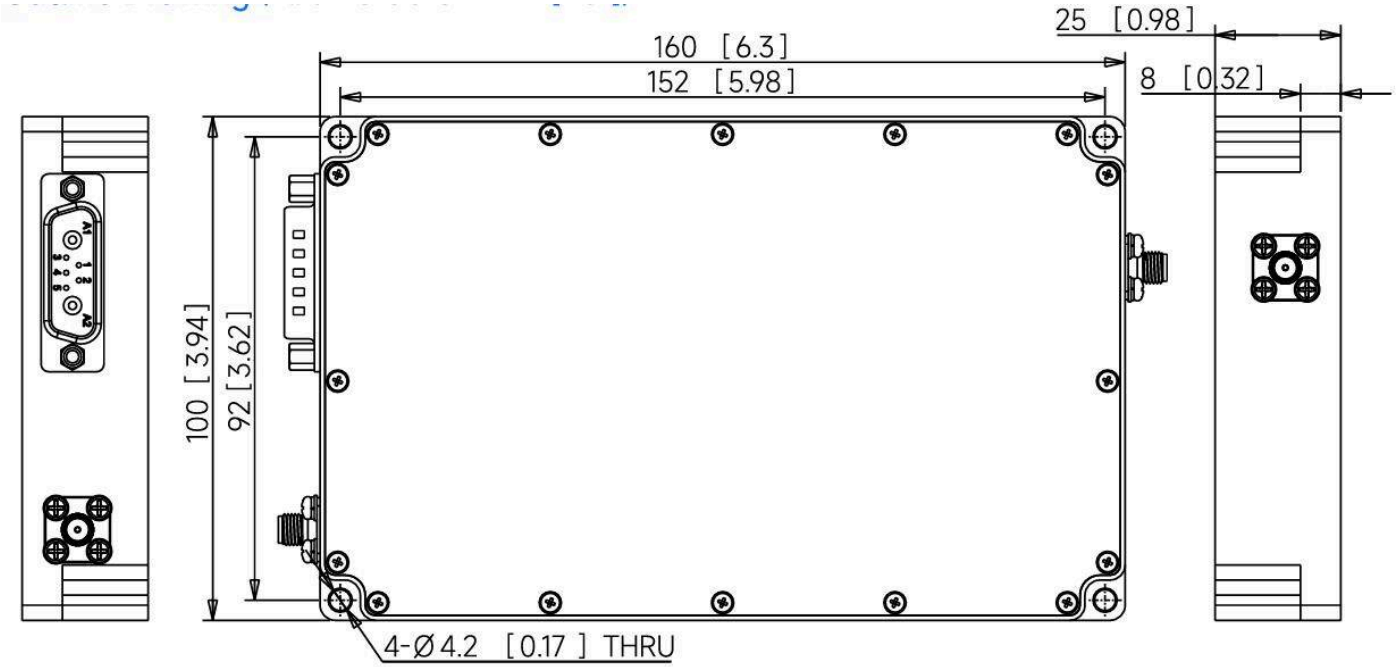
Pin #	Description	Specification
A1	VDD	28 VDC
A2	GND	Ground
1	Enable	TTL logic high (3.3 V); internally pulled low
2	Temperature sensing	Analog output: 10 mV/°C; 750 ±20 mV at 25 °C
3	Current sensing	Analog output: 100 mV per A
4	VSWR protection status	TTL=0: normal; TTL=1: fault
5	GND	Ground

Integration guidance

Parameter	Specification
Before integration	Confirm power-added efficiency and load-mismatch capability before sizing the supply and cooling.

Mechanical Specifications

Parameter	Value	Unit
Dimensions	160 × 100 × 25 (Maximum)	mm
Weight	1.0	kg
RF input connector	SMA-K — Female	-
RF output connector	SMA-K — Female	-
DC/control interface	Hybrid D-Sub 7-pin 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.