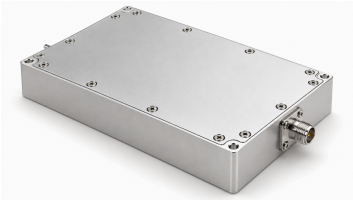
5–6 GHz 50 W RF Power Amplifier Module

This 5–6 GHz module specifies 50 W typical saturated output and 47 dB typical gain. At 50 W, current is 7 A typical and harmonics are –15 dBc typical.

Its 120 × 80 × 20 mm housing uses SMA female input and N female output. The pin interface provides RS-485 and internally pulled-low 3.3 V TTL enable on pin 6; shutdown is above 10 A.



Electrical Specifications

+28.0 VDC, 25 °C, 50 Ω system unless otherwise stated

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	BW	5000	-	6000	MHz
Saturated RF output power	Pout	-	50	-	W
Power gain	Gp	-	47	-	dB
Power gain flatness	Gp	-	±1	-	dB
VSWR	S11	-	1.5	-	-
Harmonics at 50 W	H	-	-15	-	dBc
Spurious signals	Spur	-	-60	-	dBc
Input/output impedance	Impedance	-	50	-	Ω
Operating voltage	VDC	24	28	32	VDC
Power-added efficiency	Eff	-	50	-	%
Current consumption at Pout = 50 W	IDD	-	7	-	A

Monitoring and Protection

Parameter	Specification
Monitoring	Voltage, current, output power, reflected power, and temperature
Over-temperature protection	Amplifier shutdown above 85 °C
Supply protection	Shutdown above 32 V, below 24 V, or with accidental reverse wiring
Over-current protection	Amplifier shutdown above 10 A

Absolute Maximum Ratings

Exceeding these ratings may damage the module

Parameter	Rating
RF input drive without damage	+10 dBm
Load VSWR at Pout = 100 W	3:1 at all load phases, continuous
Thermal overload	85 °C shutdown

Environmental Specifications

The environmental figures are design targets. Confirm the applicable values for your project.

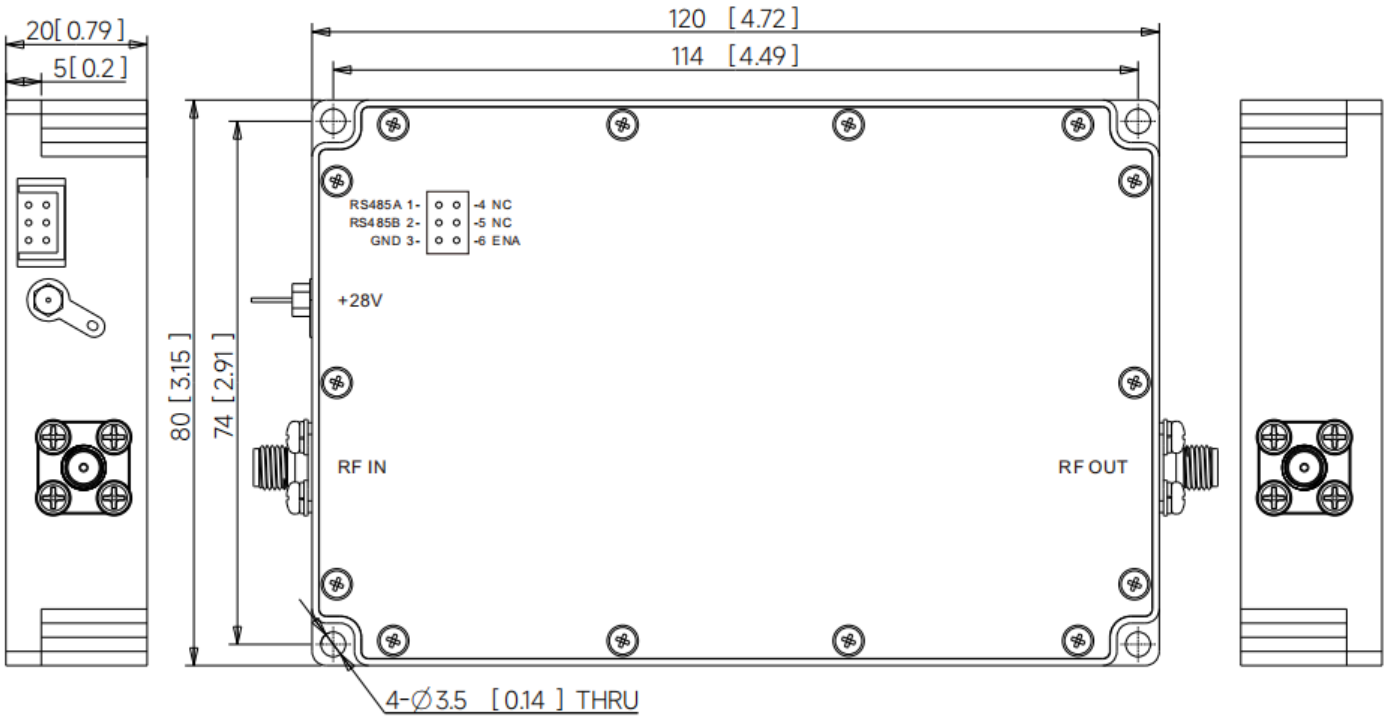
Parameter	Minimum	Typical	Maximum	Unit
Operating temperature	-20	-	50	°C
Storage temperature	-25	-	65	°C
Relative humidity (non-condensing)	-	-	95	% RH

DC and Control Interface

Pin #	Description	Specification
1	1 485A	RS-485 serial communication
2	2 485B	RS-485 serial communication
3	3 GND	Ground
4	4 NC	Not connected
5	5 NC	Not connected
6	6 ENABLE	TTL logic high (3.3 V); internally pulled low

Mechanical Specifications

Parameter	Value	Unit
Dimensions	120 × 80 × 20[4.72 × 3.15 × 0.79] (Maximum)	mm [in]
Weight	0.5[1] (Maximum)	kg [lb]
RF input connector	SMA female	-
RF output connector	N female	-
DC/control interface	Pin interface	-



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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.