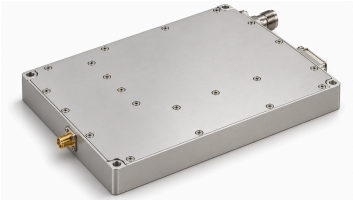
6–18 GHz Solid-State RF Power Amplifier, 50 W Typical



The solid-state amplifier covers 6–18 GHz with 45 W minimum and 50 W typical saturated output at 0 dBm input. Typical gain is 47 dB; gain flatness is ±1.5 dB typical and ±2.5 dB maximum under the same input condition.

The housing measures 180 × 150 × 25 mm, excluding connector and pin protrusions. The module has an SMA input and an N output. An external heatsink is required and supplied separately. The supply range is 26–30 V, with 28 V typical. Confirm the functions of pins 2–5 with LCRF before wiring or applying power.

Electrical Specifications

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	BW	6	-	18	GHz
Saturated RF output power @ Pin = 0 dBm	Psat	45	50	-	W
Power gain @ Pin = 0 dBm	Gp	-	47	-	dB
Power gain flatness @ Pin = 0 dBm	ΔGp	-	±1.5	±2.5	dB
Input return loss	S11	-	-	−10	dB
Harmonic level at 25 W	H	-	-	−20	dBc
Spurious signals	Spur	-	-	−60	dBc
Input/output impedance	Z_0	-	50	-	Ω
Operating voltage	VDC	26	28	30	V
DC current @ 50 W	IDD	-	10	13	A

Environmental Specifications

Parameter	Minimum	Typical	Maximum	Unit
Operating ambient temperature [1]	−40	-	+60	°C
Storage temperature [2]	−45	-	+85	°C
Relative humidity (non-condensing) [3]	-	-	95	%

[1] Case temperature ≤85 °C

[2] Non-operating

[3] Non-condensing

Absolute Maximum Ratings

Parameter	Rating
RF input drive without damage	+5 dBm
Load VSWR at 25 W	∞; All load phases and amplitudes; for one minute

Absolute Maximum Ratings

Parameter	Rating
Load VSWR at 25 W	3.0:1; All load phases and amplitudes; continuous
Over-temperature protection	85 °C → Shutdown; Heatsink
Overtemperature recovery temperature	60 °C

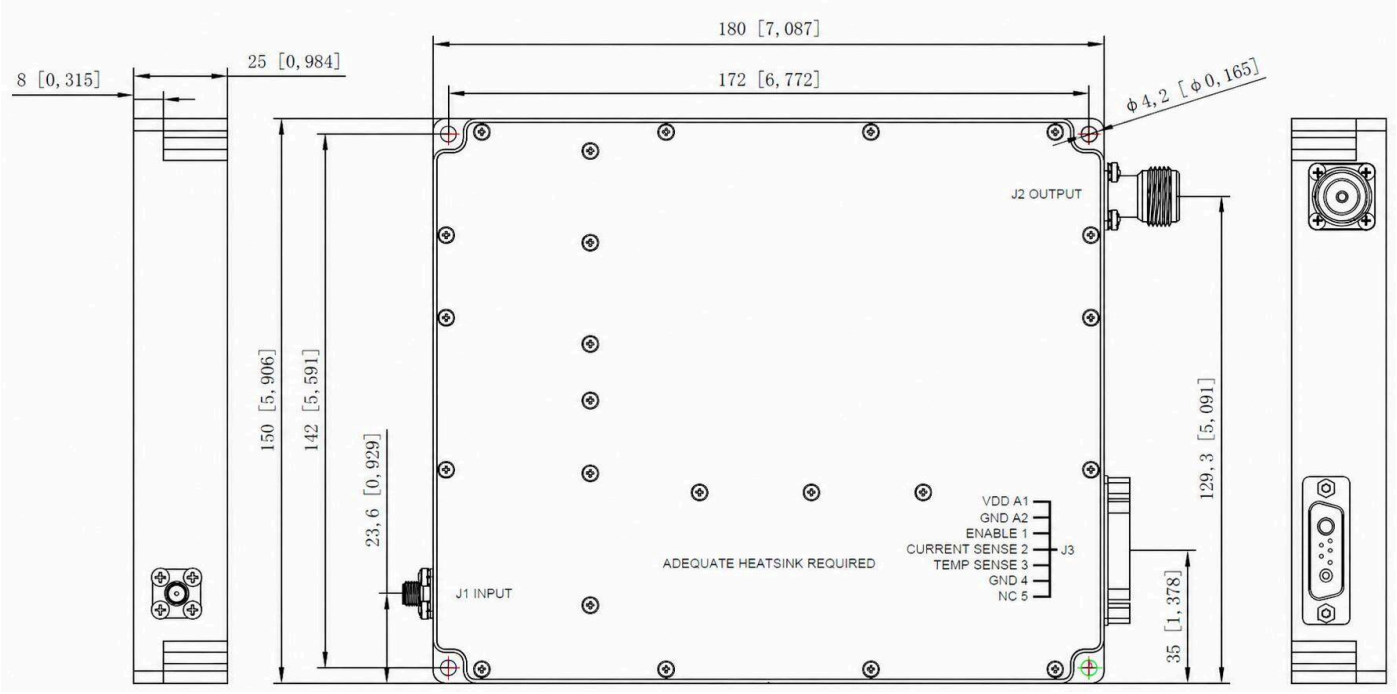
DC and Control Interface

Pin #	Description	Specification
A1	A1 — Positive supply	+28 VDC
A2	A2 — Ground	Ground
1	1 — Enable	TTL logic high (3.3–5 V); internally pulled low

Mechanical Specifications

Parameter	Value	Unit
Body dimensions	180 × 150 × 25 (Housing dimensions exclude protruding RF connectors and DC/control pins. Use the outline drawing to check installation clearances.)	mm
Weight	≤1.0 kg	-
RF input connector	SMA female	-
RF output connector	N female	-
DC/control interface	Hybrid 7 D-Sub male	-
Cooling	External heatsink required; not supplied	-
Dimensional tolerance	±0.2 mm	-

Mechanical Outline



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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.