10700–12700 MHz GaN RF Power Amplifier, 50 W Typical



The GaN amplifier delivers 50 W typical saturated output across 10700–12700 MHz and 47 dB typical gain. Typical dynamic current is 10 A at 50 W, with 1.6 A typical quiescent current.

Maximum dimensions are 160 × 120 × 25 mm, with an SMA input, N-K output and hybrid D-Sub 7W2. Current protection shuts down after more than 15 A for 5 s and requires a power cycle; operating temperature is −20–50 °C. The stated temperature range is a design target. Confirm qualification requirements with LCRF.

Electrical Specifications

+28.0VDC; 25°C; 50Ω

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	BW	10700	-	12700	MHz
RF output power @ PSAT	PSAT	-	50	-	W
Power gain @ PSAT	Gp	-	47	-	dB
Power gain flatness @ PSAT	ΔGp	-	±1	-	dB
Input return loss	S11	-	-	-15	dB
Harmonics at 50 W	H	-	-50	-	dBc
Spurious signals @ PSAT	Spur	-	-60	-	dBc
Input/output impedance	Impedance	-	50	-	Ω
Operating voltage	VDC	-	28	-	VDC
Quiescent current	IQ	-	1.6	-	A
Dynamic current @ 50W	IDD	-	10	-	A
Power-added efficiency	Eff	-	25	-	%

Absolute Maximum Ratings

Parameter	Rating
RF input drive without damage	+10 dBm maximum
Load VSWR at Pout = 50 W	∞; 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

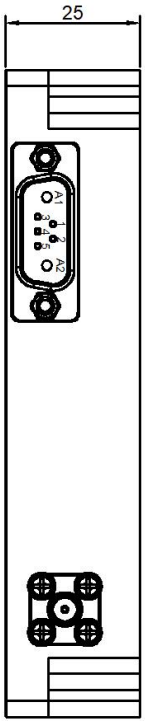
DC and Control Interface

Pin #	Description	Specification
A1	A1 — Positive supply	+28 VDC
A2	A2 — Ground	Ground
1	1 — Enable	TTL logic high (3.3 V); internally pulled low
2	2 — Temperature alarm	LVTTL: 0 V → Normal; 3.3 V / T >85 °C → Shutdown; T <65 °C → Automatic recovery
3	3 — Overcurrent indicator	LVTTL: 0 V → Normal; 3.3 V → Abnormal; IDD >15 A / 5 s → Shutdown; Power cycle required
5	5 — Ground	Ground

Mechanical Specifications

Connector-side reference view. Use the complete outline drawing for installation. Confirm the function of pin 4 with LCRF before wiring or applying power.

Parameter	Value	Unit
Dimensions	160 × 120 × 25[6.30 × 4.72 × 0.98] mm [in] (maximum)	mm [in]
Weight	2.0[4.4] kg [lb] (maximum)	kg [lb]
RF input connector	SMA, female	-
RF output connector	N-K, female	-
DC/control interface	Hybrid, D-Sub 7W2, 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.