500–2700 MHz RF Power Amplifier, 20 W Typical, RS-485



This amplifier covers 500–2700 MHz with 20 W typical output and 43 dB typical gain. Typical flatness is ±2 dB and typical VSWR is 1.5:1, within a 24–32 VDC operating supply range.

The housing dimensions shown in the mechanical drawing are 115 × 60 × 20 mm, with SMA RF input and output. The six-pin interface provides RS-485 on pins 1 and 2 and TTL enable on pin 6; temperature, voltage and current protection are documented.

Electrical Specifications

+28.0VDC; 25°C; 50Ω; Harmonics: Source condition “20”; its unit is not specified.

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating frequency	BW	500	-	2700	MHz
Saturated RF output power	Pout	-	20	-	W
Power gain	Gp	-	43	-	dB
Power gain flatness	Gp	-	±2	-	dB
VSWR	S11	-	1.5	-	-
Harmonics	H	-	-10	-	dBc
Spurious signals	Spur	-	-60	-	dBc
Input/output impedance	Impedance	-	50	-	Ω
Operating voltage	VDC	24	28	32	VDC
Power-added efficiency	Eff	-	35	-	%
DC current @ Pout = 20 W	IDD	-	2	-	A

Monitoring and Protection

Parameter	Specification
Over-temperature protection	85 °C → Shutdown
Supply protection	(VDC >32 V) or (VDC <24 V) or Reversed polarity → Shutdown
Over-current protection	IDD >5 A → Shutdown

Absolute Maximum Ratings

Parameter	Rating
RF input drive without damage	+10 dBm maximum
Load VSWR at Pout = 20 W	3:1; 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	%

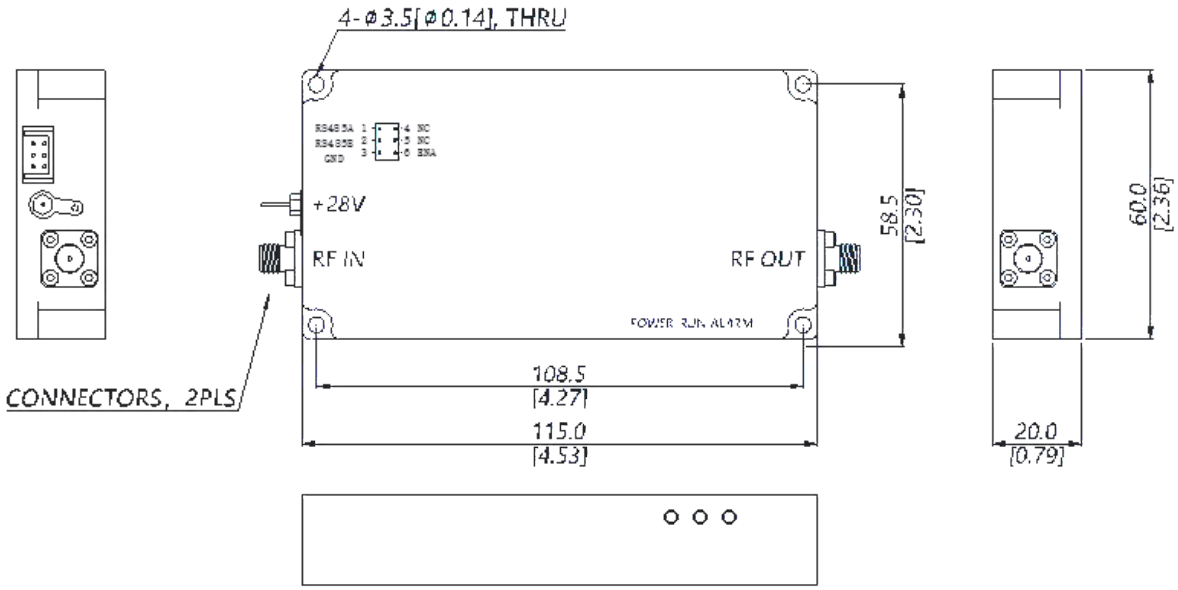
[1] Storage temperature

DC and Control Interface

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

Mechanical Specifications

Parameter	Value	Unit
Dimensions	115 × 60 × 20 mm	mm
Weight	0.5[1.1] kg [lb] (maximum)	kg [lb]
RF input connector	SMA, female	-
RF output connector	SMA, female	-
DC/control interface	6 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.