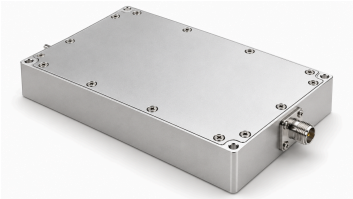
# 5.6–5.9 GHz 50 W RF Power Amplifier Module

The 5.6–5.9 GHz module specifies 50 W typical saturated output, 47 dB typical gain and ±1 dB typical gain flatness. At 50 W, current is 7 A typical with 50% typical power-added efficiency.

The 120 × 80 × 20 mm module provides SMA female input and N female output. RS-485 and internally pulled-low 3.3 V TTL enable on pin 6 use its pin interface; current above 10 A causes shutdown.



## Electrical Specifications

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

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Operating frequency | BW | 5600 | - | 5900 | 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.

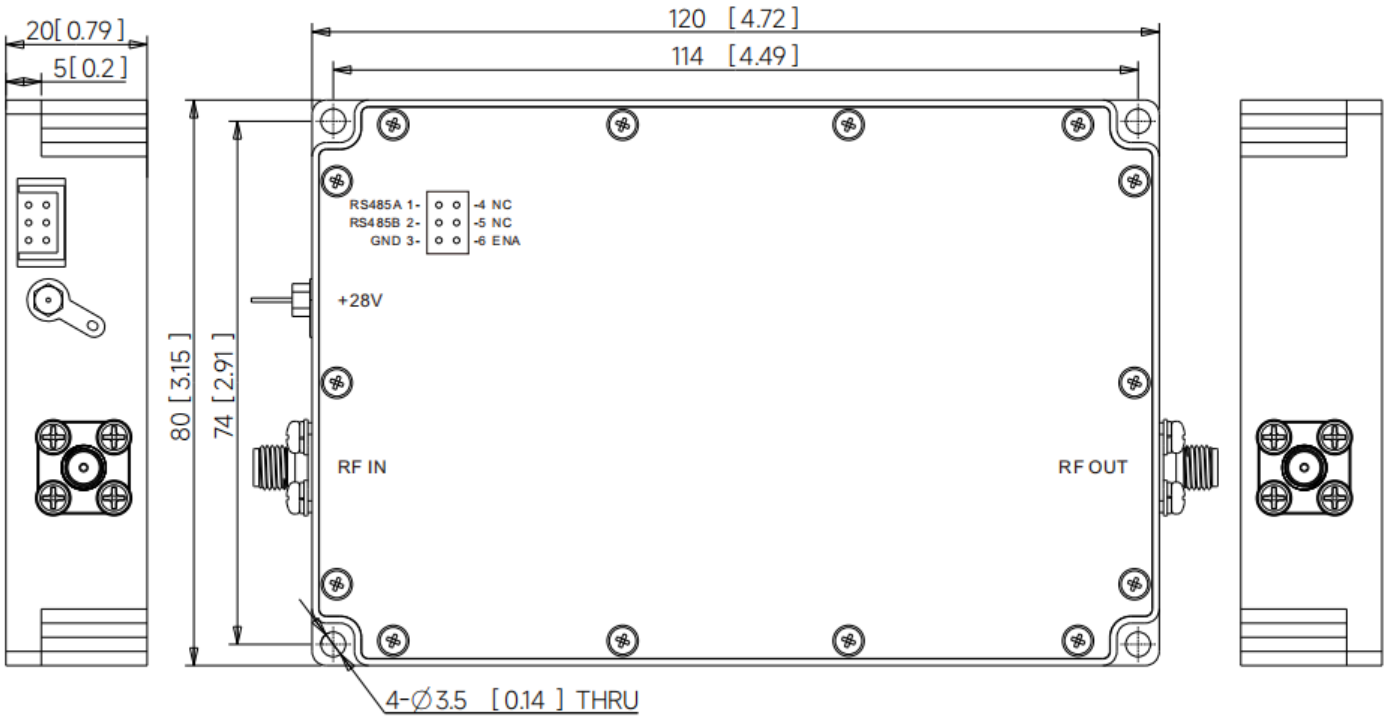
| Parameter | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|
| Operating temperature | -20 | - | 50 | °C |
| Storage temperature | -25 | - | 65 | °C |
| Relative humidity (non-condensing) | - | - | 95 | % RH |

## 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.