

400–2500 MHz RF Power Amplifier, Band-Specific 300/320 W Minimum, RS-485

The table separates output power by band: 300 W minimum at 400–500 MHz and 320 W minimum at 500–2500 MHz. Typical gain is 55 dB with ±2.5 dB typical flatness.



Electrical Specifications · +28.0VDC; 25°C; 50Ω; 0dBm

| Parameter                           | Symbol    | Minimum | Typical | Maximum | Unit |
|-------------------------------------|-----------|---------|---------|---------|------|
| Operating frequency                 | BW        | 400     | -       | 2500    | MHz  |
| RF output power (400–500 MHz)       | Pout      | 300     | -       | -       | W    |
| RF output power (500–2500 MHz)      | Pout      | 320     | -       | -       | W    |
| Power gain                          | Gp        | -       | 55      | -       | dB   |
| Power gain flatness                 | Gp        | -       | ±2.5    | -       | dB   |
| VSWR                                | S11       | -       | -       | 2       | -    |
| Harmonics at 300 W                  | 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       | -       | 28      | -       | %    |
| Current consumption at Pout = 300 W | IDD       | -       | 45      | -       | A    |

Monitoring and Protection

| Parameter                   | Specification                                                  |
|-----------------------------|----------------------------------------------------------------|
| Monitoring                  | Voltage, current, temperature and open/short-circuit detection |
| Output VSWR protection      | VSWR = 3 → Normal; Open-circuit protection → Shutdown          |
| Over-temperature protection | 85 °C → Shutdown                                               |
| Supply protection           | (VDC >32 V) or (VDC <24 V) or Reversed polarity → Shutdown     |

Absolute Maximum Ratings

| Parameter                     | Rating                                        |
|-------------------------------|-----------------------------------------------|
| RF input drive without damage | +10 dBm maximum                               |
| Load VSWR at Pout = 300 W     | ∞; All load phases and amplitudes; continuous |
| Thermal overload              | 85 °C → Shutdown (maximum)                    |

Environmental Specifications

· Design targets; project confirmation required

| Parameter                          | Minimum | Typical | Maximum | Unit | Notes               |
|------------------------------------|---------|---------|---------|------|---------------------|
| Operating temperature              | -20     | -       | 55      | °C   | -                   |
| Storage temperature                | -25     | -       | 65      | °C   | Storage temperature |
| Relative humidity (non-condensing) | -       | -       | 95      | %    | -                   |

**Mechanical Specifications** · Partial end view from the original mechanical drawing; this excerpt is not a complete outline or a confirmed wiring diagram. The source mechanical table specifies Hybrid D-Sub 4, while the power-pin section states DB5 and five pins. Exact connector designation and pin count require confirmation. The mechanical table calls the control connector D-Sub 15, male, while the control-interface heading states J30J-9ZK. The source does not establish whether these designate the same interface. Confirm the exact connector designation, pin count and wiring; the documented pin-function rows are retained as source records.

| Parameter           | Value                                                  | Unit    |
|---------------------|--------------------------------------------------------|---------|
| Dimensions          | 400 × 380 × 70[15.75 × 14.96 × 2.76] mm [in] (maximum) | mm [in] |
| Weight              | 12[26.4] kg [lb] (typical)                             | kg [lb] |
| RF input connector  | SMA, female                                            | -       |
| RF output connector | N, female                                              | -       |

DC and Control Interface

| Pin # | Description               | Specification                              |
|-------|---------------------------|--------------------------------------------|
| 1     | 1 — Enable                | High level → Enabled; Low level → Disabled |
| 2     | 2 — Ground                | Ground                                     |
| 3     | 3 — 485A                  | RS-485 serial communication                |
| 4     | 4 — 485B                  | RS-485 serial communication                |
| 5     | 5 — Not connected         | Not connected                              |
| 6     | 6 — Not connected         | Not connected                              |
| 7     | 7 — Overcurrent indicator | -                                          |
| 8     | 8 — VSWR alarm            | -                                          |
| 9     | 9 — Temperature alarm     | -                                          |

Power pin definition

| Pin # | Description         | Specification                        |
|-------|---------------------|--------------------------------------|
| 1     | 1 — Positive supply | Positive supply; Total current: 45 A |
| 2     | 2 — Positive supply | Positive supply                      |
| 3     | 3 — Ground          | Negative supply                      |
| 4     | 4 — Ground          | Negative supply                      |
| 5     | 5 — Not connected   | Not connected                        |

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.