



POWERLINear Series Microwave Linear RF Amplifiers



POWERLINear Digital RF Power Amplifier

- ❑ Designed for Digital Modulation
 - COFDM, QPSK, QAM, and CW
- ❑ Ultra Linear
- ❑ High Efficiency
- ❑ Operating Gain
 - 5W: 14 dB typical
 - 10W: 17 dB typical
- ❑ L, S, C, & X bands
- ❑ RF Ports are Open and Short Protected
- ❑ Short Circuit/Over-voltage Protection
- ❑ Reverse Polarity Protection
- ❑ 12 Vdc Operation
- ❑ Rugged Packaging

POWERLINear RF Power Amplifier

The POWERLIN Series brings a new level of performance and reliability to microwave transmission of digitally modulated video. POWERLIN provides 5 or 10 Watts (depending on model) of RF power into any load in a range of bands. POWERLIN amplifiers are designed to amplify COFDM digitally modulated signals. The amplifier features broadband operation while requiring a minimum of DC current. An add-on heat sink is typically not required for normal operation. Packaged in a rugged aluminum housing, the amplifier construction lends the POWERLIN Series to applications where extreme environmental conditions are the norm. Chassis connectors may be sealed and gasketed, making the POWERLIN Series ideal for airborne operations where the amplifier is mounted on the helicopter skid.

The integral POWERLIN linearizer minimizes distortions typically associated with conventional techniques. The amplifier may be used for COFDM, QPSK, QAM, and CW applications. Input and Output port protection is provided with a VSWR better than 2.0:1 across the frequency band providing excellent matching into filters. Reverse polarity protection, under voltage lock-out, and over voltage protection are standard features. The POWERLIN linear amplifier is ideal for digital transmission applications in surveillance, law enforcement, military UAV and UGV, airborne data/telemetry, and television broadcasting.

Electrical:

- Frequency Range:
 - L band: 1.7 to 1.9 GHz
 - S band: 2.0 to 2.7 GHz
 - C1 band: 3.1 to 3.5 GHz
 - C2 band: 4.4 to 5.0 GHz
 - X1 band: 7.7 to 8.5 GHz
 - X2 band: 10.7 to 11.2 GHz
- Input / Output Protection – Open and Short Circuit
- VSWR – \geq -14 dB Input and Output Return Loss
- Linearized, Saturated Class A Operation
- Reverse Polarity Protection
- Over Voltage Protection
- Short Circuit Protection
- Power-off bypass (optional)
- Supply Voltage - +10 Vdc - +15Vdc
- Supply Current –
 - @5W: 3.5 A typ, 4.0 A max.
 - @10W : 7.0 A typ, 8.0 A max
- Non-Harmonic Spurious Output – $>$ -65 dBc Typ.
- Nominal Drive - +23 dBm
- Overdrive Capability – Pin (nom) + 3 dBm
- COFDM / QAM / CW modulation formats
- Gain Flatness – ± 0.5 dB across operating band
- Operating Gain – 5W: (14 dB typ.)
10W: (17 dB typ.)
- Operating Power Outputs Available – 5W, 10W (typ.)
- OIP3 @ Pop (typ) – 5W: 53 dBm, 10W: 58 dBm
- PA Mute on PTO (optional)

Environmental:

- Operating temperature: -15 to +60 °C
- Relative Humidity: 0 to 95%, non-condensing
- Hermetic seal optional

Mechanical:

- DC Input Connector – PTO 4 pin
- Dimensions – 7" L x 5"W x 1"H (max)
- RF Input – SMA female (sealed)
- Housing – milled aluminum
- Weight – approximately 1.25 to 2 lbs
- RF Output – SMA female (sealed)

Accessories:

Feedline: Custom RF interconnect cables available to meet specific installation requirements.

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