200W Outdoor TWT Amplifier

for Communications Applications

15 GHz

The T02MO

200 Watt TWT Power Amplifier with BUC — high efficiency in an environmentally sealed compact package designed for outdoor operation

Plays in the Rain

Provides 175 watts of output power at the flange in a rugged and compact weatherproof package, digital ready, for wideband service in the 14.50-15.35 GHz frequency band. An L-Band Block Upconverter is included as standard.

Cost Effective and Efficient

Mounting at the antenna improves performance through minimized cable losses and saves cost in system design. Employs a high efficiency, dual-depressed collector helix traveling wave tube, reducing operating costs.

Reliable

Designed and built to survive in extremely adverse environmental conditions and features increased cooling margin for longer life.

Simple to Operate

User-friendly microprocessor-controlled logic with integrated Ethernet computer interface. Digital metering and pin diode attenuation for improved intermodulation performance.

Easy to Maintain

Modular design and built-in fault diagnostic capability via remote monitor and control.

Global Applications

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2004/108/EC and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements.

Worldwide Support

Backed by over three decades of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes fifteen regional factory service centers.

satcom division

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200W Outdoor TWT Amplifier

OPTIONS:

- *Remote Control Panel*
- *Redundant Subsystems*
- *Integrated 1:1 switch control and drive*
- *Integral Linearizer*

SPECIFICATIONS, T02MO with BUC

Electrical

Frequency	1000 MHz to 1850 MHz (input) 14.50 to 15.35 GHz (output)
Output Power	
TWT	200 W min. (53.01 dBm)
Flange	175 W min. (52.43 dBm)
Bandwidth	850 MHz
Gain	60 dB min. at rated power output; 64 dB typ. at small signal
Gain Stability	±0.25 dB/24hr max. (at constant drive and temp.)
Small Signal Gain Slope	±0.04 dB/MHz max.
Small Signal Gain Variation	1.0 dB pk-pk across any 80 MHz band; 3.0 dB pk-pk across the 850 MHz band
RF Level Adjust Range	30 dB typ.
Input VSWR	1.3:1 max.
Output VSWR	2.2:1 max.
Load VSWR	2.0:1 max. continuous operation; any value for operation without damage
MUXed External 10 MHz Reference Phase Noise Required (L-Band Input 1000 - 1850 MHz)	-115 dBc/Hz at 10 Hz -140 dBc/Hz at 100 Hz -145 dBc/Hz at 1 kHz -150 dBc/Hz at ≥10 kHz (Level -3 to +7 dBm)
Single Sideband Phase Noise	-63 dBc at 100 Hz offset -73 dBc at 1 kHz offset -83 dBc at 10 kHz offset -93 dBc at 100 kHz offset -103 dBc at 1 MHz offset -113 dBc at ≥10 MHz offset
Spurious	-60 dBc max. at 175 W flange output
AM/PM Conversion	2.0°/dB max. for a single carrier up to 40 W
Harmonic Output	-60 dBc max. at 40 W output
Noise Power Density (at maximum gain)	<-70 dBW/4 kHz, passband

Electrical (continued)

Intermodulation	-25 dBc max. with respect to the sum of both carriers at total output power of 40 W
Primary Power	100-240 VAC ±10% single phase, 47-63 Hz
Power Consumption	600 VA max. 500 VA typ. at 175 W output power
Power Factor	0.95 min.

Environmental (Operating)

Ambient Temperature	-40°C to +60°C operating, including solar loading; -40°C to +71°C non-operating
Relative Humidity	100% condensing
Altitude	10,000 ft. with standard adiabatic derating of 2°C/1000 ft., operating; 50,000 ft., non-operating
Shock	20 g pk, 11 mS, 1/2 sine
Vibration	3 g_{rms}
Acoustic Noise	65 dBA @ 3 ft. from amplifier

Mechanical

Cooling	Forced air with integral blower
L-Band Input Connection	Type N female
RF Output Connection	WR-62 waveguide flange, grooved with UNC 2B 6-32 threaded holes
RF Output Monitor	Type N female, 44 dB nom.
Dimensions (W x H x D)	8.5 x 8.5 x 15 in. max. (216 x 216 x 381 mm)
Weight	25 lbs (11.4 kg)

ISO 9001 Certificate Number: 30515

NASDAQ GLOBAL SELECT

Communications & Power Industries

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For more detailed information, please refer to the corresponding CPI Technical Description.

Note: *Specifications may change without notice as a result of additional data or product refinement.*

Please contact CPI before using this information for system design.

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