125 Watt SuperLinear® TWTA

Ka-Band

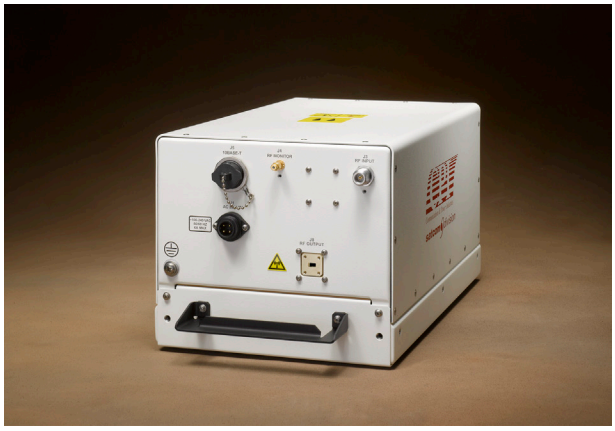
CPI SuperLinear Ka-Band TWTA for Satellite Uplink Communications

Provides a guaranteed 50 W of linear power at the flange over 1000 MHz within the 27-31 GHz frequency band. A multi-band BUC option is available: users may switch from two different pre-selected frequency ranges, each with up to 1 GHz bandwidth.

Rugged and Easy to Maintain
Built-in fault diagnostic capability via remote monitor and control. Easy access enclosure for improved serviceability. CAN-Bus architecture improves reliability and improves noise immunity. User-friendly microprocessor-controlled logic with integrated Ethernet computer interface. Digital metering is standard.

Meets Global Requirements
Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2014/30/EU and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements. CE Marked and licensed for import in Brazil, Russia and China.

Worldwide Support
Backed by over four decades of satellite communications experience, and CPI's worldwide 24-hour customer support network which includes more than 20 regional factory service centers.



CPI Model TL01KO, 125 W Ka-band TWTA, provides 50 watts of linear power at the flange

OPTIONS:

- Remote control panel
- Redundant or power combined subsystems
- Integral L-Band Block Upconverter (BUC) - contact CPI or consult document TD-183 for specifications when BUC is included
- Multiband block upconverter (BUC)
- Integral Linearizer
- RS-422/485 serial interface

Quality Management System - ISO 9001:2015

CE

CPI Communications & Power Industries

www.cpii.com/satcom

Specification	CPI Model TL01KO, 125 W Ka-band SuperLinear TWTA
Output Frequency	Up to 4000 MHz instantaneous bandwidth within the 27.0 to 31.0 GHz frequency band (multi-band BUC option allows for two different, factory-set frequency ranges, each up to 1 GHz - contact CPI for specs)
TWT Peak Power[1]	125 W (50.97 dBm) min.
Flange Peak/CW Power[1]	100 W/50 W (50.00/47.00 dBm) min.
Flange CW Power (max.)	55 W (47.40 dBm) max.
Intermodulation - with respect to the sum of two carriers	-25 dBc max. at total output power of 47 dBm with optional linearizer (at 44 dBm without linearizer)
Gain	70 dB min.
RF Level Adjust Range	0 to 30 dB (via PIN diode attenuator) typ, 0.1 dB steps
Gain Stability	±0.25 dB/24 hour max, at constant drive and temperature, after 30 minute warmup; ±1.0 dB typ. over operating temperature range
Small Signal Gain Slope	±0.04 dB/MHz max.
Small Signal Gain Variation	1.0 dB pk-pk max. across any 10 MHz segment; 3.0 dB pk-pk max. across any 1 GHz segment
Input/Output VSWR	1.3:1 max.
Load VSWR	1.5:1 max. continuous operation, no degradation; any value for operation without damage
Phase Noise	12 dB below IESS-308 continuous mask; -47 dBc AC fundamental; -50 dBc sum of all spurs
Spurious	-60 dBc max.
AM/PM Conversion	2.5°/dB max. for a single-carrier at 25 W RF output from peak (2.0°/dB max. at 50 W RF output with optional linearizer)
Noise Density	<-150 dBW/4 kHz below 21.2 GHz; <-65 dBW/4 kHz max. in passband; <-60 dBW/4 kHz max. in passband with linearizer option
Harmonic Outputs	-65 dBc max. (RF); -60 dBc max. (IF)
Group Delay (over 40 MHz)	0.01 ns/MHz linear max; 0.001 ns/MHz^2 parabolic max; 1.5 ns pk-pk ripple max.
Primary Power	Voltage: Single phase, 100-240 VAC ±10%; Frequency: 47-63 Hz
Power Consumption	400 VA max; 300 VA typ. at 40 W output power
Power Factor	0.95 min; 0.99 typ.
Amplitude and Phase Linearity	Exceeds MIL-STD-188-164B
Ambient Temperature	-40°C to +55°C operating in direct sunlight (to +60°C out of direct sunlight); -54°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 and Vibration	20 G at 11 ms (1/2 sine pulse in non-operating condition); 2.1 g rms, 50 to 500 MHz
Cooling	Forced Air with integral blower
Connections	RF Input: Type N Female; RF output: WR-28G (WR-34G optional); RF output monitor: 2.9mm SMA Female
M&C Interface	Ethernet (RS232/422/485 serial optional)
Dimensions, W x H x D	10.0 x 8.55 x 17.0 inches (254 x 218 x 432 mm)
Weight	29 lbs (13.2 kg) max. with no options
Heat Dissipation	250 W typ.
Acoustic noise	65 dBA (as measured at 3 ft.) nom.
Note 1	**Peak power specs are provided so that desired backoff can more easily be calculated. The amplifier's actual output at the flange, CW power, is 50 W.**

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For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. 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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