CPI 250 Watt Peak TWT BUC Ka-Band

CPI Ka-band TWT BUC for Satellite Uplink Applications

Provides 100 or 145 watts of CW power in a rugged and compact weatherproof package, digital ready, for wideband single- and multi-carrier satellite service over up to 1.0 GHz within the Ka-band frequency band. Ideal for both transportable and fixed earth station applications.

Cost Effective, Efficient, Rugged
Employs a high efficiency helix traveling wave tube, reducing operating costs. Rugged construction allows for operation in extreme environments.

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.

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 T02KO-B, 250 W Peak Power Ka-band TWTA, provides up to 145 watts of CW power at the flange

OPTIONS:

- Remote control panel
- Integral switch control and drive
- Redundant or power combined subsystems
- Integral Linearizer
- Ethernet interface

Quality Management System - ISO 9001:2015

CE

CPI Communications & Power Industries

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Specification	T02KO-B 145 W flange power	T02KO-B - 100 W avg power
Input Frequency	1000 - 2000 MHz	
Output Frequency	Up to 1000 MHz instantaneous bandwidth within the 27.0 to 31.0 GHz frequency band	
Output Power (min.) Average Power (TWT) CW Power (Flange)	250 W (53.98 dBm) peak 175 W (52.4 dBm) min. 145 W (51.6 dBm) min.	250 W (53.98 dBm) peak 120 W (50.8 dBm) min. 100 W (50.0 dBm) min.
Intermodulation - with respect to the each of two carriers	-23 dBc or better with 2 equal carriers at total power level 50 W CW (-24 dBc at 100 W output power with linearizer)	
Noise Power Ratio	12 dB at 7 dB backoff from rated power; 18 dB at 4 dB backoff from rated power with linearizer	
Spectral Regrowth	-30 dB at 7 dB OBO, or at 4 dB OBO with optional linearizer	
Gain	70 dB min. at rated output, 75 dB min. at small signal (70 dB min. with linearizer)	
RF Level Adjust Range	0 to 25 dB (via PIN diode attenuator) min, 0.1 dB steps	
Gain Stability	±0.4 dB/24 hour max,max. at constant drive and temperature, after 30 minute warmup ±3.0 dB max. from -5ºC to +60ºC	
Small Signal Gain Slope	±0.04 dB/MHz max.	
Small Signal Gain Variation	1.0 dB pk-pk max. across any 40 MHz segment; 4.5 dB pk-pk max. across 1 GHz segment	
Input/Output VSWR	1.3:1 max. / 1.3:1 max.	
Load VSWR	1.5:1 max. full spec. compliance; 2.0:1 max. continuous; any value for operation without damage;	
Phase Noise	3 dB below IESS-308 continuous mask; -36 dBc AC fundamental; -41 dBc sum of all spurs	
Spurious	-60 dBc max.	
AM/PM Conversion	2.5º/dB max. for a single-carrier up to 6 dB OBO (1.0º/dB max. up to 3 dB OBO with optional linearizer)	
Noise Density	<-150 dBW/4 kHz below 21.2 GHz; <-65 dBW/4 kHz max. in passband	
Group Delay (over 40 MHz)	0.02 ns/MHz linear max; 0.007 ns/MHz^2 parabolic max; 1.0 ns pk-pk ripple max.	
Primary Power	Voltage: Single phase, 100-240 VAC ±10%; Frequency: 47-63 Hz	
Power Consumption	750 VA typ, 800 VAC max.	650 VA typ, 800 VAC max.
Power Factor	0.95 min; 0.99 typ.	
Ambient Temperature	-40ºC to +50ºC operating in direct sunlight (to +55ºC out of direct sunlight); -54ºC to +71ºC non-operating	
Relative Humidity	100% condensing	
Altitude	10,000 ft. with standard adiabatic derating of 2ºC/1000 ft. operating; 50,000 ft. non-operating	
Shock and Vibration	20 G_{peak}, 11 ms 1/2 sine; 2.1 g_{rms}, 5 to 500 Hz (non-operational)	
Cooling	Forced Air with integral blower	
Connections	RF Input: WR-28F (WR-34F optional); RF output: WR-34G (WR-28G optional); RF output monitor: 2.9mm SMA Female	
M&C Interface	RS422/485 serial interface / Ethernet optional	
Dimensions, W x H x D	13.25 x 9.5 x 20.0 inches (337 x 242 x 508 mm)	
Weight	58 lbs (26.4 kg) with no options	
Heat Dissipation	600 W typ.	500 W typ.
Acoustic noise	65 dBA (as measured at 3 ft.) nom.	
Note 1	**Customer must select desired frequency range at time of purchase. This decision is TWT dependent and is not field changeable.**	
Note 2	**This amplifier guarantees 100 W (or 145 W) of power at the flange. The peak power specification is provided so that the desired backoff level can be more easily calculated. Mounting hardware is provided with each amplifier.**	

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