CPI 1.0kW TWT X-Band HPA

for Instrumentation & Satellite Communications

X-Band

The VZX-2782C1

1.0 kW TWT High Power Amplifer features high effciency, small size and an integral computer interface.

Compact

Provides 1000 Watts of power in the 8.0-10.0 GHz frequency band in a compact 19-inch rack-mount dual drawer con guration, digital ready, for wideband, single- and multi-carrier commercial satellite service.

Efficient and Reliable

Employs a CPI dual-depressed collector helix traveling wave tube which increases efficiency by a nominal 20% over conventional single collector TWTs, and a power supply designed with a minimum number of parts for maximum uptime.

Simple to Operate

Integrated microprocessor control lets the user adjust and monitor all operating parameters from one easy-to-read local or remote panel, using straightforward menu-driven commands.

Includes a built-in interface and serial bus for operation from the station computer.

Safe

Meets International Safety Standard EN60215 and EMC Standard EEC 89/336 to satisfy worldwide requirements.

Easy to Maintain

Modular design provides for easy installation and maintainability in the field.

Worldwide Support

Backed by over two decades of satellite communications experience, and CPI's world-wide 24-hour customer support network that includes nine regional factory Service Centers.

PRELIMINARY

CPI wireless solutions

INSTRUMENTATION AMPLIFIERS

Communications & Power Industries Canada, Inc.
45 River Drive
Georgetown, Ontario Canada L7G 2J4

Tel: 800-267-JETSAT or 905-877-0161
Fax: 905-877-5327

E-mail: marketing@cmp.cpii.com
Web: www.cpii.com/cmp

X-Band

1.0 kW TWT High Power Amplifier

X-Band

OPTIONS & COMPANION PRODUCTS:

- *Mimic Remote Control Panel*

SPECIFICATIONS, VZX-2782C1

Electrical

Frequency	8.0 to 10.0 GHz
TWT Model Number	VTX6389L3*
Output Power	
TWT	1200W min.
Flange	1000W min.
Bandwidth	2000 MHz
Gain (typical)	76 dB min. at rated power output 79 dB typ. at small signal
RF Level Adjust	0 to 20 dB continuous (pin diode attenuator)
Output Power Adjustability	±0.1 dB
Gain Stability (typical)	±0.25 dB/24 hr max. (at constant drive and temp.)
Small Signal Gain Slope	0.02 dB/MHz max.
Small Signal Gain Variation (typical)	3.0 dB pk-pk max. over the 2000 MHz bandwidth
Input/Output VSWR	1.25:1 max.
Load VSWR	2.0:1 max. for full spec compliance; any value without damage
Residual AM	-45 dBc up to 4 kHz, -20 (1.25 +log F kHz) dBc, 4 kHz to 500 kHz (F in kHz) -80 dBc above 500 kHz
Phase Noise	Single carrier at 7 dB below rated power, exceeds requirements of IESS-308/309 by 6 dB
AM/PM Conversion	2.5°/dB at 8 dB output power back off
Harmonic Output	-60 dBc
Noise and Spurious	-130 dBW/4 kHz from 3.6 to 4.2 GHz -65 dBW/4 kHz from 4.2 to 12.0 GHz -110 dBW/4 kHz from 12.0 to 40.0 GHz
Noise Figure	15 dB max.
Intermodulation	-23 dBc or better with two equal carriers at total output power level, 7 dB below rated single-carrier output
Group Delay (in any 40 MHz band) (typical)	0.01 ns/MHz linear 0.001 ns/MHz2 parabolic 0.5 ns pk-pk ripple max.

Electrical (continued)

Primary Power	
3 phase, 5 wire	208/120 V, ±10%, 50/60 Hz ±5%; 380-415/220-240 V, ±10%, 50/60 Hz ±5%; 5 wires are: Phase 1, 2 & 3 and ground connection. Neutral (wire 5) can be used if available.
Power Factor	0.90 min. (at 50 Hz)
Power Consumption	6.9 kVA (typical) 7.5 kVA max.

Environmental (Operating)

Ambient Temperature	-10° to +40°C operating -20° to +70°C non-operating
Relative Humidity	95% non-condensing
Altitude	Up to 10,000 ft (3000 m) with standard adiabatic derating of 2°/1000 ft.
Shock and Vibration	Designed to meet conditions normally encountered in satellite earth stations
Acoustic Noise	72 dBa one meter from front panel

Mechanical

Cooling(TWT)	Forced air with integral blower and power supply fan. Maximum external pressure loss allowable: 0.25 inch water gauge.
RF Input Connection	Type N female
RF Output Connection	CPR 137 F standard
RF Power Monitors	Type-N female
Dimensions (W x H x D)	
RF Drawer	19 x 12.25 x 24 in. (483 x 310 x 610 mm)
Power Supply	19 x 10.50 x 24 in. (483 x 268 x 610 mm)
Weight	
RF Drawer	90 lbs (41 kg)
Power Supply	100 lbs (45 kg)
Interconnect	10 lbs (4.5 kg)

PRELIMINARY

KEEPING YOU ON THE AIR
not up in the air

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.*

MKT 17, ISSUE 10 5/00 2500

wireless solutions
satcom division