

CPI 500W L-Band TWT Amplifier

for Instrumentation Applications

The VZL-2780C2

500 watt TWT
High Power Amplifier
features high efficiency,
small size and an integral
computer interface.

Compact

Provides 500 watts of power in the 1.0 to 2.5 GHz frequency band in a compact 19-inch rack-mount dual drawer configuration for wideband testing.

Efficient and Reliable

Employs CPI dual-depressed collector helix traveling wave tubes, increasing 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.

L-Band



Safety

Conforms to international safety and EMC compliance standards.

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 worldwide 24-hour customer support network that includes sixteen regional factory service centers.



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L-Band

500W TWT High Power Amplifier

OPTIONS & COMPANION PRODUCTS:

- *Mimic Remote Control Panel*
- *Octave External Harmonic Filters*
- *Octave Output Isolators*

SPECIFICATIONS, VZL-2780C2

Electrical

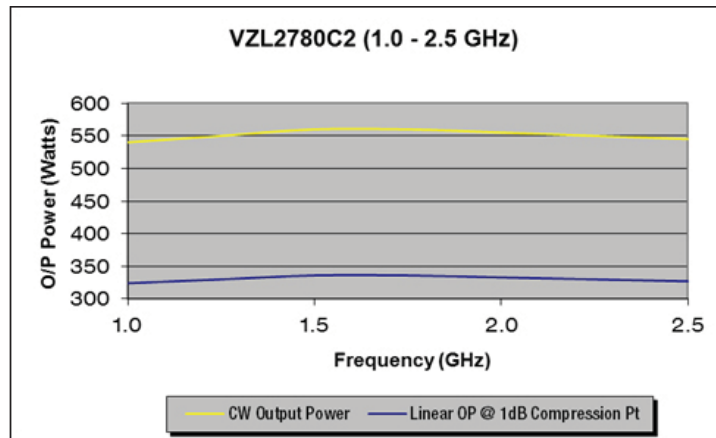
| | |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency | 1.0 to 2.5 GHz |
| Output Power | |
| TWT | 550 W min. (each) |
| Flange | 500 W min. |
| Bandwidth | 6.0 GHz |
| Gain | 57 dB min. at rated power output; 57 dB typ. at small signal |
| RF Level Adjust | 0 to 20 dB continuous |
| 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) | 10.0 dB pk-pk max. over the 1.5 GHz bandwidth |
| Input VSWR | 2.0:1; 1.65:1 with optional isolator; |
| Output VSWR | 2.0:1 max. |
| Load VSWR | 2.0:1 max. for full spec compliance; any value without damage |
| Residual AM | -50 10 Hz to 10 kHz; -20 [1.3 + log F (kHz)] dBc, 10 kHz to 500 kHz (F in kHz); -50 dBc 500 kHz to 1 MHz |
| Harmonic Content | -6 dBc typ. at 2 GHz |
| Primary Power | 208/120 V ±10%, or 380-415/220-240 V ±10%, 47-63 Hz; 5 wires are: Phase 1, 2 & 3, neutral and ground connection. Neutral (wire 5 can be used if available) |
| Power Factor | 0.90 min. (at 50 Hz) |
| Power Consumption | 6.9 kVA typ. 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 the laboratory |
| 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 | Type SC female |
| RF Power Monitors | Type-N female |
| Dimensions (W x H x D) | |
| RF Drawer | 19 x 17.5 x 28 in. (483 x 445 x 711 mm) |
| Power Supply | 19 x 8.75 x 24 in. (483 x 223 x 610 mm) |
| Weight | |
| RF Drawer | 115 lbs (52 kg) typ. |
| Power Supply | 100 lbs (45 kg) |
| Interconnect | 10 lbs (4.5 kg) |



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.

