

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

**Artisan Technology Group**
(217) 352-9330 | sales@artisantg.com | artisantg.com

**Full-service, independent repair center**
with experienced engineers and technicians on staff.

**We buy your excess, underutilized, and idle equipment**
along with credit for buybacks and trade-ins.

**Custom engineering**
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

**Expert team | Trust guarantee | 100% satisfaction**

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

**Visit our website - *Click HERE***

NON-CATALOG

*Coaxial*

# Pulse Amplifier

## ZPUL-21

50Ω Inverting 0.0025 to 700 MHz



CASE STYLE: S32

| Connectors | Model |
|---|---|
| **BNC** | ZPUL-21 |

### Features

- wideband, 2.5 KHz to 700 MHz, useable to 1000 MHz
- excellent flatness, ±0.6 dB typ.
- can handle wide pulse width & (15µs typ.) with excellent rise/fall time (1.1 ns typ.)
- delay time, 1.5 ns typical
- protected by US Patent, 6,943,629

### Applications

- computers
- digital communication
- medical test set-ups

### Pulse Amplifier Electrical Specifications

| MODEL NO. | FREQUENCY (MHz) | | GAIN (dB) | | RISE/FALL TIME (ns) | PULSE WIDTH* (µs) | MAXIMUM POWER (dBm) | | DYNAMIC RANGE | | VSWR (:1) Typ. | | DC POWER | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $f_L$ | $f_U$ | Min. | Flatness Max. | Max. | Max. | Output (1 dB Compr.) | Input (no damage) | NF** (dB) Typ. | IP3 (dBm) Typ. | In | Out | Volt (V) Nom. | Current (mA) Max. |
| ZPUL-21 | 0.0025 | 700 | 21 | ±1.0 | 1.5 | 6 | +22 | +10 | 7.3 | +34 | 2.0 | 2.0 | 24 | 350 |

* Pulse width for less than 10% droop.

** Noise Figure tested above 10 MHz.

Open load is not recommended, potentially can cause damage.

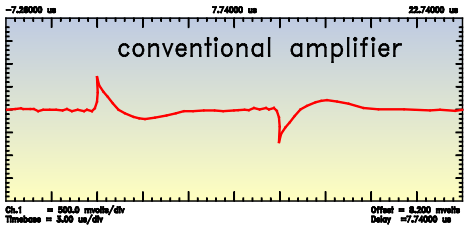
With no load derate max input power by 20 dB

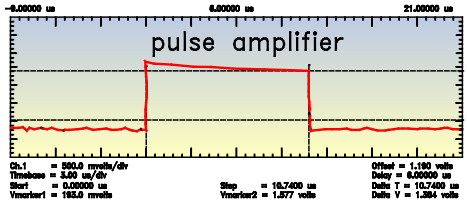
### Maximum Ratings

| | |
|---|---|
| Operating Temperature | -20°C to 65°C |
| Storage Temperature | -55°C to 100°C |
| DC Voltage | +24.5V Max. |

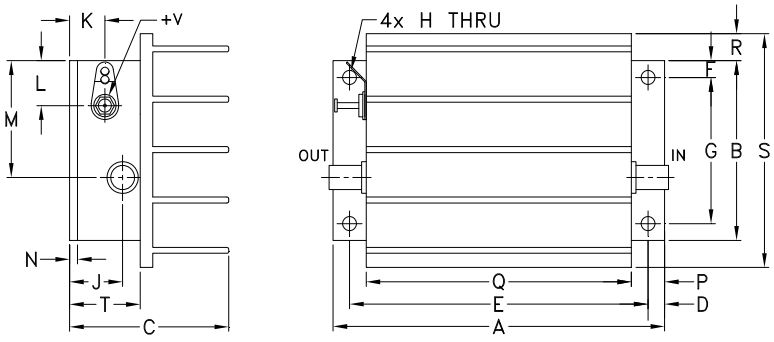
Permanent damage may occur if any of these limits are exceeded.

### typical amplifier response to a pulse input




### Outline Drawing




### Outline Dimensions (inch / mm)

| A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T | wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.75 | 2.00 | 1.80 | .19 | 3.375 | .19 | 1.625 | .144 | .50 | .40 | .50 | 1.30 | .10 | .38 | 3.00 | .30 | 2.60 | .80 | grams |
| 95.25 | 50.80 | 45.72 | 4.83 | 85.73 | 4.83 | 41.28 | 3.66 | 12.70 | 10.16 | 12.70 | 33.02 | 2.54 | 9.65 | 76.20 | 7.62 | 66.04 | 20.32 | 220.0 |

Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

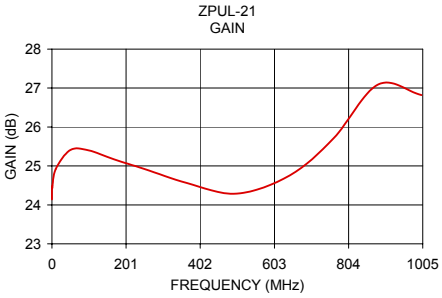
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

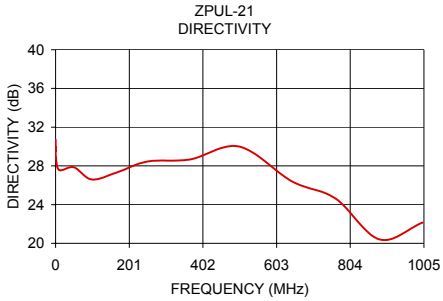
NON-CATALOG

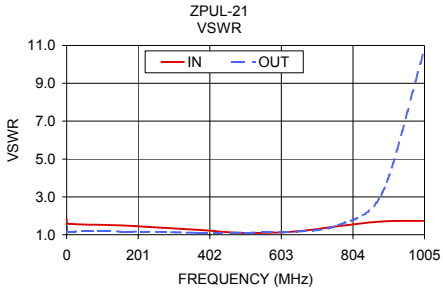
# Typical Performance Data/Curves

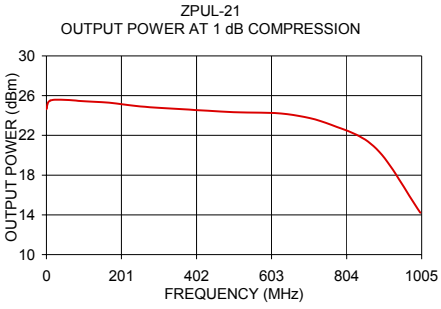
# ZPUL-21

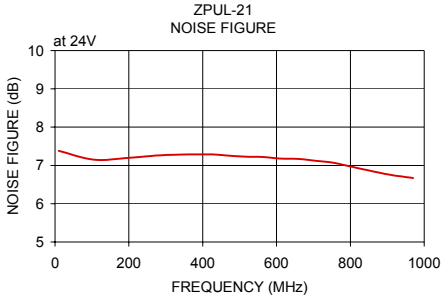
| FREQUENCY (MHz) | GAIN (dB) | DIRECTIVITY (dB) | VSWR (:1) | | POUT at 1 dB COMPR. (dBm) | FREQUENCY (MHz) | NOISE FIGURE (dB) |
|---|---|---|---|---|---|---|---|
| | 24V | 24V | IN | OUT | 24V | | 24V |
| 0.0025 | 24.14 | 30.72 | 1.85 | 1.40 | 24.63 | 10.00 | 7.38 |
| 0.01 | 24.47 | 29.52 | 1.61 | 1.20 | 24.76 | 106.00 | 7.15 |
| 0.05 | 24.42 | 29.95 | 1.58 | 1.18 | 24.70 | 202.00 | 7.20 |
| 1.01 | 24.43 | 28.89 | 1.58 | 1.17 | 24.82 | 298.00 | 7.27 |
| 10.08 | 24.92 | 27.56 | 1.57 | 1.17 | 25.50 | 418.00 | 7.29 |
| 50.00 | 25.41 | 27.85 | 1.54 | 1.18 | 25.58 | 466.00 | 7.26 |
| 98.88 | 25.40 | 26.60 | 1.52 | 1.18 | 25.44 | 514.00 | 7.23 |
| 167.88 | 25.17 | 27.34 | 1.48 | 1.17 | 25.30 | 562.00 | 7.22 |
| 251.25 | 24.92 | 28.45 | 1.39 | 1.15 | 24.91 | 610.00 | 7.18 |
| 366.25 | 24.56 | 28.65 | 1.26 | 1.10 | 24.64 | 658.00 | 7.17 |
| 501.38 | 24.29 | 30.00 | 1.09 | 1.11 | 24.34 | 706.00 | 7.12 |
| 645.13 | 24.76 | 26.40 | 1.18 | 1.17 | 24.14 | 754.00 | 7.07 |
| 763.00 | 25.71 | 24.64 | 1.45 | 1.50 | 23.06 | 802.00 | 6.97 |
| 883.75 | 27.09 | 20.40 | 1.70 | 3.10 | 20.65 | 898.00 | 6.77 |
| 1001.63 | 26.82 | 22.14 | 1.73 | 10.56 | 14.21 | 970.00 | 6.67 |




Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

**Artisan Technology Group** is an independent supplier of quality pre-owned equipment

## Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

## We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

## Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP