

Coaxial

# Amplifier

# NON-CATALOG

## ZFL-500

50Ω Low Power 0.05 to 500 MHz

### Features

- wideband, 0.05 to 500 MHz
- rugged, shielded case
- low noise, 4.2 dB typ.
- protected by US Patent, 6,943,629

### Applications

- instrumentation
- lab use
- VHF/UHF



SMA version shown  
CASE STYLE: Y460

| Connectors                  | Model       |
|-----------------------------|-------------|
| BNC                         | ZFL-500-BNC |
| <b>BRACKET (OPTION "B")</b> |             |

### Amplifier Electrical Specifications

| MODEL NO. | FREQUENCY (MHz) |       | GAIN (dB) |      |               | MAXIMUM POWER (dBm)       |                   | DYNAMIC RANGE |                | VSWR* (:1) Typ. |     | DC POWER      |                   |
|-----------|-----------------|-------|-----------|------|---------------|---------------------------|-------------------|---------------|----------------|-----------------|-----|---------------|-------------------|
|           | $f_L$           | $f_U$ | Min.      | Typ. | Flatness Max. | Output (1 dB Compr.) Min. | Input (no damage) | NF (dB) Typ.  | IP3 (dBm) Typ. | In              | Out | Volt (V) Nom. | Current (mA) Max. |
| ZFL-500   | 0.05            | 500   | 20        | 25   | ±1.0          | +9                        | +5                | 4.2           | +25            | 1.3             | 1.3 | 15            | 80                |

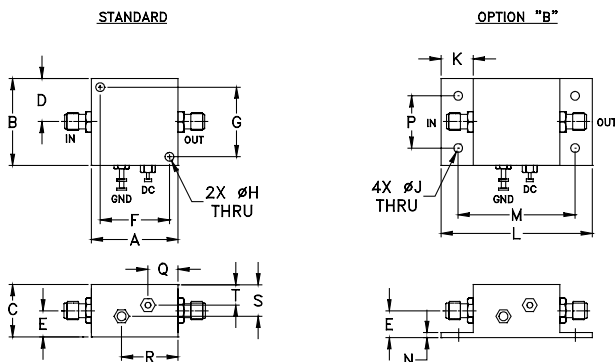
Open load is not recommended, potentially can cause damage.  
With no load derate max input power by 20 dB  
\*VSWR may increase to 1.8 below 0.1 MHz

### Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -20°C to 71°C  |
| Storage Temperature   | -55°C to 100°C |
| DC Voltage            | +17V Max.      |

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

### 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.   |
|-------|-------|-------|-------|------|-------|-------|------|------|-------|-------|-------|------|-------|-------|-------|-------|------|-------|
| 1.25  | 1.25  | .75   | .63   | .36  | 1.000 | 1.000 | .125 | .125 | .46   | 2.18  | 1.688 | .06  | .750  | .50   | .80   | .45   | .29  | grams |
| 31.75 | 31.75 | 19.05 | 16.00 | 9.14 | 25.40 | 25.40 | 3.18 | 3.18 | 11.68 | 55.37 | 42.88 | 1.52 | 19.05 | 12.70 | 20.32 | 11.43 | 7.37 | 38    |

### Notes

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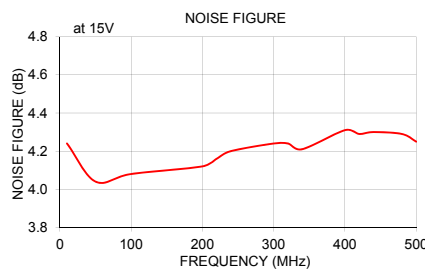
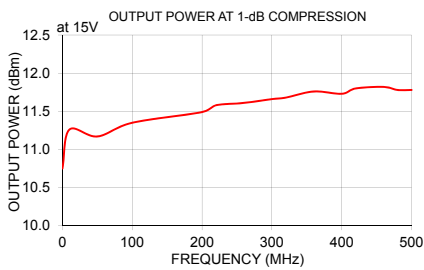
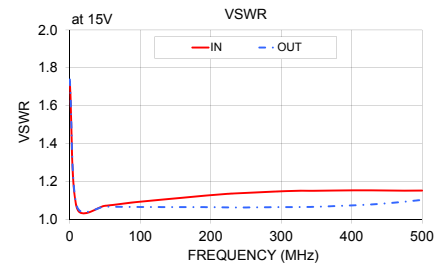
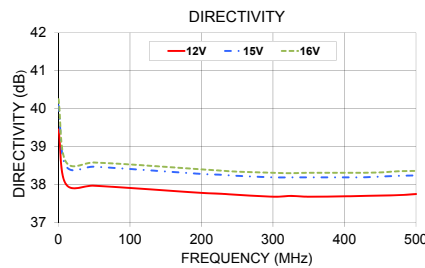
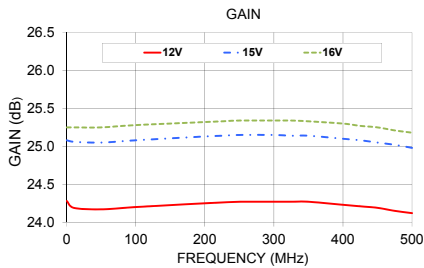


# NON-CATALOG

## Typical Performance Data/Curves

## ZFL-500

| FREQUENCY (MHz) | GAIN (dB) |       |       | DIRECTIVITY (dB) |       |       | VSWR (:1) 15V |      | NOISE FIGURE (dB) | POUT at 1 dB COMPR. (dBm) |
|-----------------|-----------|-------|-------|------------------|-------|-------|---------------|------|-------------------|---------------------------|
|                 | 12V       | 15V   | 16V   | 12V              | 15V   | 16V   | IN            | OUT  |                   |                           |
| 0.05            | 24.28     | 25.08 | 25.25 | 39.45            | 40.09 | 40.25 | 1.73          | 1.74 | —                 | 10.75                     |
| 10.00           | 24.19     | 25.06 | 25.25 | 38.02            | 38.50 | 38.61 | 1.06          | 1.07 | 4.24              | 11.26                     |
| 50.00           | 24.17     | 25.05 | 25.25 | 37.97            | 38.47 | 38.58 | 1.07          | 1.07 | 4.04              | 11.17                     |
| 100.00          | 24.20     | 25.08 | 25.28 | 37.91            | 38.41 | 38.53 | 1.09          | 1.07 | 4.08              | 11.35                     |
| 200.00          | 24.25     | 25.13 | 25.32 | 37.78            | 38.28 | 38.40 | 1.13          | 1.06 | 4.12              | 11.49                     |
| 225.00          | 24.26     | 25.14 | 25.33 | 37.76            | 38.26 | 38.37 | 1.14          | 1.06 | 4.16              | 11.58                     |
| 250.00          | 24.27     | 25.15 | 25.34 | 37.73            | 38.23 | 38.34 | 1.14          | 1.06 | 4.20              | 11.61                     |
| 300.00          | 24.27     | 25.15 | 25.34 | 37.68            | 38.19 | 38.31 | 1.15          | 1.06 | 4.24              | 11.66                     |
| 325.00          | 24.27     | 25.14 | 25.34 | 37.70            | 38.19 | 38.30 | 1.15          | 1.07 | 4.24              | 11.68                     |
| 350.00          | 24.27     | 25.14 | 25.33 | 37.68            | 38.19 | 38.31 | 1.15          | 1.07 | 4.21              | 11.76                     |
| 400.00          | 24.23     | 25.10 | 25.30 | 37.69            | 38.19 | 38.31 | 1.15          | 1.07 | 4.31              | 11.73                     |
| 425.00          | 24.21     | 25.08 | 25.27 | 37.70            | 38.19 | 38.31 | 1.15          | 1.08 | 4.29              | 11.80                     |
| 450.00          | 24.19     | 25.05 | 25.25 | 37.71            | 38.21 | 38.32 | 1.15          | 1.08 | 4.30              | 11.82                     |
| 475.00          | 24.15     | 25.02 | 25.21 | 37.72            | 38.23 | 38.35 | 1.15          | 1.09 | 4.29              | 11.78                     |
| 500.00          | 24.12     | 24.98 | 25.18 | 37.75            | 38.24 | 38.36 | 1.15          | 1.10 | 4.25              | 11.78                     |



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