

# Coaxial Amplifier

## ZFL-750+

50Ω Low Power 0.2 to 750 MHz

### Features

- wideband, 0.2 to 750 MHz
- rugged shielded case
- low noise figure, 6 dB typ.
- protected by US Patent, 6,943,629

### Applications

- VHF/UHF
- lab use
- instrumentation



Generic photo used for illustration purposes only

CASE STYLE: Y460

Connectors Model  
**SMA** ZFL-750+  
**BRACKET (OPTION "B")**

**+RoHS Compliant**

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Amplifier Electrical Specifications

| MODEL NO. | FREQUENCY (MHz) |       | GAIN (dB) |               | MAXIMUM POWER (dBm)  |                   | DYNAMIC RANGE |                | VSWR (:1) Typ. |     | DC POWER      |                   |
|-----------|-----------------|-------|-----------|---------------|----------------------|-------------------|---------------|----------------|----------------|-----|---------------|-------------------|
|           | $f_L$           | $f_U$ | Min.      | Flatness Max. | Output (1 dB Compr.) | Input (no damage) | NF (dB) Typ.  | IP3 (dBm) Typ. | In             | Out | Volt (V) Nom. | Current (mA) Max. |
| ZFL-750+  | 0.2             | 750   | 18        | ±0.55         | +9*                  | +5                | 6.0           | +18            | 1.5            | 2.0 | 15            | 90                |

\* +7dBm from 500 to 750 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 71°C

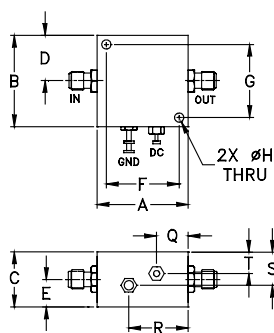
Storage Temperature -55°C to 100°C

DC Voltage +17V Max.

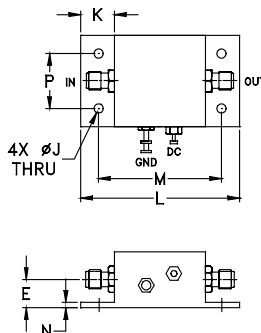
Permanent damage may occur if any of these limits are exceeded.

### Outline Drawing

STANDARD



OPTION "B"



### 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

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.

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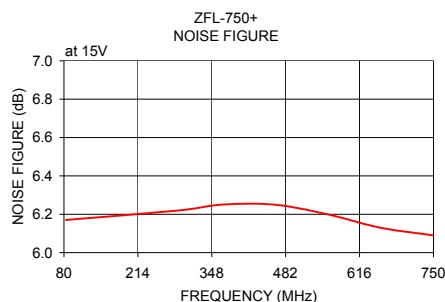
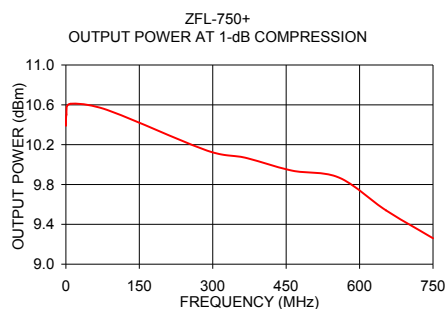
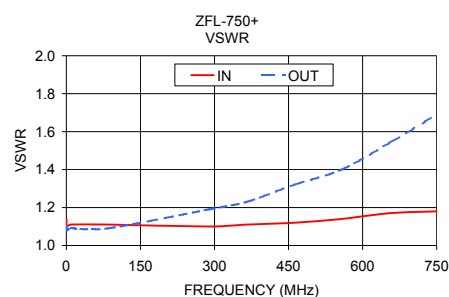
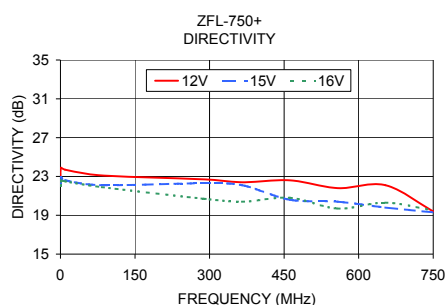
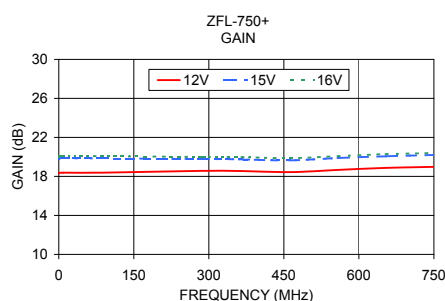
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ZFL-750+  
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# Typical Performance Data/Curves

# ZFL-750+

| FREQUENCY<br>(MHz) | GAIN<br>(dB) |       |       | DIRECTIVITY<br>(dB) |       |       | VSWR<br>(:1) |      | NOISE<br>FIGURE<br>(dB) | POUT at<br>1 dB COMPR.<br>(dBm) |
|--------------------|--------------|-------|-------|---------------------|-------|-------|--------------|------|-------------------------|---------------------------------|
|                    | 12V          | 15V   | 16V   | 12V                 | 15V   | 16V   | IN           | OUT  |                         |                                 |
| 0.20               | 18.30        | 19.78 | 20.01 | 22.90               | 22.20 | 22.00 | 1.14         | 1.10 | —                       | 10.39                           |
| 1.00               | 18.36        | 19.85 | 20.08 | 23.90               | 22.90 | 22.60 | 1.10         | 1.08 | —                       | 10.50                           |
| 9.30               | 18.38        | 19.86 | 20.10 | 23.70               | 22.60 | 22.50 | 1.11         | 1.09 | —                       | 10.61                           |
| 83.50              | 18.38        | 19.84 | 20.07 | 23.10               | 22.10 | 21.90 | 1.11         | 1.09 | 6.17                    | 10.55                           |
| 288.60             | 18.57        | 19.79 | 20.00 | 22.70               | 22.30 | 20.70 | 1.10         | 1.19 | 6.22                    | 10.14                           |
| 365.50             | 18.55        | 19.74 | 19.97 | 22.40               | 22.10 | 20.40 | 1.11         | 1.23 | 6.25                    | 10.07                           |
| 461.60             | 18.44        | 19.64 | 19.87 | 22.60               | 20.60 | 20.80 | 1.12         | 1.32 | 6.25                    | 9.94                            |
| 557.70             | 18.66        | 19.88 | 20.07 | 21.80               | 20.40 | 19.70 | 1.14         | 1.40 | 6.20                    | 9.87                            |
| 653.90             | 18.87        | 20.06 | 20.29 | 22.10               | 19.80 | 20.30 | 1.17         | 1.54 | 6.13                    | 9.54                            |
| 750.00             | 18.98        | 20.20 | 20.39 | 19.40               | 19.30 | 19.50 | 1.18         | 1.69 | 6.09                    | 9.26                            |



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# Amplifier

## ZFL-750+

### Typical Performance Data

| FREQUENCY<br>(MHz) | GAIN<br>(dB) |       |       | DIRECTIVITY<br>(dB) |       |       | VSWR<br>IN<br>(:1)<br>15V | VSWR OUT<br>(:1)<br>15V | NOISE<br>FIGURE<br>(dB)<br>15V | Pout at<br>1dB Comp.<br>(dBm)<br>15V |
|--------------------|--------------|-------|-------|---------------------|-------|-------|---------------------------|-------------------------|--------------------------------|--------------------------------------|
|                    | 12V          | 15V   | 16V   | 12V                 | 15V   | 16V   |                           |                         |                                |                                      |
| 0.2                | 18.30        | 19.78 | 20.01 | 22.90               | 22.20 | 22.00 | 1.14                      | 1.10                    |                                | 10.39                                |
| 1.0                | 18.36        | 19.85 | 20.08 | 23.90               | 22.90 | 22.60 | 1.10                      | 1.08                    |                                | 10.50                                |
| 9.3                | 18.38        | 19.86 | 20.10 | 23.70               | 22.60 | 22.50 | 1.11                      | 1.09                    |                                | 10.61                                |
| 83.5               | 18.38        | 19.84 | 20.07 | 23.10               | 22.10 | 21.90 | 1.11                      | 1.09                    | 6.17                           | 10.55                                |
| 288.6              | 18.57        | 19.79 | 20.00 | 22.70               | 22.30 | 20.70 | 1.10                      | 1.19                    | 6.22                           | 10.14                                |
| 365.5              | 18.55        | 19.74 | 19.97 | 22.40               | 22.10 | 20.40 | 1.11                      | 1.23                    | 6.25                           | 10.07                                |
| 461.6              | 18.44        | 19.64 | 19.87 | 22.60               | 20.60 | 20.80 | 1.12                      | 1.32                    | 6.25                           | 9.94                                 |
| 557.7              | 18.66        | 19.88 | 20.07 | 21.80               | 20.40 | 19.70 | 1.14                      | 1.40                    | 6.20                           | 9.87                                 |
| 653.9              | 18.87        | 20.06 | 20.29 | 22.10               | 19.80 | 20.30 | 1.17                      | 1.54                    | 6.13                           | 9.54                                 |
| 750.0              | 18.98        | 20.20 | 20.39 | 19.40               | 19.30 | 19.50 | 1.18                      | 1.69                    | 6.09                           | 9.26                                 |

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IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant

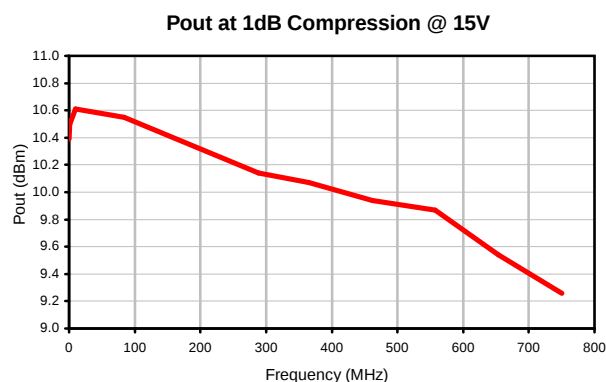
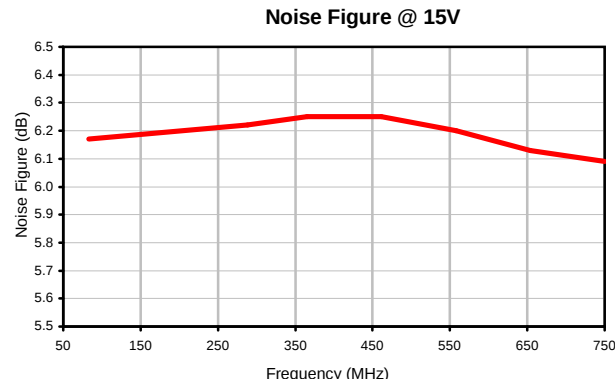
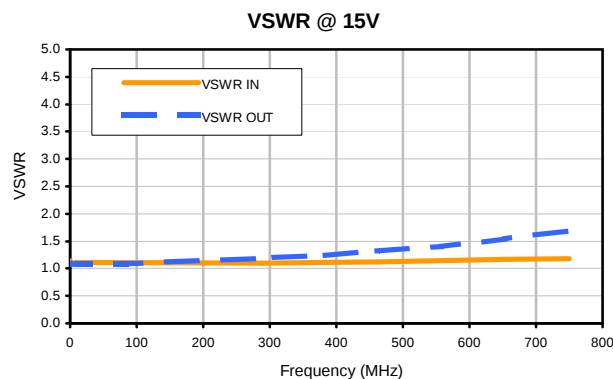
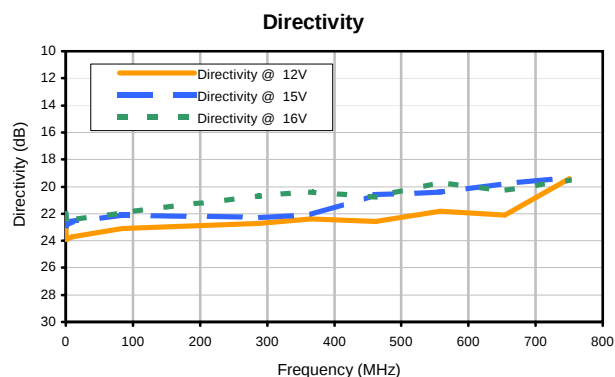
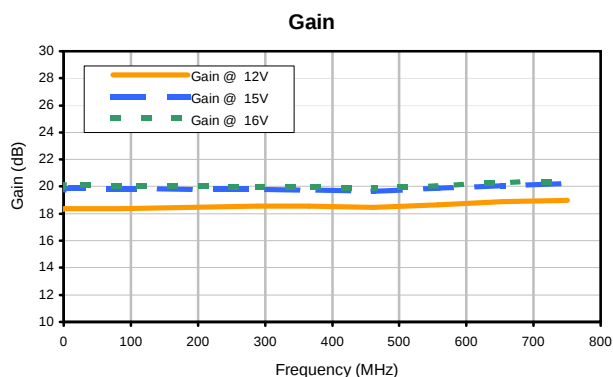
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The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see

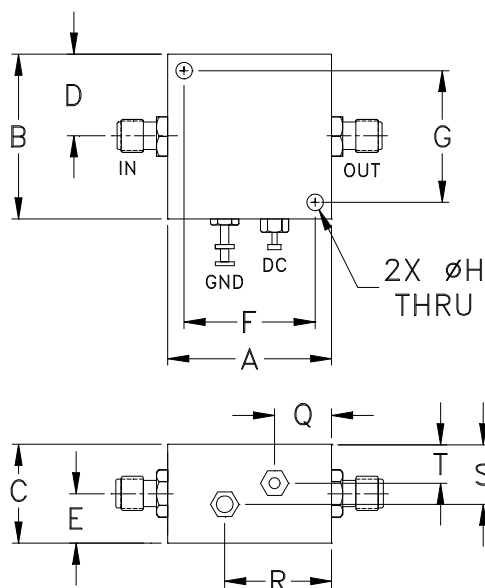


## Typical Performance Curves

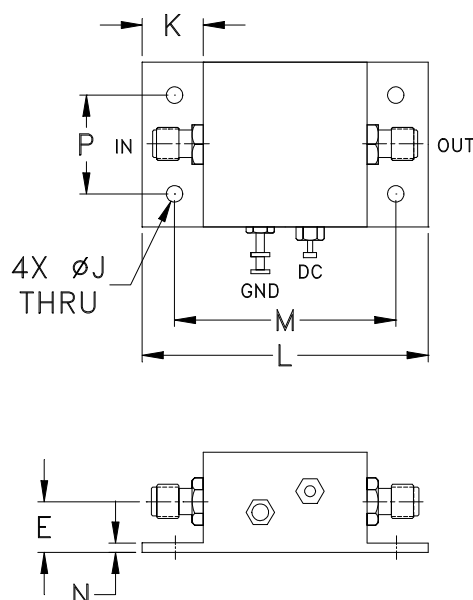


### Outline Dimensions

STANDARD



OPTION "B"



| CASE# | A               | B               | C              | D             | E             | F               | G               | H             | J             | K             | L              | M               | N            |
|-------|-----------------|-----------------|----------------|---------------|---------------|-----------------|-----------------|---------------|---------------|---------------|----------------|-----------------|--------------|
| Y460  | 1.25<br>(31.75) | 1.25<br>(31.75) | .75<br>(19.05) | .63<br>(16.0) | .36<br>(9.15) | 1.000<br>(25.4) | 1.000<br>(25.4) | .125<br>(3.2) | .125<br>(3.2) | .46<br>(11.7) | 2.18<br>(55.4) | 1.688<br>(42.9) | .06<br>(1.5) |

| CASE# | P              | Q             | R             | S             | T            | WT. GRAMS |
|-------|----------------|---------------|---------------|---------------|--------------|-----------|
| Y460  | .750<br>(19.0) | .50<br>(12.7) | .80<br>(20.3) | .45<br>(11.4) | .29<br>(7.4) | 38        |

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm .03$ ; 3 Pl.  $\pm .015$

#### Notes:

- Case material: Aluminum alloy.
- Case finish:  
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
- Mounting bracket available on request. Add suffix B to part number



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Mini-Circuits ISO 9001 & ISO 14001 Certified



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification             | Test/Inspection Condition             | Reference/Spec                                     |
|---------------------------|---------------------------------------|----------------------------------------------------|
| Operating Temperature     | -20° to 71° C<br>Ambient Environment  | Individual Model Data Sheet                        |
| Storage Temperature       | -55° to 100° C<br>Ambient Environment | Individual Model Data Sheet                        |
| Stabilization Bake        | (non-operating)<br>125°C, 24 hours    | - - -                                              |
| Burn-in at Elevated Temp. | (DC on)<br>160 hours at 85° C         | MIL-STD-202, Method 108                            |
| Thermal Shock             | -55° to 100°C, 5 cycles               | MIL-STD-202, Method 107, Condition A, except 100°C |