

Coaxial Low Noise Amplifier

ZFL-1000LN+

50Ω 0.1 to 1000 MHz

Features

- low noise figure, 2.9 dB typ.
- wideband, 0.1 to 1000 MHz
- protected by US Patent 6,943,629

Applications

- VHF/UHF
- cellular
- small signal amplifier



Generic photo used for illustration purposes only

CASE STYLE: Y460

Connectors Model
SMA ZFL-1000LN+
BRACKET (OPTION "B")

+RoHS Compliant

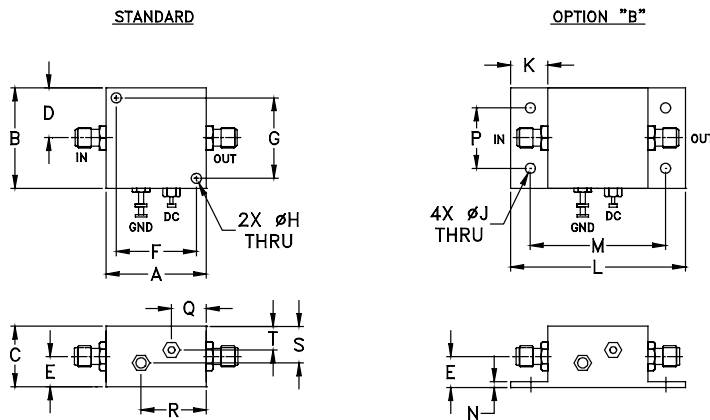
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Units |
|------------------------------------|-----------------|------|------|------|-------|
| Frequency Range | | 0.1 | | 1000 | MHz |
| Noise Figure | 0.1-1000 | — | 2.9 | — | dB |
| Gain | 0.1-1000 | 20 | — | — | dB |
| Gain Flatness | 0.1-1000 | — | — | ±0.5 | dB |
| Output Power at 1dB compression | 0.1-1000 | — | +3 | — | dBm |
| Output third order intercept point | 0.1-1000 | — | +14 | — | dBm |
| Input VSWR | 0.1-1000 | — | 1.5 | — | :1 |
| Output VSWR | 0.1-1000 | — | 2.0 | — | :1 |
| DC Supply Voltage | | — | 15 | — | V |
| Supply Current | | — | — | 60 | mA |

Open load is not recommended, potentially can cause damage.
 With no load derate max input power by 20 dB

Outline Drawing



Maximum Ratings

| Parameter | Ratings |
|----------------------------|----------------|
| Operating Temperature | -20°C to 71°C |
| Storage Temperature | -55°C to 100°C |
| DC Voltage | 17V |
| Input RF Power (no damage) | +5 dBm |

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

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

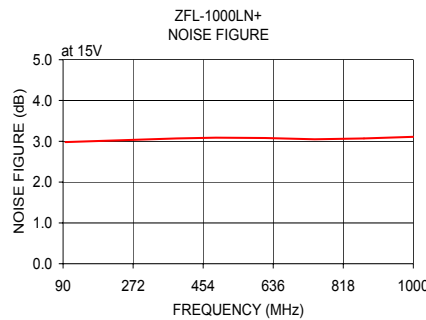
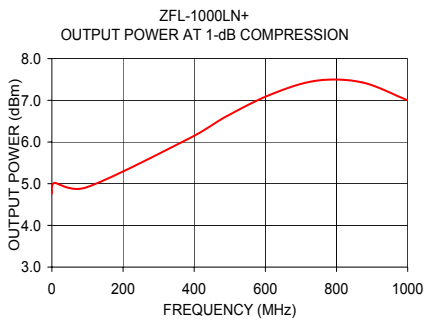
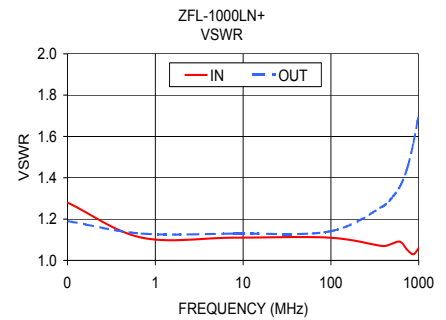
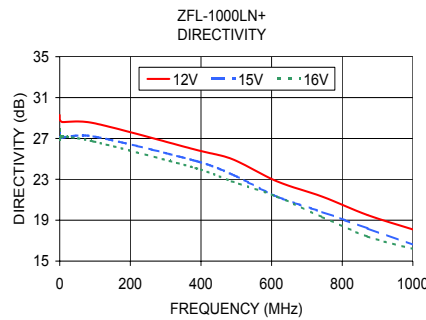
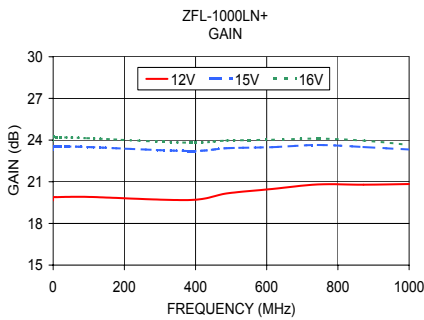
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| FREQUENCY (MHz) | GAIN (dB) | | | DIRECTIVITY (dB) | | | VSWR (:1) | | NOISE FIGURE (dB) | POUT at 1 dB COMPR. (dBm) |
|-----------------|-----------|-------|-------|------------------|-------|-------|-----------|------|-------------------|---------------------------|
| | 12V | 15V | 16V | 12V | 15V | 16V | IN | OUT | | |
| 0.10 | 19.66 | 23.31 | 23.96 | 29.30 | 27.50 | 27.90 | 1.28 | 1.19 | — | 4.76 |
| 0.70 | 19.90 | 23.56 | 24.24 | 28.80 | 27.10 | 26.90 | 1.11 | 1.13 | — | 4.95 |
| 7.90 | 19.89 | 23.55 | 24.21 | 28.60 | 27.10 | 27.20 | 1.11 | 1.13 | — | 5.02 |
| 95.70 | 19.91 | 23.50 | 24.14 | 28.50 | 27.20 | 26.70 | 1.11 | 1.14 | 2.98 | 4.91 |
| 384.70 | 19.69 | 23.21 | 23.81 | 25.90 | 24.80 | 24.10 | 1.07 | 1.26 | 3.07 | 6.08 |
| 487.20 | 20.16 | 23.42 | 23.97 | 25.00 | 23.50 | 22.80 | 1.08 | 1.30 | 3.09 | 6.60 |
| 615.40 | 20.48 | 23.49 | 24.02 | 22.80 | 21.30 | 21.30 | 1.09 | 1.36 | 3.08 | 7.14 |
| 743.60 | 20.81 | 23.65 | 24.11 | 21.30 | 19.80 | 19.30 | 1.05 | 1.45 | 3.05 | 7.47 |
| 871.80 | 20.79 | 23.50 | 23.96 | 19.50 | 18.20 | 17.40 | 1.03 | 1.57 | 3.07 | 7.43 |
| 1000.00 | 20.84 | 23.32 | 23.66 | 18.10 | 16.60 | 16.20 | 1.06 | 1.71 | 3.11 | 7.00 |



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Low Noise Amplifier

ZFL-1000LN+

Typical Performance Data

| FREQUENCY (MHz) | GAIN (dB) | | | DIRECTIVITY (dB) | | | VSWR IN (:1) 15V | VSWR OUT (:1) 15V | NOISE FIGURE (dB) 15V | Pout at 1dB Comp. (dBm) 15V |
|--------------------|--------------|-------|-------|---------------------|-------|-------|---------------------------|-------------------------|--------------------------------|--------------------------------------|
| | 12V | 15V | 16V | 12V | 15V | 16V | | | | |
| 0.1 | 19.66 | 23.31 | 23.96 | 29.30 | 27.50 | 27.90 | 1.28 | 1.19 | | 4.76 |
| 0.7 | 19.90 | 23.56 | 24.24 | 28.80 | 27.10 | 26.90 | 1.11 | 1.13 | | 4.95 |
| 7.9 | 19.89 | 23.55 | 24.21 | 28.60 | 27.10 | 27.20 | 1.11 | 1.13 | | 5.02 |
| 95.7 | 19.91 | 23.50 | 24.14 | 28.50 | 27.20 | 26.70 | 1.11 | 1.14 | 2.98 | 4.91 |
| 384.7 | 19.69 | 23.21 | 23.81 | 25.90 | 24.80 | 24.10 | 1.07 | 1.26 | 3.07 | 6.08 |
| 487.2 | 20.16 | 23.42 | 23.97 | 25.00 | 23.50 | 22.80 | 1.08 | 1.30 | 3.09 | 6.60 |
| 615.4 | 20.48 | 23.49 | 24.02 | 22.80 | 21.30 | 21.30 | 1.09 | 1.36 | 3.08 | 7.14 |
| 743.6 | 20.81 | 23.65 | 24.11 | 21.30 | 19.80 | 19.30 | 1.05 | 1.45 | 3.05 | 7.47 |
| 871.8 | 20.79 | 23.50 | 23.96 | 19.50 | 18.20 | 17.40 | 1.03 | 1.57 | 3.07 | 7.43 |
| 1000.0 | 20.84 | 23.32 | 23.66 | 18.10 | 16.60 | 16.20 | 1.06 | 1.71 | 3.11 | 7.00 |

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

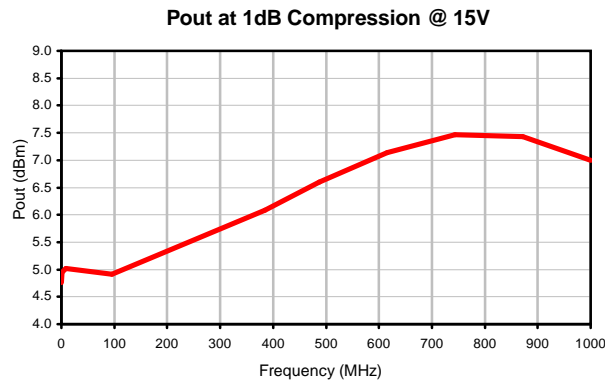
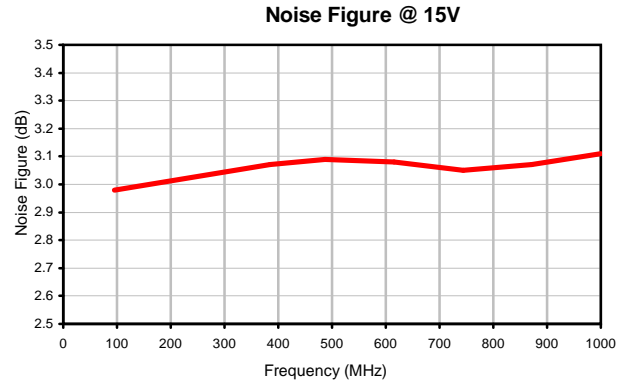
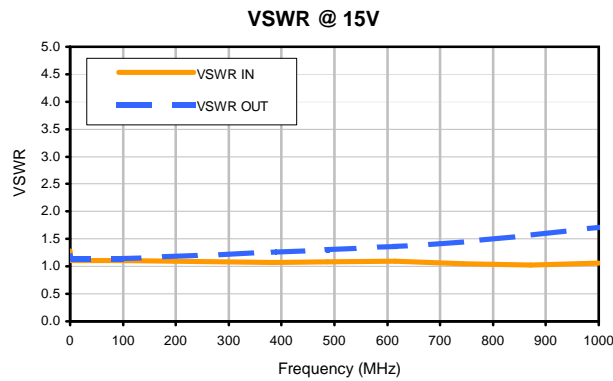
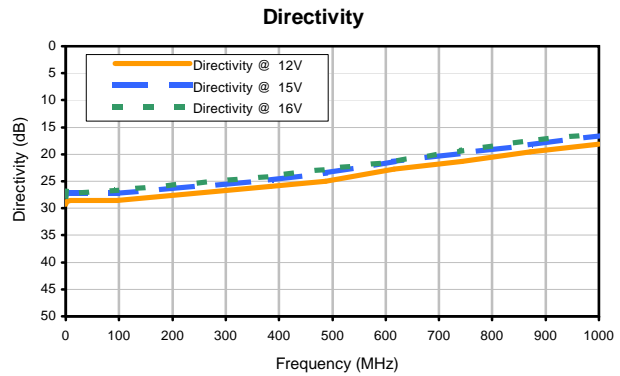
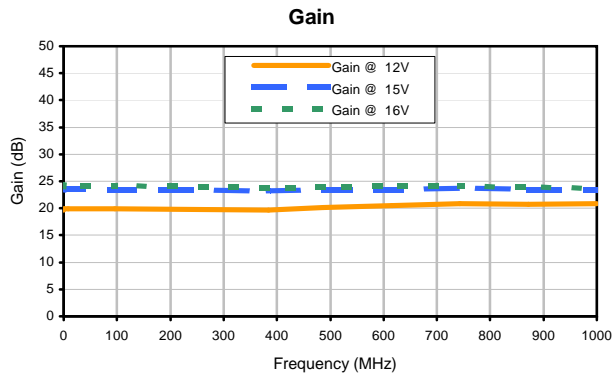
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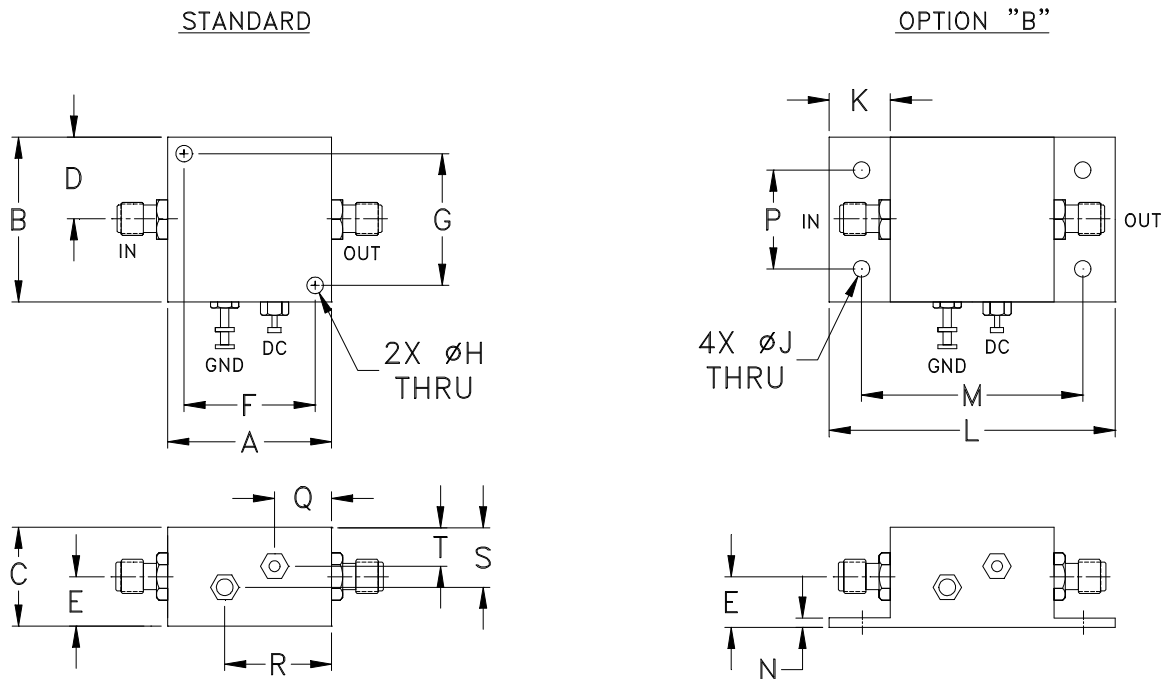
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Typical Performance Curves



Outline Dimensions



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

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

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

Notes:

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



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 Ambient Environment | Individual Model Data Sheet |
| Storage Temperature | -55° to 100° C Ambient Environment | Individual Model Data Sheet |
| Stabilization Bake | (non-operating) 125°C, 24 hours | - - - |
| Burn-in at Elevated Temp. | (DC on) 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 |