

Coaxial Low Noise Amplifier

ZEL-1217LN+

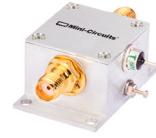
50Ω 1200 to 1700 MHz

Features

- very low noise figure, 1.6 dB max.
- wideband, 1200 to 1700 MHz
- rugged, shielded case

Applications

- GPS
- mar sat
- communication systems



Generic photo used for illustration purposes only

Case Style: EEE132

| Connectors | Model |
|------------|-------------|
| SMA | ZEL-1217LN+ |

+RoHS Compliant

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

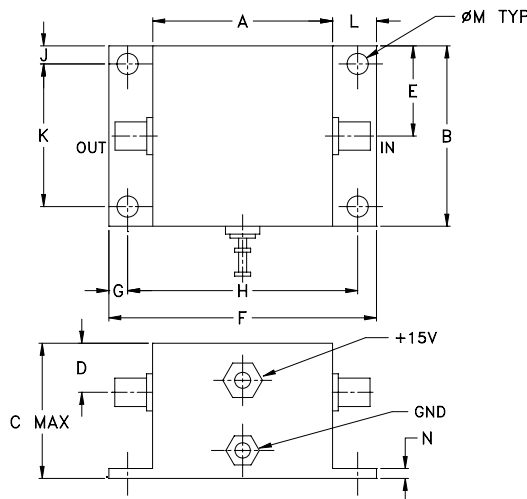
Electrical Specifications

| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Units |
|------------------------------------|-----------------|------|------|------|-------|
| Frequency Range | | 1200 | | 1700 | MHz |
| Noise Figure | 1200-1700 | — | — | 1.6 | dB |
| Gain | 1200-1700 | 20 | — | — | dB |
| Gain Flatness | 1200-1700 | — | — | ±1.0 | dB |
| Output Power at 1dB compression | 1200-1700 | — | +8 | — | dBm |
| Output third order intercept point | 1200-1700 | — | +25 | — | dBm |
| Input VSWR | 1200-1700 | — | — | 2.5 | :1 |
| Output VSWR | 1200-1700 | — | — | 2.5 | :1 |
| DC Supply Voltage | | — | 15 | — | V |
| Supply Current | | — | — | 70 | mA |

Noise Figure specified at room temperature, increases to 2 dB typical at +85°C

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 | -54°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| DC Voltage | 17V |
| Input RF Power (no damage) | +13 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 | wt |
|-------|-------|-------|------|-------|-------|------|-------|------|-------|------|------|------|-------|
| .90 | .90 | .675 | .245 | .45 | 1.34 | .09 | 1.152 | .09 | .712 | .22 | .106 | .05 | grams |
| 22.86 | 22.86 | 17.15 | 6.22 | 11.43 | 34.04 | 2.29 | 29.26 | 2.29 | 18.08 | 5.59 | 2.69 | 1.27 | 50.0 |

Notes

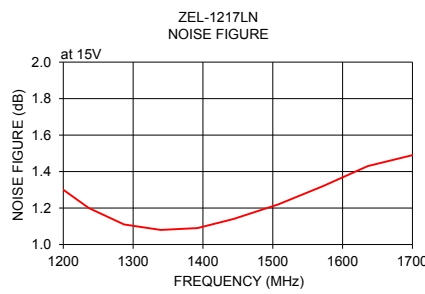
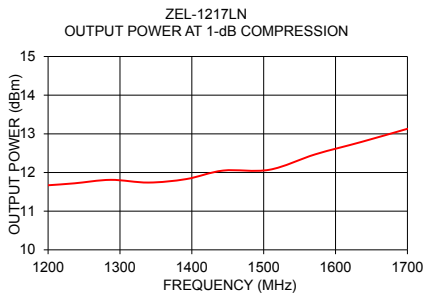
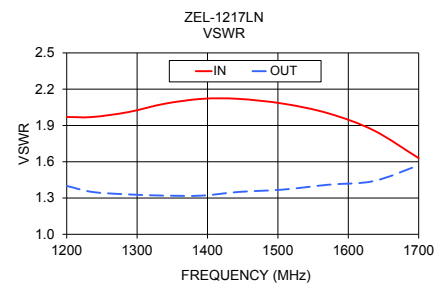
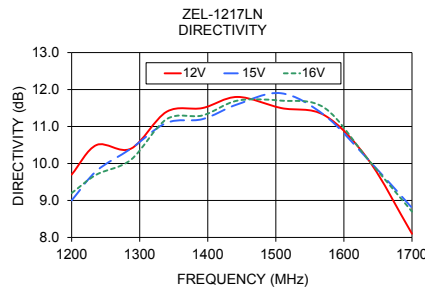
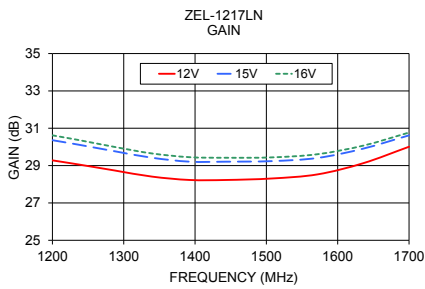
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| FREQUENCY (MHz) | GAIN (dB) | | | DIRECTIVITY (dB) | | | VSWR (:1) | | NOISE FIGURE (dB) | POUT at 1 dB COMPR. (dBm) |
|-----------------|-----------|-------|-------|------------------|-------|-------|-----------|------|-------------------|---------------------------|
| | 12V | 15V | 16V | 12V | 15V | 16V | IN | OUT | | |
| 1200.00 | 29.28 | 30.36 | 30.62 | 9.70 | 9.00 | 9.20 | 1.97 | 1.40 | 1.30 | 11.67 |
| 1236.60 | 29.06 | 30.12 | 30.37 | 10.50 | 9.80 | 9.70 | 1.97 | 1.35 | 1.20 | 11.72 |
| 1287.00 | 28.74 | 29.77 | 30.00 | 10.40 | 10.40 | 10.10 | 2.01 | 1.33 | 1.11 | 11.81 |
| 1339.60 | 28.41 | 29.42 | 29.65 | 11.40 | 11.10 | 11.20 | 2.08 | 1.32 | 1.08 | 11.74 |
| 1392.30 | 28.23 | 29.21 | 29.45 | 11.50 | 11.20 | 11.30 | 2.12 | 1.32 | 1.09 | 11.83 |
| 1443.60 | 28.23 | 29.21 | 29.42 | 11.80 | 11.60 | 11.70 | 2.12 | 1.35 | 1.14 | 12.05 |
| 1507.70 | 28.31 | 29.24 | 29.44 | 11.50 | 11.90 | 11.70 | 2.08 | 1.37 | 1.22 | 12.07 |
| 1571.80 | 28.53 | 29.41 | 29.61 | 11.30 | 11.30 | 11.50 | 2.00 | 1.41 | 1.32 | 12.47 |
| 1635.90 | 29.13 | 29.91 | 30.07 | 10.10 | 10.10 | 10.10 | 1.86 | 1.44 | 1.43 | 12.79 |
| 1700.00 | 30.01 | 30.62 | 30.77 | 8.10 | 8.80 | 8.70 | 1.63 | 1.57 | 1.49 | 13.13 |



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Low Noise Amplifier

ZEL-1217LN+

Typical Performance Data

| FREQUENCY (MHz) | GAIN (dB) | | | DIRECTIVITY (dB) | | | VSWR IN (:1) | VSWR OUT (:1) | NOISE FIGURE (dB) | Pout at 1dB Comp. (dBm) |
|--------------------|--------------|-------|-------|---------------------|-------|-------|--------------------|---------------------|-------------------------|-------------------------------|
| | 12V | 15V | 16V | 12V | 15V | 16V | 15V | 15V | 15V | 15V |
| 1200.0 | 29.28 | 30.36 | 30.62 | 9.70 | 9.00 | 9.20 | 1.97 | 1.40 | 1.30 | 11.67 |
| 1236.6 | 29.06 | 30.12 | 30.37 | 10.50 | 9.80 | 9.70 | 1.97 | 1.35 | 1.20 | 11.72 |
| 1287.0 | 28.74 | 29.77 | 30.00 | 10.40 | 10.40 | 10.10 | 2.01 | 1.33 | 1.11 | 11.81 |
| 1339.6 | 28.41 | 29.42 | 29.65 | 11.40 | 11.10 | 11.20 | 2.08 | 1.32 | 1.08 | 11.74 |
| 1392.3 | 28.23 | 29.21 | 29.45 | 11.50 | 11.20 | 11.30 | 2.12 | 1.32 | 1.09 | 11.83 |
| 1443.6 | 28.23 | 29.21 | 29.42 | 11.80 | 11.60 | 11.70 | 2.12 | 1.35 | 1.14 | 12.05 |
| 1507.7 | 28.31 | 29.24 | 29.44 | 11.50 | 11.90 | 11.70 | 2.08 | 1.37 | 1.22 | 12.07 |
| 1571.8 | 28.53 | 29.41 | 29.61 | 11.30 | 11.30 | 11.50 | 2.00 | 1.41 | 1.32 | 12.47 |
| 1635.9 | 29.13 | 29.91 | 30.07 | 10.10 | 10.10 | 10.10 | 1.86 | 1.44 | 1.43 | 12.79 |
| 1700.0 | 30.01 | 30.62 | 30.77 | 8.10 | 8.80 | 8.70 | 1.63 | 1.57 | 1.49 | 13.13 |



ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

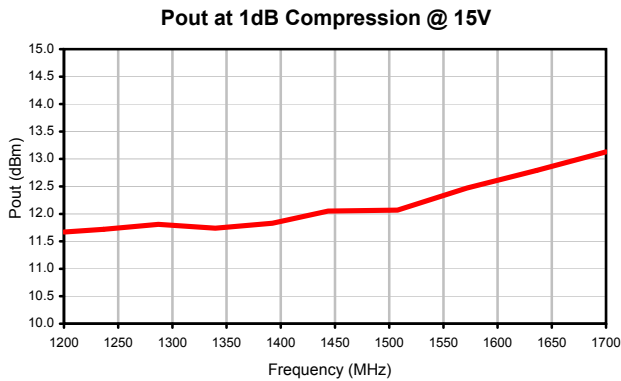
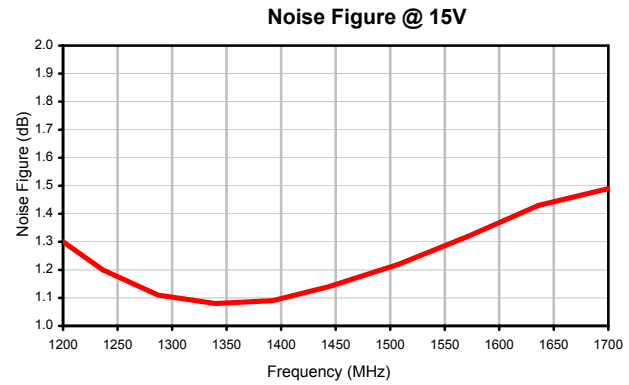
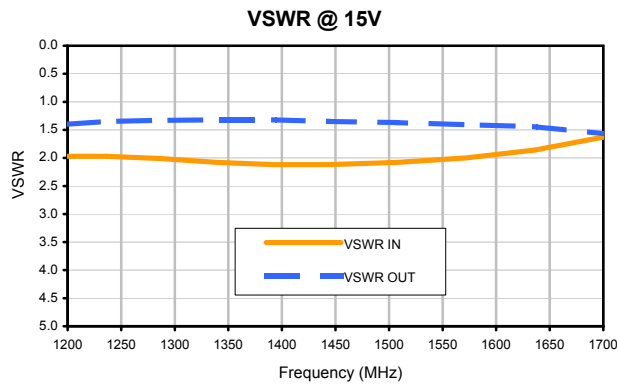
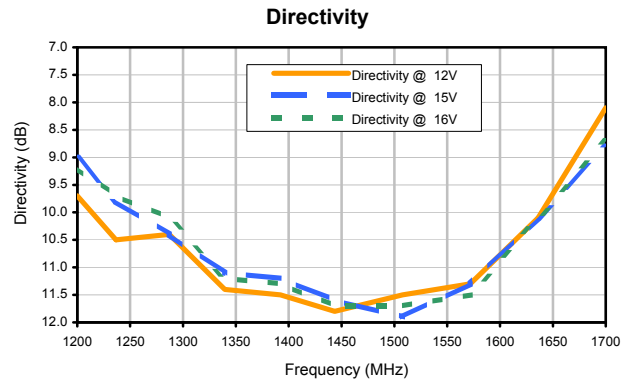
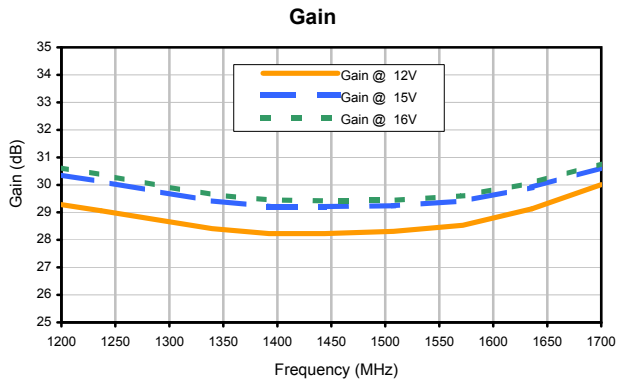
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Typical Performance Curves

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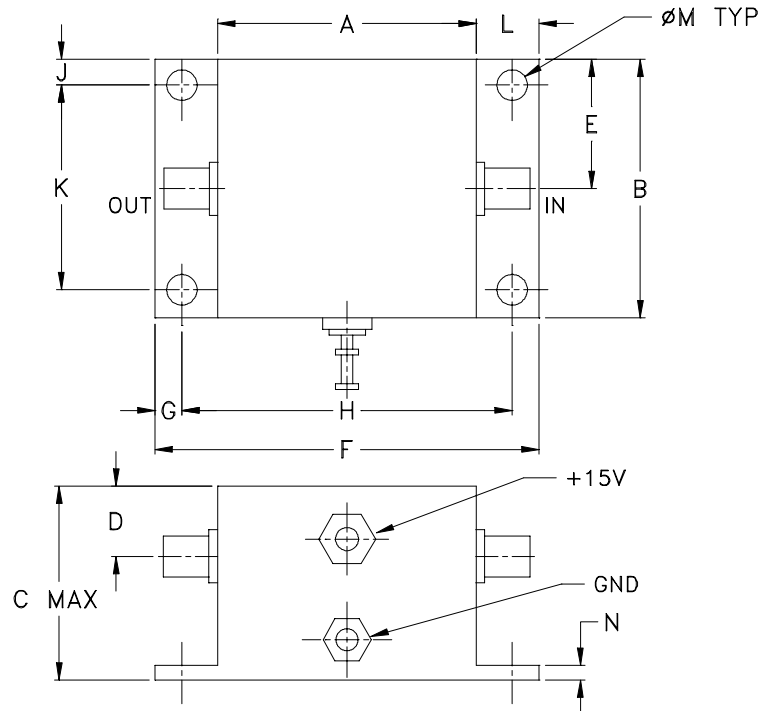


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Outline Dimensions



| CASE # | A | B | C | D | E | F | G | H | J | K | L |
|--------|----------------|----------------|-----------------|----------------|----------------|-----------------|---------------|------------------|---------------|-----------------|---------------|
| EEE132 | .90 (22.86) | .90 (22.86) | .675 (17.15) | .245 (6.22) | .45 (11.43) | 1.34 (34.04) | .09 (2.29) | 1.152 (29.26) | .09 (2.29) | .712 (18.08) | .22 (5.59) |

| CASE # | M | N | WT. GRAM |
|--------|----------------|---------------|----------|
| EEE132 | .106 (2.69) | .05 (1.27) | 50.0 |

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



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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 | -54° to 85°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 |