*Coaxial*

# Low Noise Amplifier

## ZHL-0812HLN

50Ω 800 to 1200 MHz

### Features

- very low noise figure, 1.5 dB max.
- wideband, 800 to 1200 MHz
- high dynamic range

### Applications

- UHF
- cellular
- communication systems

| Model No. | ZHL-0812HLN-S | ZHL-0812HLNX-S▲ |
|---|---|---|
| Case Style | NN92 | |
| Connectors | SMA | |
| Price (Qty.) | $399.50 ea. (1-9) | $389.50 ea. (1-9) |

### Electrical Specifications

| Parameter | Frequency (MHz) | ZHL-0812HLN-S | | | ZHL-0812HLNX-S ▲ | | | Units |
|---|---|---|---|---|---|---|---|---|
| | | Min. | Typ. | Max. | Min | Typ. | Max. | |
| Frequency Range | | 800 | | 1200 | 800 | | 1200 | MHz |
| Noise Figure | 800-1200 | — | — | 1.5 | — | — | 1.5 | dB |
| Gain | 800-1200 | 30 | — | — | 30 | — | — | dB |
| Gain Flatness | 800-1200 | — | — | ±1.0 | — | — | ±1.0 | dB |
| Output Power at 1dB compression | 800-1200 | — | +26 | — | — | +26 | — | dBm |
| Output third order intercept point | 800-1200 | — | +36 | — | — | +36 | — | dBm |
| Input VSWR | 800-1200 | — | 2.4 | — | — | 2.4 | — | :1 |
| Output VSWR | 800-1200 | — | 2.4 | — | — | 2.4 | — | :1 |
| DC Supply Voltage | | — | 15 | — | — | 15 | — | V |
| Supply Current | | — | — | 725 | — | — | 725 | mA |

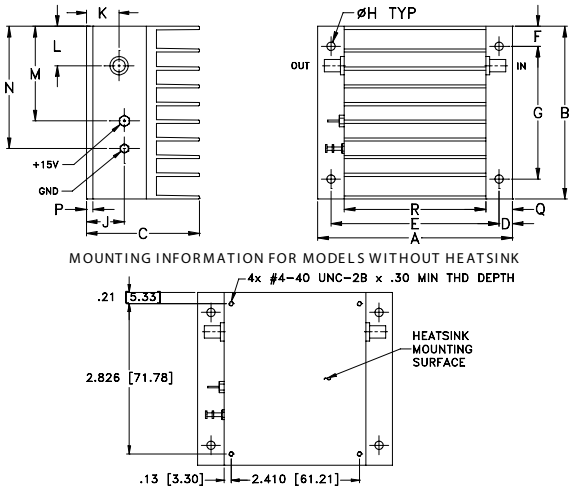
Noise Figure specified at room temperature, increases to 2.3 dB max. at +65°C

Open load is not recommended, potentially can cause damage.

With no load derate max input power by 20 dB

▲ Heat sink not included. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 65°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 1.8°C/W max.

### Outline Drawing




### Maximum Ratings

| Parameter | Ratings |
|---|---|
| Operating Temperature | -20°C to 65°C |
| Storage Temperature | -55°C to 100°C |
| DC Voltage | 20V |
| Input RF Power (no damage) | +10 dBm |

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

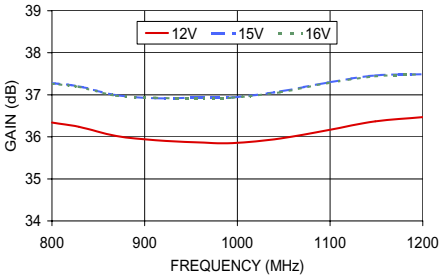
### Outline Dimensions (inch / mm)

| A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | wt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.66 | 3.25 | 2.13 | .25 | 3.16 | .38 | 2.50 | .156 | .72 | .64 | .74 | 1.78 | 2.30 | .125 | .50 | 2.66 | grams* |
| 92.96 | 82.55 | 54.10 | 6.35 | 80.26 | 9.65 | 63.50 | 3.96 | 18.29 | 16.26 | 18.80 | 45.21 | 58.42 | 3.18 | 12.70 | 67.56 | 500.0 |

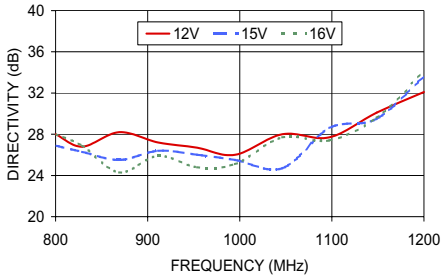
*362 grams without heatsink

| 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 | 15V | 15V |
| 800.00 | 36.34 | 37.28 | 37.26 | 28.00 | 26.90 | 28.00 | 2.06 | 1.91 | 1.13 | 26.61 |
| 829.00 | 36.24 | 37.20 | 37.19 | 26.80 | 26.30 | 26.90 | 1.80 | 1.81 | 1.11 | 26.56 |
| 869.20 | 36.02 | 36.99 | 36.98 | 28.20 | 25.50 | 24.30 | 1.57 | 1.68 | 1.07 | 26.55 |
| 911.50 | 35.92 | 36.92 | 36.93 | 27.20 | 26.40 | 25.90 | 1.42 | 1.55 | 1.06 | 26.49 |
| 953.80 | 35.87 | 36.93 | 36.91 | 26.70 | 26.00 | 24.80 | 1.32 | 1.43 | 1.08 | 26.47 |
| 994.90 | 35.85 | 36.94 | 36.93 | 26.00 | 25.50 | 25.10 | 1.26 | 1.33 | 1.09 | 26.40 |
| 1046.20 | 35.96 | 37.08 | 37.06 | 28.00 | 24.70 | 27.70 | 1.26 | 1.27 | 1.11 | 26.39 |
| 1097.40 | 36.16 | 37.29 | 37.28 | 27.70 | 28.60 | 27.40 | 1.34 | 1.30 | 1.16 | 26.43 |
| 1148.70 | 36.37 | 37.46 | 37.44 | 30.10 | 29.50 | 29.60 | 1.50 | 1.41 | 1.23 | 26.50 |
| 1200.00 | 36.47 | 37.49 | 37.49 | 32.10 | 33.60 | 34.10 | 1.74 | 1.55 | 1.34 | 26.66 |

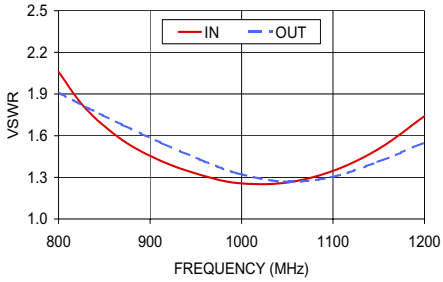
ZHL-0812HLN
GAIN



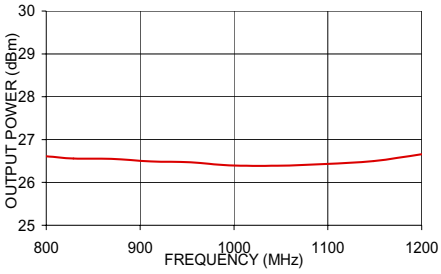

ZHL-0812HLN
DIRECTIVITY




ZHL-0812HLN
VSWR




ZHL-0812HLN
OUTPUT POWER AT 1-dB COMPRESSION




ZHL-0812HLN
NOISE FIGURE