High IP3
Low Noise Amplifier
ZHL-2010+

50Ω Medium High Power 50 to 1000 MHz

Features
- wideband, 50 to 1000 MHz
- low noise, 3.7 dB typ.
- high IP3, +46 dBm typ.
- very high IP2, 68-83 dBm typ.

Applications
- VHF/UHF
- cellular
- test equipment
- instrumentation
- laboratory

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.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, “Standard Terms”); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits’ website at www.minicircuits.com/MCLStore/terms.jsp

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 65°C
Storage Temperature -55°C to 100°C
DC Voltage +13V Max.

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

Outline Drawing

Outline Dimensions

| A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T | wt |
| 3.75 | 2.00 | 1.80 | 19 | 3.375 | 19 | 1.625 | .144 | .50 | .40 | .50 | 1.30 | .10 | .38 | .00 | .30 | .260 | .80 grams |
| 95.25 | 50.80 | 45.72 | 4.83 | 85.73 | 4.83 | 41.28 | 3.66 | 12.70 | 10.16 | 12.70 | 33.02 | 2.54 | 9.665 | 76.20 | 7.62 | 66.04 | 20.32 | 220.0 grams |

wt. w/o heat sink | 150
**ZHL-2010+**

<table>
<thead>
<tr>
<th>FREQUENCY (MHz)</th>
<th>GAIN (dB)</th>
<th>DIRECTIVITY (dB)</th>
<th>VSWR (:1)</th>
<th>NOISE FIGURE (dB)</th>
<th>POUT at 1 dB COMPR. (dBm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12V</td>
<td>12V</td>
<td>IN</td>
<td>OUT</td>
<td>12V</td>
<td>12V</td>
</tr>
<tr>
<td>50.00</td>
<td>22.48</td>
<td>10.50</td>
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<td>1.30</td>
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<td>11.10</td>
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<td>1.65</td>
<td>3.29</td>
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<td>261.10</td>
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<td>11.60</td>
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<td>1.69</td>
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<td>1.16</td>
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<tr>
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<td>1.35</td>
<td>1.21</td>
<td>4.08</td>
</tr>
</tbody>
</table>

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**Typical Performance Data/Curves**

**ZHL-2010+**

- **Gain**
  - Frequency (MHz) vs. Gain (dB) at 12V

- **Directivity**
  - Frequency (MHz) vs. Directivity (dB) at 12V

- **VSWR**
  - Frequency (MHz) vs. VSWR (IN/OUT)

- **Output Power at 1-dB Compression**
  - Frequency (MHz) vs. Output Power (dBm)

- **Noise Figure**
  - Frequency (MHz) vs. Noise Figure (dB) at 12V