Coaxial
Low Noise Amplifier
ZFL-500LN+

50Ω 0.1 to 500 MHz

Features
• very low noise, 2.9 dB typ.
• good VSWR, 1.5 : 1 typ.
• protected by US Patent, 6,943,629

Applications
• VHF/UHF
• small signal amplifier
• communications system

Low Noise Amplifier Electrical Specifications

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>FREQUENCY (MHz)</th>
<th>NOISE FIGURE (dB)</th>
<th>GAIN (dB)</th>
<th>MAXIMUM POWER (dBm)</th>
<th>INTERCEPT POINT (dBm)</th>
<th>VSWR (:1) Typ.</th>
<th>DC POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZFL-500LN+</td>
<td>0.1 to 500</td>
<td>2.9</td>
<td>+5</td>
<td>+14</td>
<td>1.5</td>
<td>1.6</td>
<td>15</td>
</tr>
</tbody>
</table>

m = mid range [2 fL to fU/2]

*VSWR 1.6:1 max. from 0.1 to 0.2 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

![Outline Drawing]

Outline Dimensions (in)

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>P</th>
<th>Q</th>
<th>R</th>
<th>S</th>
<th>T</th>
<th>Wt.</th>
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<tbody>
<tr>
<td>1.25</td>
<td>1.25</td>
<td>.75</td>
<td>.63</td>
<td>.36</td>
<td>1.000</td>
<td>1.000</td>
<td>.125</td>
<td>.125</td>
<td>.46</td>
<td>2.18</td>
<td>1.688</td>
<td>.06</td>
<td>.750</td>
<td>.80</td>
<td>.45</td>
<td>.29</td>
<td>grams</td>
<td></td>
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<tr>
<td>31.75</td>
<td>31.75</td>
<td>19.05</td>
<td>16.00</td>
<td>9.14</td>
<td>25.40</td>
<td>25.40</td>
<td>3.18</td>
<td>3.18</td>
<td>11.68</td>
<td>55.37</td>
<td>42.88</td>
<td>1.52</td>
<td>19.05</td>
<td>12.70</td>
<td>20.32</td>
<td>11.43</td>
<td>7.37</td>
<td>38</td>
</tr>
</tbody>
</table>

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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Connectors
SMA: ZFL-500LN+
BNC: ZFL-500LN-BNC+
BRACKET (OPTION “B”)

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.
### Typical Performance Data/Curves

#### ZFL-500LN+

<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>15V</td>
<td>16V</td>
<td>12V</td>
<td>15V</td>
<td>16V</td>
</tr>
<tr>
<td>0.10</td>
<td>24.30</td>
<td>27.80</td>
<td>28.40</td>
<td>34.40</td>
<td>27.80</td>
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<tr>
<td>0.60</td>
<td>24.41</td>
<td>27.98</td>
<td>28.60</td>
<td>30.00</td>
<td>28.80</td>
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<tr>
<td>5.40</td>
<td>24.37</td>
<td>27.94</td>
<td>28.56</td>
<td>29.00</td>
<td>26.50</td>
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<tr>
<td>53.30</td>
<td>24.49</td>
<td>28.15</td>
<td>28.75</td>
<td>26.90</td>
<td>27.20</td>
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<tr>
<td>192.40</td>
<td>24.65</td>
<td>28.21</td>
<td>28.89</td>
<td>26.20</td>
<td>26.90</td>
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<tr>
<td>243.60</td>
<td>24.66</td>
<td>28.12</td>
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<tr>
<td>307.70</td>
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<td>28.75</td>
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<td>24.40</td>
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<td>435.90</td>
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<td>28.09</td>
<td>28.68</td>
<td>27.20</td>
<td>23.50</td>
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<tr>
<td>500.00</td>
<td>24.79</td>
<td>27.89</td>
<td>28.44</td>
<td>26.50</td>
<td>28.30</td>
</tr>
</tbody>
</table>

#### GAIN

![ZFL-500LN+ GAIN Graph]

- 12V
- -15V
- -16V

#### DIRECTIVITY

![ZFL-500LN+ DIRECTIVITY Graph]

- 12V
- -15V
- -16V

#### VSWR

![ZFL-500LN+ VSWR Graph]

- IN
- OUT

#### OUTPUT POWER AT 1-dB COMPRESSION

![ZFL-500LN+ OUTPUT POWER Graph]

- 12V
- -15V
- -16V

#### NOISE FIGURE

![ZFL-500LN+ NOISE FIGURE Graph]

- 15V

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