Coaxial Amplifier

ZFL-1HAD

50Ω High Isolation 10 to 500 MHz

Features
- wideband, 10 to 500 MHz
- active directivity (isolation-gain), 30 dB typ.

Applications
- VHF/UHF
- laboratory use
- receivers
- two-tone, 3rd order IM testing

Amplifier Electrical Specifications

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>FREQUENCY (MHz)</th>
<th>GAIN (dB)</th>
<th>MAXIMUM POWER (dBm)</th>
<th>DYNAMIC RANGE</th>
<th>ACTIVE DIRECTIVITY</th>
<th>DC POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZFL-1HADX</td>
<td>10 to 500</td>
<td>±1.0</td>
<td>+20</td>
<td>+20</td>
<td>+17</td>
<td>30</td>
</tr>
</tbody>
</table>

- Heat sink not included
- ACTIVE DIRECTIVITY (dB) = Isolation (dB) - Gain (dB)
- Input VSWR in 10-20 MHz band increases to 1.45:1 at -20°C. Below 50 MHz, NF increases to 11dB typ. at 10 MHz
- 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 Dimensions (inch mm)

A 1.25 31.75
B 1.56 .75 .63
C .39 15.00
D 1.00 25.40
E .125 3.18
F .46 11.68
G .219 56.63
H .668 14.28
I .06 .750
J 1.52 38.10
K 19.05 482.8
L 85.0

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-Circuit’s Standard Terms and conditions, which are available at www.minicircuits.com/MCLStore/terms.jsp

www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com
### Typical Performance Data/Curves

**ZFL-1HAD**

<table>
<thead>
<tr>
<th>FREQUENCY (MHz)</th>
<th>GAIN (dB)</th>
<th>DIRECTIVITY (dB)</th>
<th>VSWR</th>
<th>NOISE FIGURE (dB)</th>
<th>POUT at 1 dB COMPR. (dBm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12V</td>
<td>15V</td>
<td>16V</td>
<td>12V</td>
<td>15V</td>
</tr>
<tr>
<td>10.00</td>
<td>11.57</td>
<td>11.63</td>
<td>11.65</td>
<td>27.40</td>
<td>27.50</td>
</tr>
<tr>
<td>19.30</td>
<td>11.37</td>
<td>11.35</td>
<td>11.37</td>
<td>30.10</td>
<td>30.20</td>
</tr>
<tr>
<td>46.50</td>
<td>11.31</td>
<td>11.38</td>
<td>11.40</td>
<td>31.10</td>
<td>31.20</td>
</tr>
<tr>
<td>111.80</td>
<td>11.48</td>
<td>11.56</td>
<td>11.58</td>
<td>31.60</td>
<td>31.70</td>
</tr>
<tr>
<td>198.50</td>
<td>11.61</td>
<td>11.74</td>
<td>11.76</td>
<td>32.40</td>
<td>32.80</td>
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<tr>
<td>248.70</td>
<td>11.74</td>
<td>11.90</td>
<td>11.94</td>
<td>32.70</td>
<td>33.30</td>
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<tr>
<td>311.50</td>
<td>11.89</td>
<td>12.13</td>
<td>12.18</td>
<td>31.40</td>
<td>32.60</td>
</tr>
<tr>
<td>374.40</td>
<td>12.08</td>
<td>12.38</td>
<td>12.45</td>
<td>28.30</td>
<td>29.20</td>
</tr>
<tr>
<td>437.20</td>
<td>12.23</td>
<td>12.60</td>
<td>12.69</td>
<td>25.20</td>
<td>25.50</td>
</tr>
<tr>
<td>500.00</td>
<td>12.37</td>
<td>12.83</td>
<td>12.94</td>
<td>21.60</td>
<td>21.70</td>
</tr>
</tbody>
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