Main Features:
- Frequency Range: 2 to 18 GHz.
- Typical values: Gain 18 dB, NF 3 dB
- RF connectors (I/O): SMA
- Solder filtered pins for DC connection
- Several mounting options
- Gold plated compact aluminum housing
- Hi-reliability and dedicated screening/environmental tests available under request

Typical applications:
- Industrial / Laboratory
- Satcom / Telecom
- Space / Aerospace / Military

Performance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Output Power (P1dB)</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Small Signar Gain</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>Gain flatness</td>
<td>-</td>
<td>±2.5</td>
</tr>
<tr>
<td>Noise Figure</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>VSWR input</td>
<td>1.0:1</td>
<td>1.5:1</td>
</tr>
<tr>
<td>VSWR output</td>
<td>1.0:1</td>
<td>1.8:1</td>
</tr>
<tr>
<td>DC Voltage</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>-</td>
<td>2.4</td>
</tr>
<tr>
<td>Connectors</td>
<td>SMA Female IN/OUT</td>
<td>-</td>
</tr>
</tbody>
</table>

Specifications at a case temperature of 25°C at 12V.
Output Power at 1 dB Compression

Figure 1 shows output power at 1dB compression measurement as a function of frequency at room temperature (25ºC).

Small Signal Gain

Figure 2 shows the small signal gain measurement as a function of frequency at room temperature (25ºC).
Small Signal Gain over Temperature

Figure 3 shows small signal gain measurement as a function of frequency at three different temperatures.

Noise Figure

Figure 4 shows the noise figure measurement as a function of frequency at room temperature (25ºC).
Input and Output Matching

Figure 5 and Figure 6 show input (S11) and output (S22) VSWR as a function of frequency at room temperature (25ºC).

Figure 5: ERZ-LNA-0200-1800-18-5.5 Input Matching

Figure 6: ERZ-LNA-0200-1800-18-5.5 Output Matching
Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Voltage</td>
<td>14 VDC</td>
</tr>
<tr>
<td>Maximum Input Power (CW)</td>
<td>20 dBm</td>
</tr>
<tr>
<td>Operation temperature (at case)</td>
<td>-54 to 85ºC</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-55 to 125ºC</td>
</tr>
</tbody>
</table>

- Stress above these ratings may cause permanent damage to the device.
- It is final user responsibility to maintain the amplifier within the specified ranges.

Measurements Conditions

All measurements provided in this report were performed at the following conditions:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature (DUT ON)</td>
<td>-54ºC, 25ºC, 85ºC ± 1ºC</td>
</tr>
<tr>
<td>Humidity</td>
<td>44% ± 10%</td>
</tr>
<tr>
<td>DUT Warm up time</td>
<td>30 min</td>
</tr>
<tr>
<td>DUT minimum operation time</td>
<td>24 hours</td>
</tr>
<tr>
<td>Test equipment warm up time</td>
<td>2 hours</td>
</tr>
<tr>
<td>Additional temperature cycles in climatic chamber (DUT OFF)</td>
<td>-40ºC to 85ºC</td>
</tr>
</tbody>
</table>

Environmental Specifications (By Design)

Operating Temperature: -54 to +85 ºC (MIL-STD-810F, method 520.2)
Storage Temperature: -55 to 125 ºC (MIL-STD-810F, method 520.2)
Vibration: 8g rms (MIL-STD-810F, method 514.5)
Shock: 20g, 11ms, saw-tooth (MIL-STD-810F, method 516.5)
Acceleration: 15g (MIL-STD-810F, method 513.5)

RoHS & REACH Compliance

This part is compliant with EU 2011/65/UE RoHS (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment) and REACH (Registration, Evaluation, Authorization and restriction of Chemical substances) directives.

Tel: +34 942 29 13 42  sales.rf@erzia.com  www.erzia.com
Mechanics and Housing
All modules are at least delivered with: Electrical Test Report, Certificate of Conformance, Certificate of Acceptance and Origin. Optionally, units can be environmentally tested (temperature, vibration...).

**Option (HS): Heat Sink**

A heat sink (HS) can be provided to allow the operation of Power Amplifiers. Please note that most power amplifiers need heat sink or appropriate heat dissipation strategy.

**Space / Military Usage**

Most of ERZIA’s products are based on rad-hard technologies and can be manufactured and integrated according to MIL / ECSS or specific hi-rel standard-screening for space, aeronautics, military or specific hi-reliability usage.

**Customization and Extended Performances**

ERZIA can fully design or adapt one of the existing RF amplifiers designs according to your specifications. Please contact us for additional information.

**Model Number Codification**

```
MODEL NUMBER

ERZ - ABC - DEFG - HIJK - LM - NO

LNA
HPA

frequency
minimum
DE (GHz)
FG (MHz)

frequency
maximum
HI (GHz)
JK (MHz)

NF if LNA

Psat if HPA
Gain if LNA
```