

## 130 – 180 MHz Low Noise Wide Band Amplifier



### Key Features:

- 50 Ohm Impedance
- 130 ~ 180 MHz
- 1.6 dB Noise Figure
- 44.0 dBm Output IP<sub>3</sub>
- 22.0 dB Gain
- 27.0 dBm P<sub>1dB</sub>
- 1.35: 1 VSWR
- Single DC Power Supply
- Unconditional Stable
- RoHS Compliant

### Specifications:

Summary of the electrical specifications RLAC0102A at room temperature

| Testing Item                          | Symbol               | Test Constraints                              | Min | Nom     | Max    | Unit  |
|---------------------------------------|----------------------|-----------------------------------------------|-----|---------|--------|-------|
| Gain                                  | S <sub>21</sub>      | 130 – 180 MHz                                 | 20  | 22      | 24     | dB    |
| Gain Variation                        | ΔG                   | 130 – 180 MHz                                 |     | +/- 0.2 | +/-0.5 | dB    |
| Input VSWR                            | SWR <sub>1</sub>     | 130 – 180 MHz                                 |     | 1.35:1  | 1.5:1  | Ratio |
| Output VSWR                           | SWR <sub>2</sub>     | 130 – 180 MHz                                 |     | 1.35:1  | 1.5:1  | Ratio |
| Reverse Isolation                     | S <sub>12</sub>      | 130 – 180 MHz                                 | 25  | 28      |        | dB    |
| Noise Figure                          | NF                   | 130 – 180 MHz                                 |     | 1.6     | 1.8    | dB    |
| Output 1dB Gain Compression Point     | P <sub>1dB</sub>     | 130 – 180 MHz                                 | 26  | 27      |        | dBm   |
| Output Third Order Interception Point | OIP <sub>3</sub>     | Two-Tone, Pout +10 dBm each, 1 MHz separation | 42  | 44      |        | dBm   |
| DC Current Consumption                | I <sub>dd</sub>      | Vdd= +12 V                                    |     | 210     |        | mA    |
| Power Supply Voltage                  | V <sub>dd</sub>      |                                               | +11 | +12     | +16    | V     |
| Thermal Resistance                    | R <sub>th,c</sub>    | Junction to case                              |     |         | 25     | °C/W  |
| Operating Temperature                 | T <sub>o</sub>       | Case temperature                              | -40 |         | +85    | °C    |
| Maximum CW RF Input Power             | P <sub>In, Max</sub> | 0 – 6 GHz                                     |     |         | 24     | dBm   |

### Ordering Information

|             |           |
|-------------|-----------|
| Part Number | RLAC0102A |
|-------------|-----------|

**Absolute Maximum Ratings:**

| Parameters              | Units | Ratings    |
|-------------------------|-------|------------|
| DC Power Supply Voltage | V     | 16V        |
| Drain Current           | mA    | 250        |
| Total Power Dissipation | W     | 2.6        |
| RF CW Input Power       | dBm   | 24         |
| Channel Temperature     | °C    | 150        |
| Storage Temperature     | °C    | -55 ~ +125 |
| Operating Temperature   | °C    | -40 ~ +85  |
| Thermal Resistance      | °C/W  | 25         |

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