

ADIC204LP2

V0

性能特点

- 工作频率: 400 - 1500 MHz
- 噪声系数: 0.4 dB @ 900 MHz
- OIP3: 35 dBm @ 900 MHz
- 输入/输出阻抗: 50  $\Omega$
- 8-pin 2.0 mm x 2.0 mm x 0.75 mm  
Quad-Flat-No-Lead (QFN)
- 5 V单电源供电

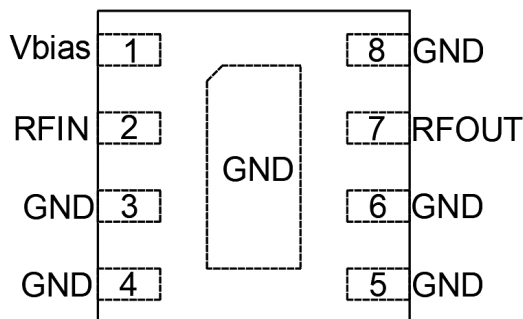
产品简介

ADIC204LP2是一款低噪声放大器, 频率范围覆盖400 - 1500 MHz, 具有低噪声高增益高线性度的特点, 采用2 mm x 2 mm x 0.75 mm的 8-pin QFN封装形式。可广泛应用于RF/微波电路、GSM, CDMA手机电路等。

极限参数

|         |                                                  |
|---------|--------------------------------------------------|
| 射频输入功率  | +20 dBm                                          |
| 偏置电压VDD | +5.5 V                                           |
| 偏置电流    | 90 mA                                            |
| 最大功耗    | 0.5 W                                            |
| 工作温度    | -40 $^{\circ}\text{C}$ ~ +85 $^{\circ}\text{C}$  |
| 储存温度    | -65 $^{\circ}\text{C}$ ~ +150 $^{\circ}\text{C}$ |
| 最高结温    | +150 $^{\circ}\text{C}$                          |
| RTH     | 68 $^{\circ}\text{C}/\text{W}$                   |

引脚定义



俯视透视图

| 引脚编号      | 符号    | 功能描述   |
|-----------|-------|--------|
| 1         | Vbias | 栅极偏置电压 |
| 2         | RFin  | 射频输入   |
| 3,4,5,6,8 | GND   | 接地     |
| 7         | RFout | 射频输出   |



关注公众号



ELECTROSTATIC SENSITIVE DEVICE  
OBSERVE HANDLING PRECAUTIONS

ADIC204LP2

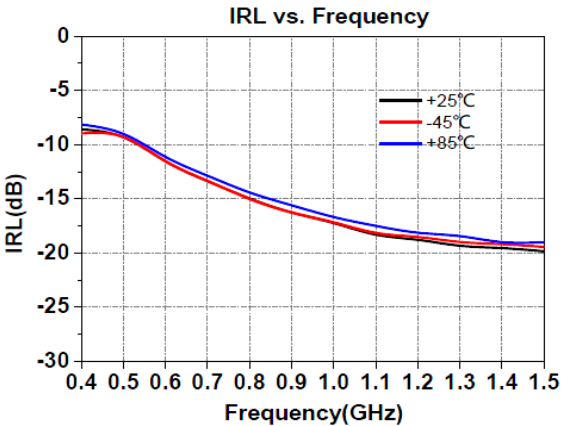
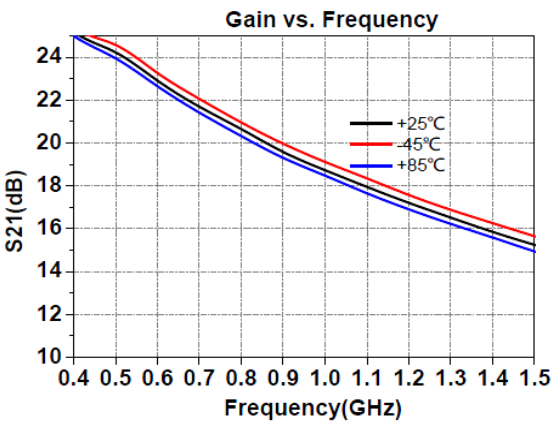
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电性能表 (T = 25 °C, Vdd = +5 V )

| 指标         | 最小值            | 典型值                  | 最大值                  | 单位  | 范围                            |
|------------|----------------|----------------------|----------------------|-----|-------------------------------|
| 频率范围       | 400            |                      | 1500                 | MHz |                               |
| 小信号增益      |                | 20.3<br>19.7<br>17.5 |                      | dB  | 800 MHz<br>850 MHz<br>900 MHz |
| 输入回波损耗     |                | -15<br>-15<br>-16    | -10<br>-10<br>-10    | dB  | 800 MHz<br>850 MHz<br>900 MHz |
| 输出回波损耗     |                | -12<br>-12<br>-12    | -10<br>-10<br>-10    | dB  | 800 MHz<br>850 MHz<br>900 MHz |
| 1dB压缩点输出功率 | 20<br>20<br>20 | 22.1<br>22.1<br>22.2 | -10                  | dBm | 800 MHz<br>850 MHz<br>900 MHz |
| 噪声系数       |                | 0.4<br>0.4<br>0.4    | 0.55<br>0.55<br>0.55 | dB  | 800 MHz<br>850 MHz<br>900 MHz |
| OIP3       | 33<br>33<br>33 | 34.5<br>34.8<br>35   |                      | dBm | 800 MHz<br>850 MHz<br>900 MHz |
| 回波损耗       |                | -28<br>-27<br>-27    |                      | dB  | 800 MHz<br>850 MHz<br>900 MHz |
| 工作电流       | 44             | 55                   | 80                   | mA  |                               |

OIP3 Tone Spacing = 1 MHz, Pout per ton = +5 dBm

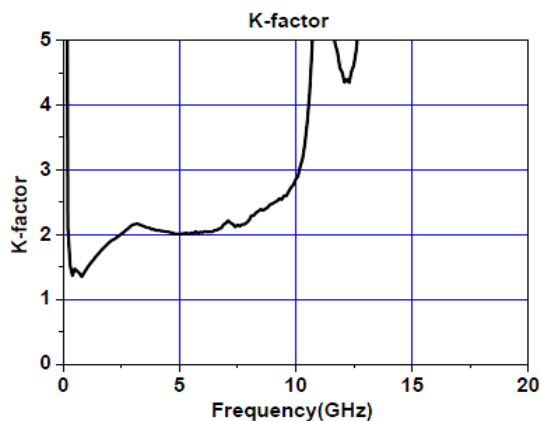
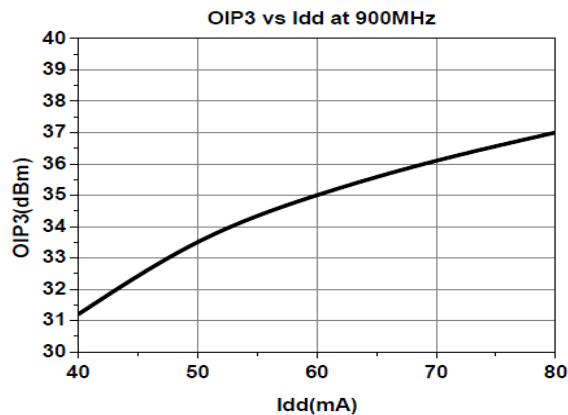
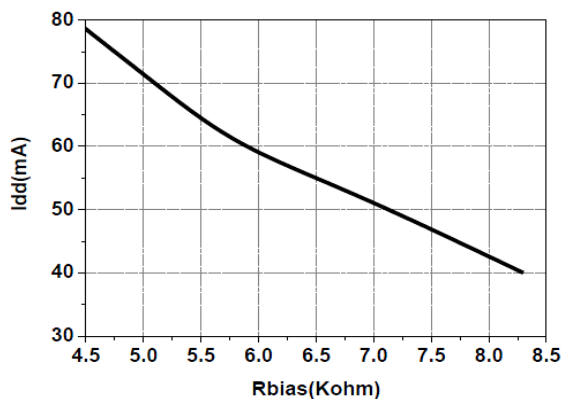
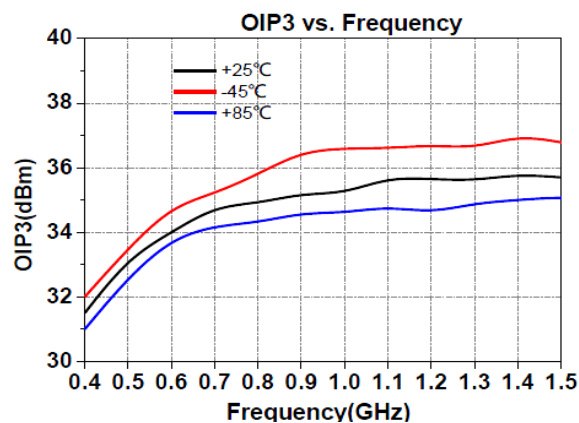
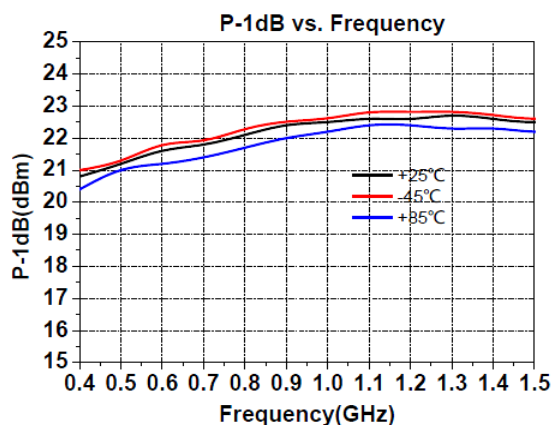
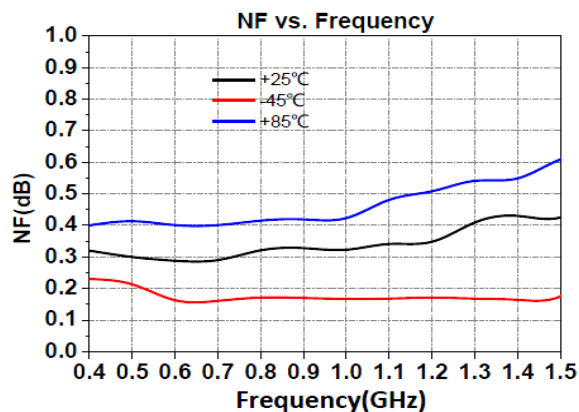
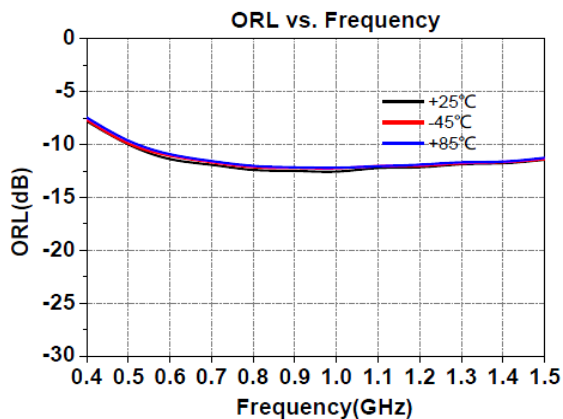
典型测试曲线 (T = 25 °C, VDD = +5 V, ID = 55 mA, Demo Board测试)



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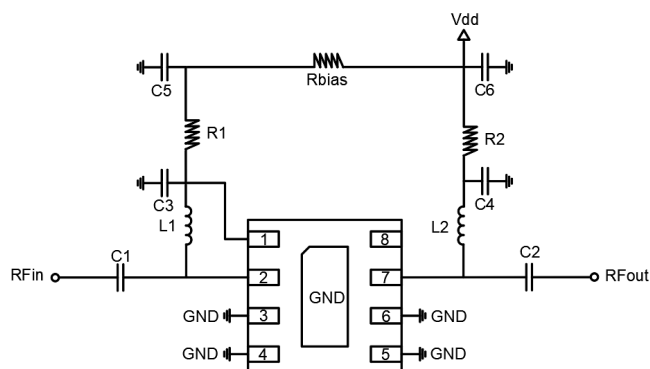
**典型测试曲线** (T = 25 °C, VDD = +5 V, ID = 55 mA, Demo Board测试)



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### 应用电路

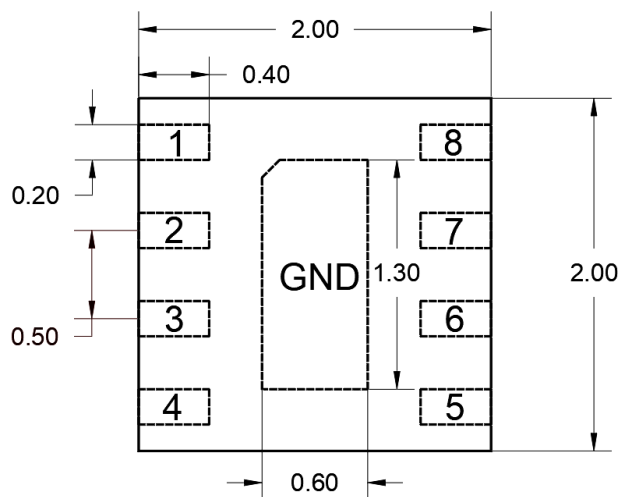


元件列表

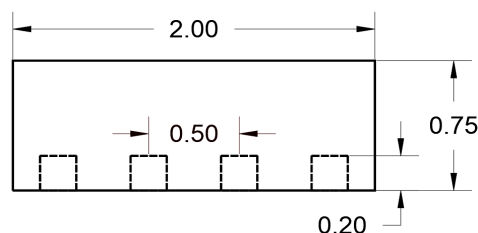
| 元件名称   | 尺寸   | 元件值         |
|--------|------|-------------|
| C1, C2 | 0402 | 100 pF      |
| L1, L2 | 0402 | 33 nH       |
| C3, C6 | 0402 | 4.7 uF      |
| C4     | 0402 | 33 pF       |
| R1     | 0402 | 0 $\Omega$  |
| R2     | 0402 | 10 $\Omega$ |

注: C1, C2 是隔直电容; L1 电感是噪声匹配;  
L2 电感用于输出匹配提高OIP3; C3, C4, C6 是  
旁路电容; R2 是稳定电阻; Rbias 是偏置电阻  
(参考值6.8 K $\Omega$ ) , C5未使用。

### 外形尺寸



俯视透视图



侧视图

单位: mm

### 建议引脚PCB

