

## ADIC203LP2

V0

### 性能特点

- 工作频段: 1.5 - 2.6 GHz
- 噪声系数: 0.5 dB @ 1900 MHz
- OIP3: 35 dBm @ 1900 MHz
- ESD: 250 V HBM
- 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

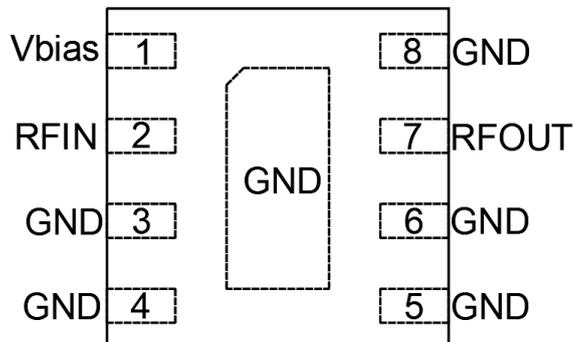
### 产品简介

ADIC203LP2是一款频率覆盖1.5 - 2.6 GHz的低噪声放大器。该产品在整个工作频段内具有低噪声, 高增益, 高线性度的特点。采用 2.0 x 2.0 x 0.75 mm 8-pin Quad-Flat-Non-Lead (QFN) 封装, 非常适合应用于微波混合集成电路和多芯片模块以及低功耗系统。

### 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 °C ~ +85 °C  |
| 储存温度    | -65 °C ~ +150 °C |
| 最高结温    | +150 °C          |
| RTH     | 68 °C/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   |



ELECTROSTATIC SENSITIVE DEVICE  
OBSERVE HANDLING PRECAUTIONS



关注公众号

**ADIC203LP2**

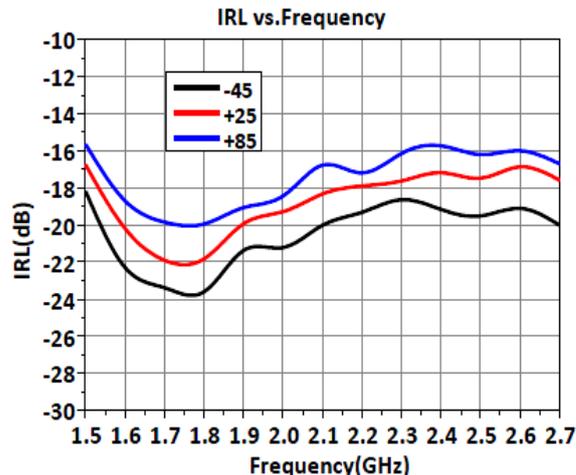
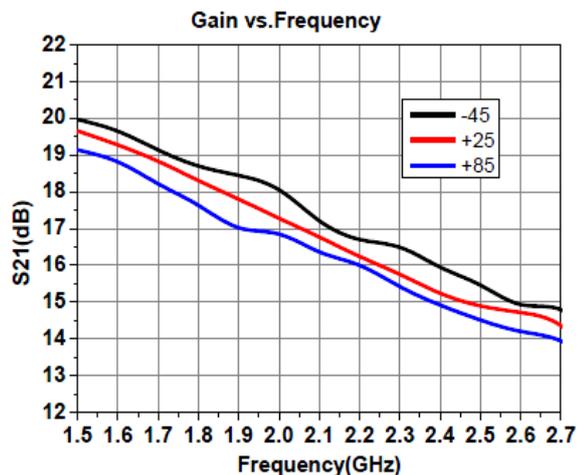
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**电性能表** (T = 25 °C, VDD = +5 V)

| 指标     | 最小值 | 典型值  | 最大值  | 单位  | 范围              |
|--------|-----|------|------|-----|-----------------|
| 频率范围   | 1.5 |      | 2.6  | GHz |                 |
| 增益     | 17  | 18.4 | 24   | dB  | 1900 MHz        |
|        |     | 17.0 |      | dB  | 2100 MHz        |
|        |     | 15.5 |      | dB  | 2400 MHz        |
|        |     | 14.7 |      | dB  | 2600 MHz        |
| P1dB   | 19  | 21   |      | dBm | 1900 - 2600 MHz |
| OIP3   | 33  | 36   |      | dBm | 1900 MHz        |
|        | 33  | 36   |      | dBm | 2100 MHz        |
|        | 32  | 34.5 |      | dBm | 2400 MHz        |
|        | 31  | 33.5 |      | dBm | 2600 MHz        |
| 输入回波损耗 |     | -20  | -16  | dB  | 1900 MHz        |
|        |     | -18  | -15  | dB  | 2100 MHz        |
|        |     | -17  |      | dB  | 2400 MHz        |
|        |     | -17  |      | dB  | 2600 MHz        |
| 输出回波损耗 |     | -10  |      | dB  | 1800 - 2600 MHz |
| 噪声系数   |     | 0.5  | 0.69 | dB  | 1900 MHz        |
|        |     | 0.6  | 0.8  | dB  | 2100 MHz        |
|        |     | 0.75 | 0.9  | dB  | 2400 MHz        |
|        |     | 0.9  | 1.0  | dB  | 2600 MHz        |
| 隔离度    |     | -29  |      | dB  | 1800 - 2600 MHz |
| VDD    |     | 5.0  | 5.5  | V   |                 |
| IDD    | 40  | 50   | 70   | mA  |                 |

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

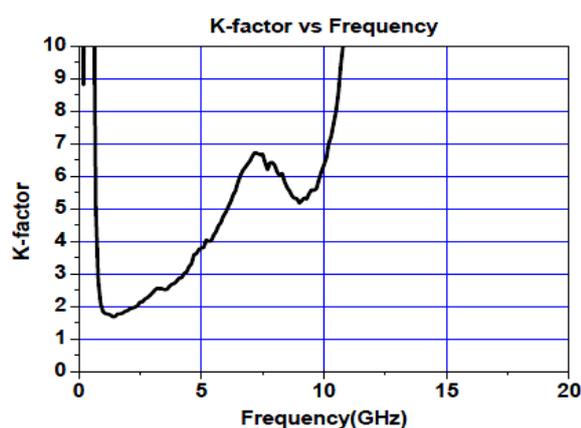
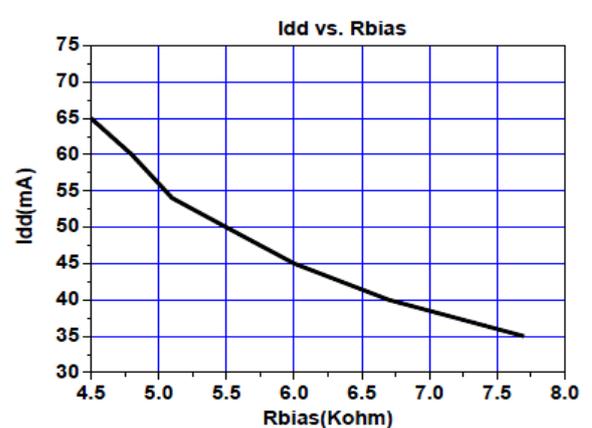
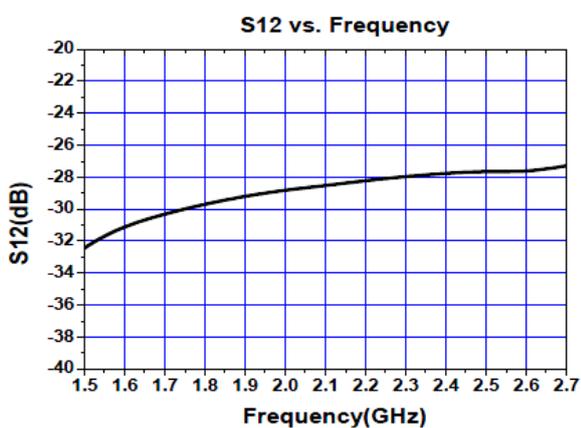
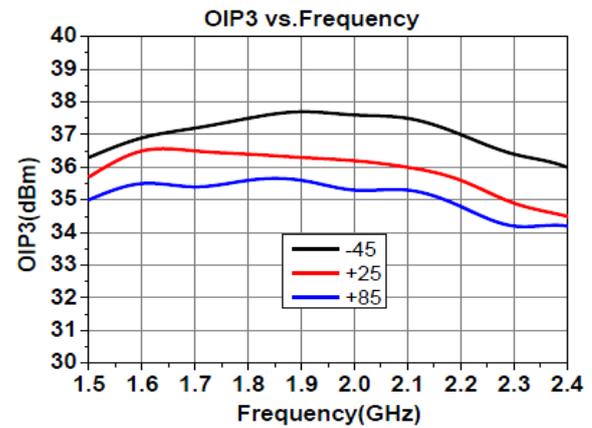
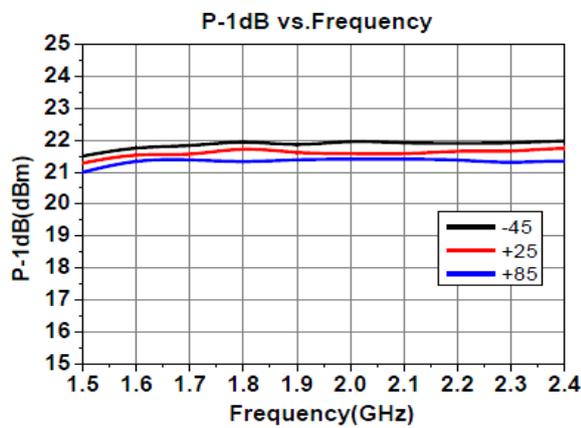
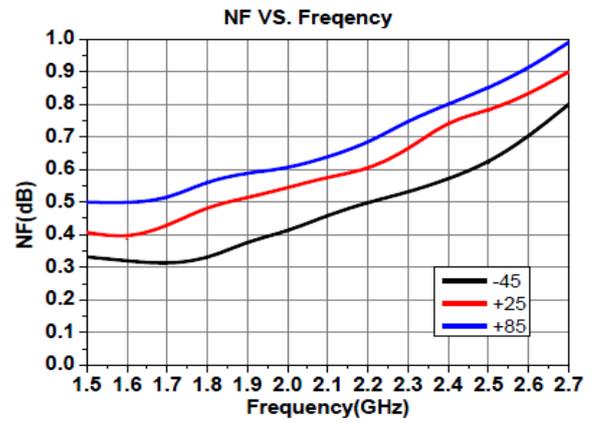
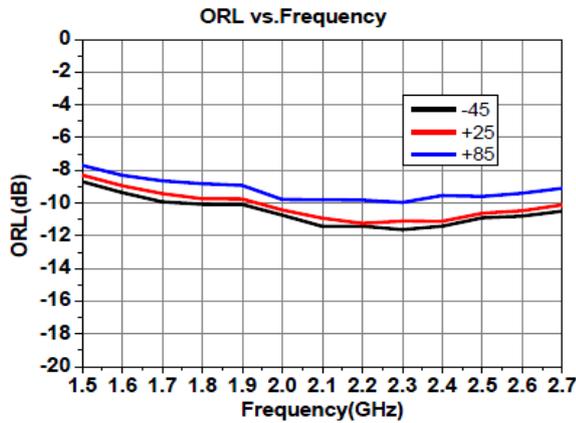
**典型测试曲线** (T = 25 °C, VDD = +5 V, ID = 50 mA, Demo Board测试)



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典型测试曲线 (T = 25 °C, VDD = +5 V, ID = 50 mA, Demo Board测试)

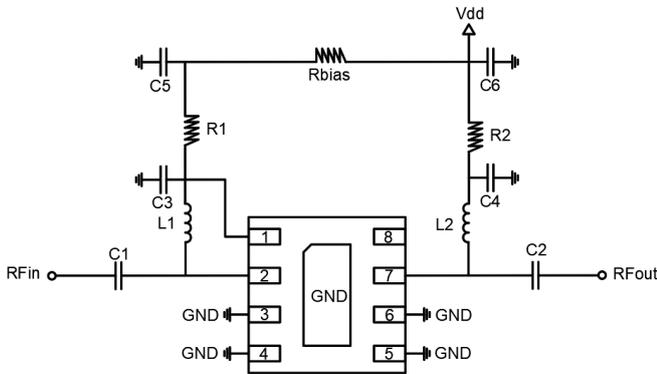


注：  
OIP3 测试条件：OIP3 Tone Spacing = 1 MHz, Pout per tone=5 dBm。

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应用电路

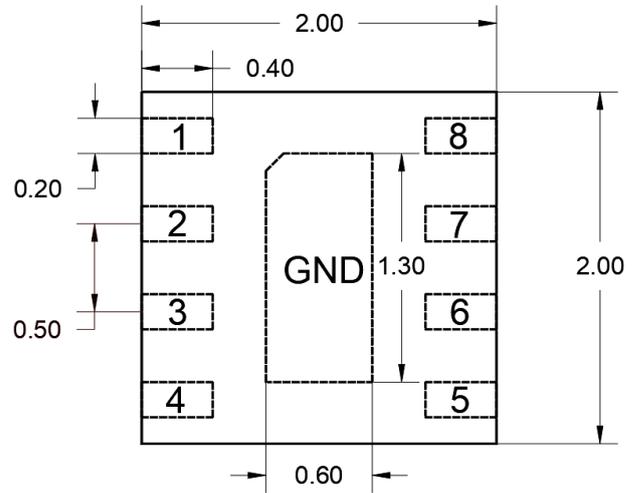


元件列表

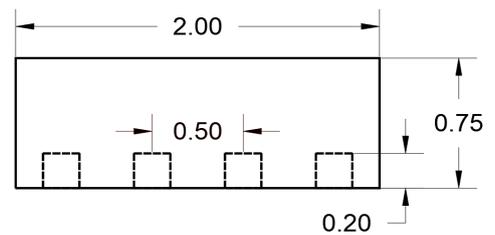
| 元件名称   | 尺寸   | 元件值     |
|--------|------|---------|
| C1, C2 | 0402 | 1000 pF |
| L1, L2 | 0402 | 6.8 nH  |
| C3, C4 | 0402 | 10 pF   |
| C5, C6 | 0805 | 4.7 uF  |
| R1     | 0402 | 49.9 Ω  |
| R2     | 0402 | 0 Ω     |
| Rbias  | 0402 | 5.6 KΩ  |

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; R1 是稳定电阻; Rbias 是偏置电阻 (5.6 KΩ是参考值)。

外形尺寸



俯视图



侧视图

单位: mm

建议引脚PCB

