

Product Features

- 50 ~ 3000 MHz
- GaAs MMIC
- 43dBm Output IP3
- 13dB Gain
- 26dBm P1dB
- Single +9V Supply

Application

- CDMA, W-CDMA Medium Power Amplifier
- High Linearity Drive Amplifier

**Description**

AP222 is a high linearity amplifier designed with GaAs MMIC. AP222 is designed for applications such as GSM, CDMA, W-CDMA driver devices which require high IP3

ELECTRICAL CHARACTERISTICS**Absolute Minimum and Maximum Ratings**

| PARAMETER | UNIT | MIN | MAX |
|---------------------|------|-----|------|
| Device Voltage | VDC | | +12 |
| RF Input Power | dBm | | +15 |
| Storage Temperature | °C | -40 | +150 |

Operating Ranges

| PARAMETER | UNIT | MIN | TYP | MAX |
|---------------------|------|-----|-----|------|
| Operating Frequency | MHz | 50 | | 3000 |
| Device Voltage | VDC | | +9 | +10 |
| Case Temperature | °C | -40 | | +100 |

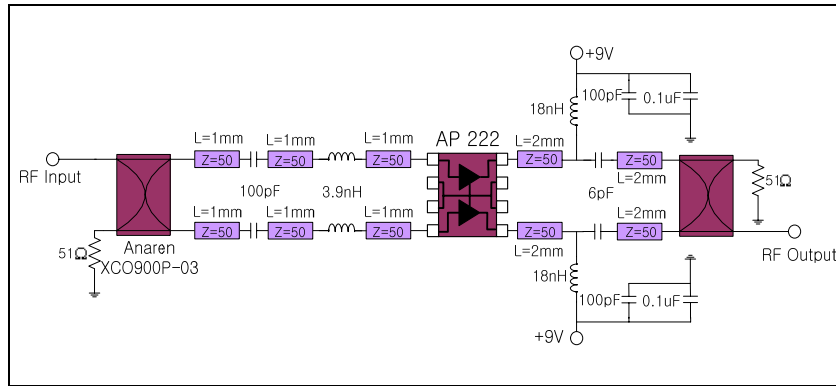
Electrical Specifications

(Ta=+25 °C, V_{DD}=+9V, Fc=900MHz)

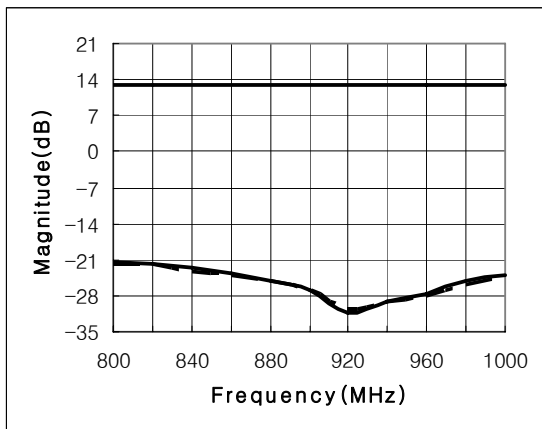
| PARAMETER | UNIT | MIN | TYP | MAX |
|-------------------------|------|-----|-----|-----|
| Gain | dB | 12 | 13 | |
| Input Return Loss | dB | | -20 | |
| Output Return Loss | dB | | -20 | |
| Output IP3 | dBm | +38 | +43 | |
| 1dB Compression Point | dBm | | +26 | |
| Noise Figure | dB | | 2.8 | |
| DC Current | mA | | 240 | |
| Supply Voltage | VDC | | +9 | |
| Thermal Resistance(Rth) | °C/W | | | 20 |

OIP3 is measured with two tones, at an output power of 10dBm/tone separated by 1MHz

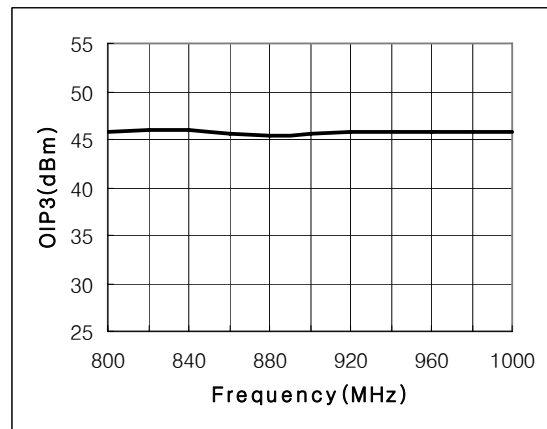
Application Circuit (900MHz)



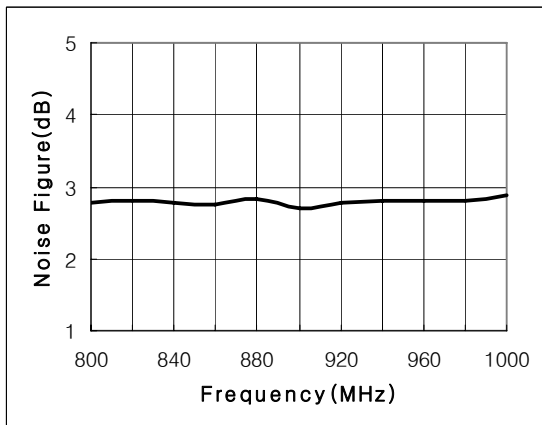
S-Parameter vs. Frequency



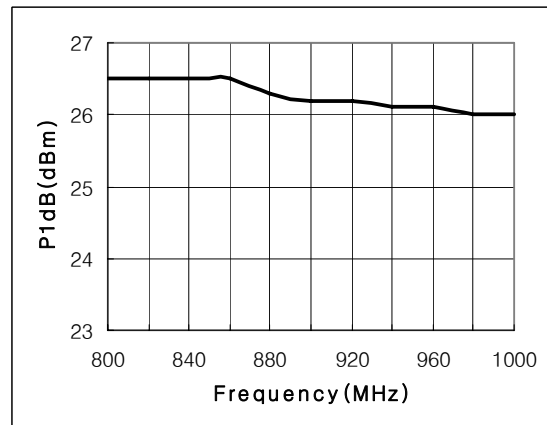
OIP3 vs. Frequency



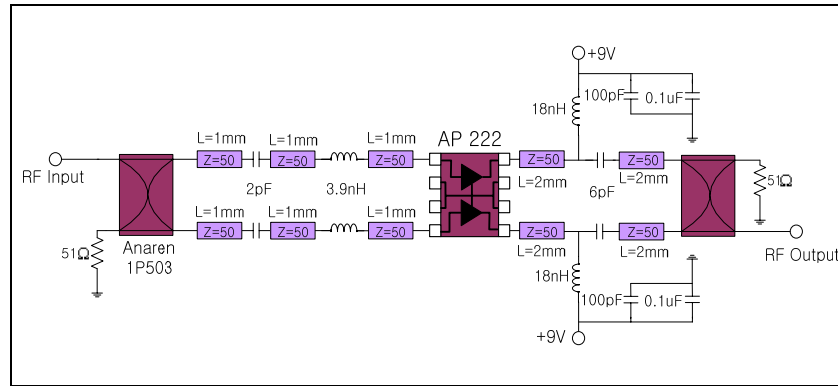
Noise Figure vs. Frequency



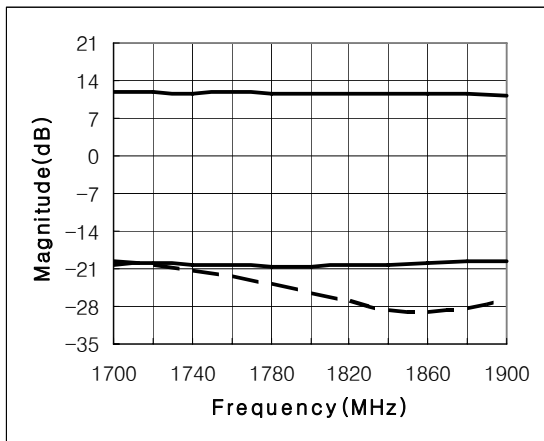
P1dB vs. Frequency



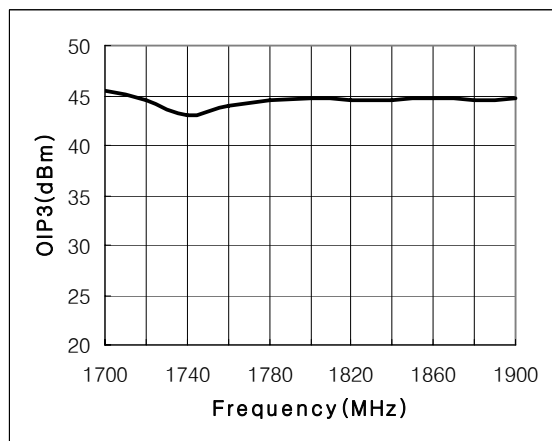
Application Circuit (1800MHz)



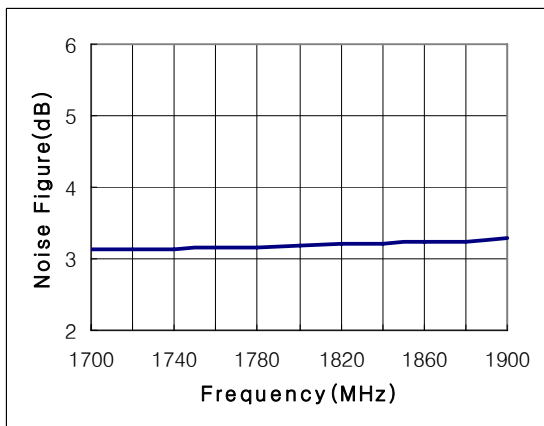
S-Parameter vs. Frequency



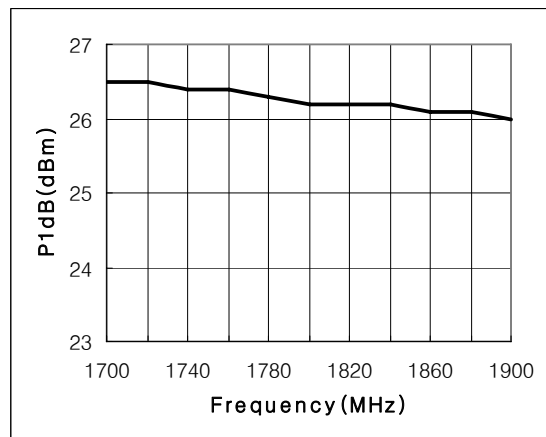
OIP3 vs. Frequency



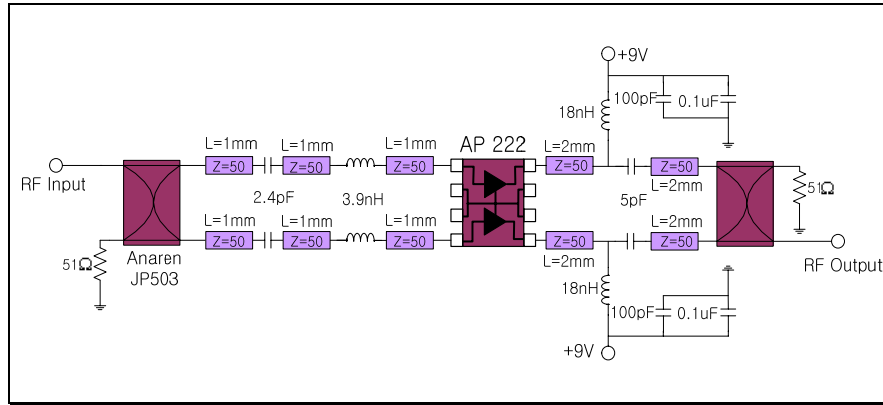
Noise Figure vs. Frequency



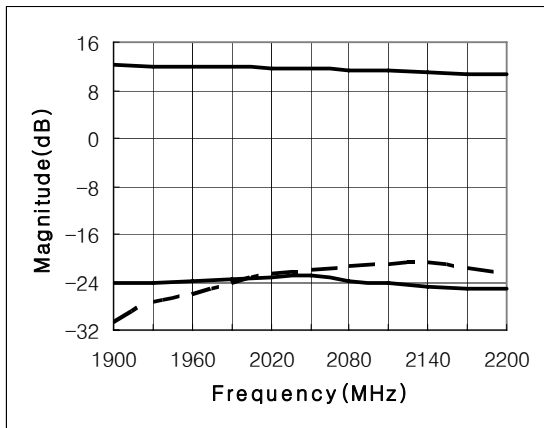
P1dB vs. Frequency



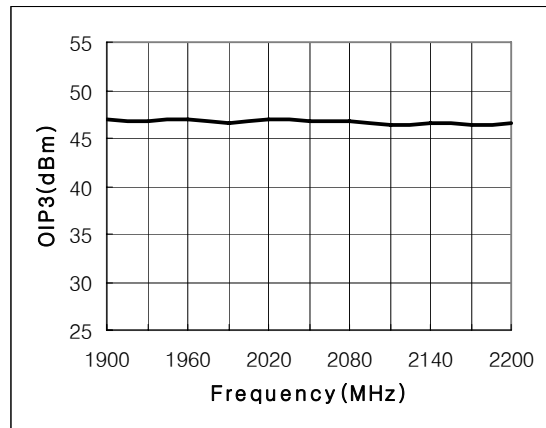
Application Circuit (2100MHz)



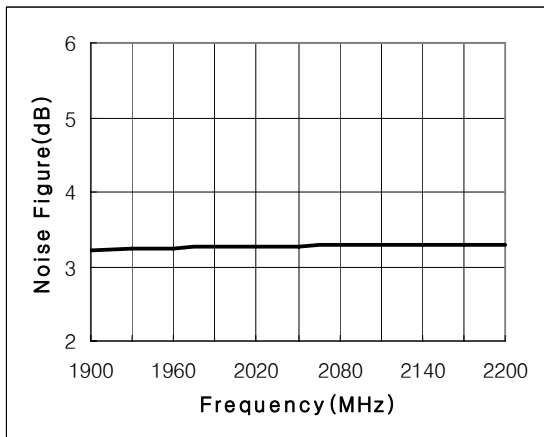
S-Parameter vs. Frequency



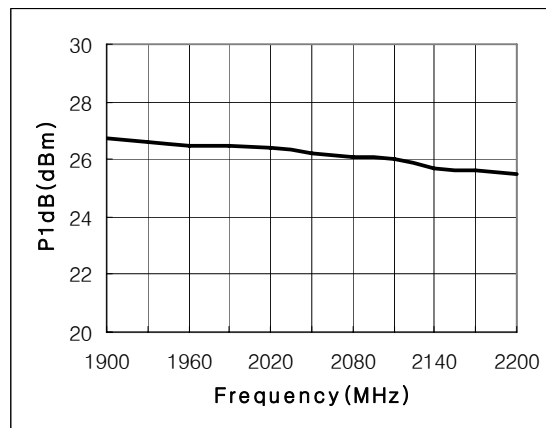
OIP3 vs. Frequency



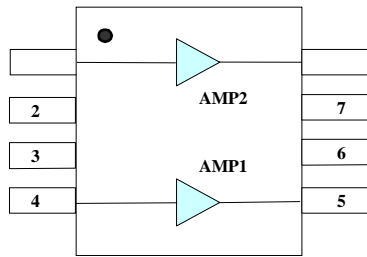
Noise Figure vs. Frequency



P1dB vs. Frequency

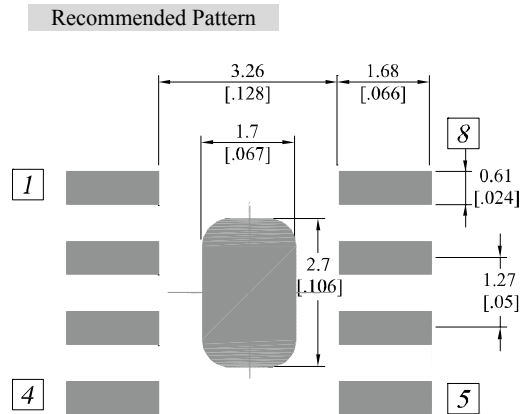
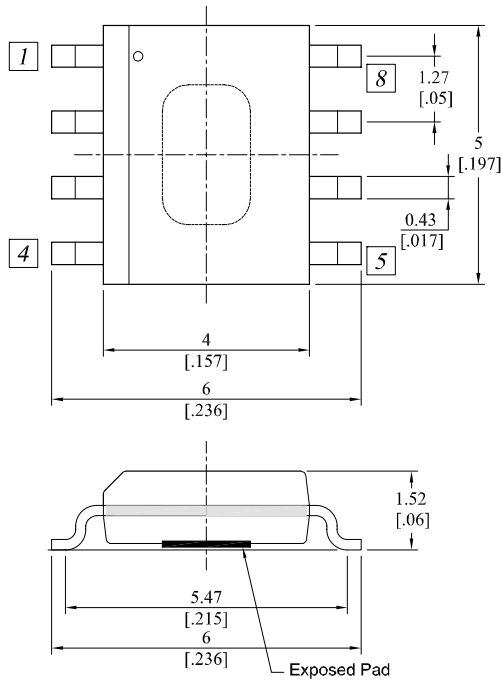


Pin Description



| Pin No | Function |
|--------------|-----------|
| 1 | RF IN(2) |
| 5 | RF OUT(1) |
| 4 | RF IN(1) |
| 8 | RF OUT(2) |
| 2, 3, 6, 7 | N.C |
| Exposed slug | GND |

Package Dimensions (Type: SOIC-8)



| | |
|--|------------------------------------|
| Unit : $\frac{\text{mm}}{\text{[inch]}}$ | Tolerance : $\pm \frac{0.2}{.008}$ |
|--|------------------------------------|

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