

AN6561, AN6561L

Dual Operational Amplifiers

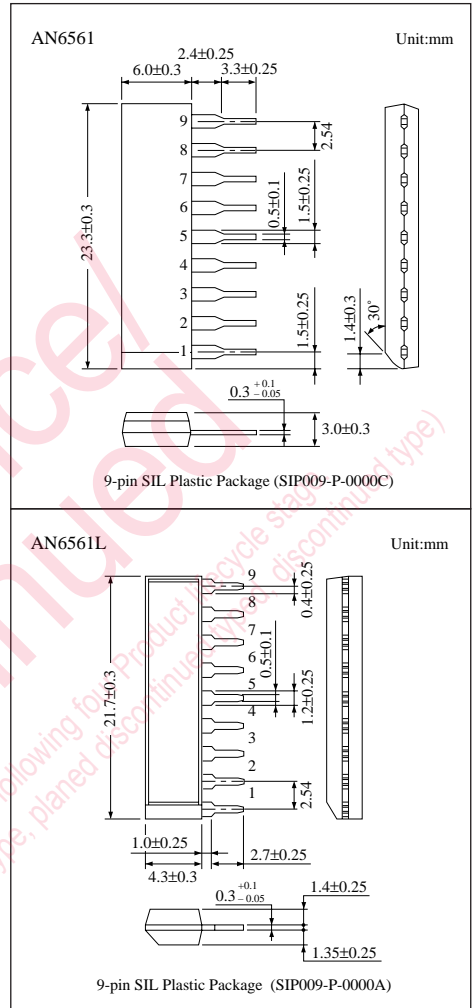
Overview

The AN6561 and AN6561L are dual operational amplifiers with two phase compensation circuits built in, have a wide range of operating supply voltage, and can operate on a single power supply.

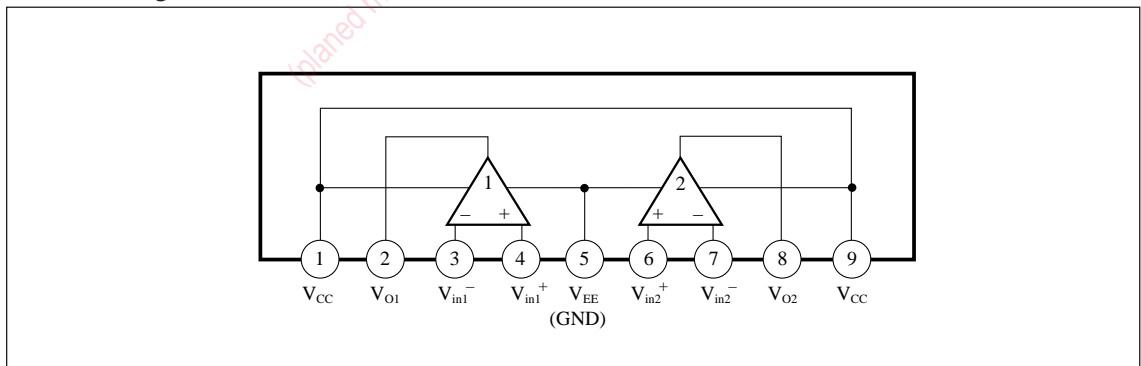
They have electrical characteristics equivalent to those of conventional operational amplifiers, and are low-powered and suitable for application to various circuits.

Features

- Built-in phase compensation circuits
- Wide range of input voltage: 0V to $V_{CC} - 1.5V$
- Wide range of operating power supply
- Single power supply: 3 to 30V
- Dual power supply: ± 1.5 to 15V



Block Diagram



■ Absolute Maximum Rating (Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|-------------------------------|------------------|--------------|------|
| Supply voltage | V _{CC} | 32 | V |
| Differential input voltage | V _{ID} | 32 | V |
| Common-mode input voltage | V _{ICM} | - 0.3 to +32 | V |
| Output voltage | V _O | 24 | V |
| Power dissipation | P _D | 350 | mW |
| Operating ambient temperature | T _{opr} | -20 to +75 | °C |
| Storage temperature | T _{stg} | -55 to +150 | °C |

■ Recommended Operating Range (Ta=25°C)

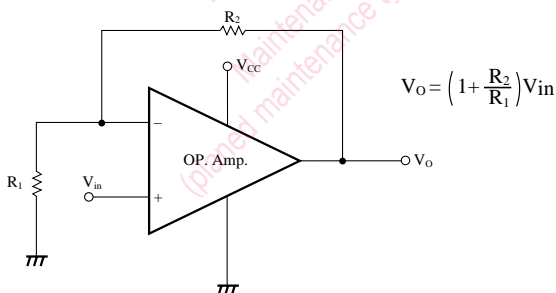
| Parameter | Symbol | Range |
|--------------------------------|-----------------|---------------------------------|
| Operating supply voltage range | V _{CC} | Single power supply 3V to 30V |
| | | Dual power supply ±1.5V to ±15V |

■ Electrical Characteristics (V_{CC}=5V, Ta=25°C)

| Parameter | Symbol | Condition | min | typ | max | Unit |
|---------------------------------|------------------------|---|----------------------|-----|----------------------|------|
| Input offset voltage | V _{I(offset)} | R _S =50Ω | — | 2 | 7 | mV |
| Input bias current | I _{Bias} | | — | — | 250 | nA |
| Input offset current | I _{IO} | | — | — | 50 | nA |
| Common-mode input voltage width | V _{CM} | | 0 | — | V _{CC} -1.5 | V |
| Supply current | I _{CC} | R _L =∞ | — | 0.6 | 1.2 | mA |
| Voltage gain | G _V | R _L ≥2kΩ | — | 100 | — | dB |
| Maximum output voltage | V _{O(max.)} | R _L ≥2kΩ | V _{CC} -1.5 | — | — | V |
| Common-mode rejection ratio | CMR | | 65 | 85 | — | dB |
| Supply voltage rejection ratio | SVR | | 65 | 100 | — | dB |
| Channel separation | CS | f=1kHz to 20kHz | — | 120 | — | dB |
| Output source current | I _{O(source)} | V _{in+} =1V, V _{in-} =0V | 20 | 40 | — | mA |
| Output sink current | I _{SINK} | V _{in+} =0V, V _{in-} =-1V | 10 | 20 | — | mA |

■ Application Circuit

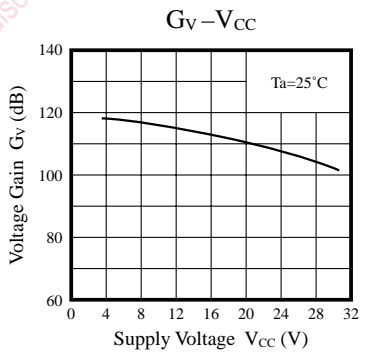
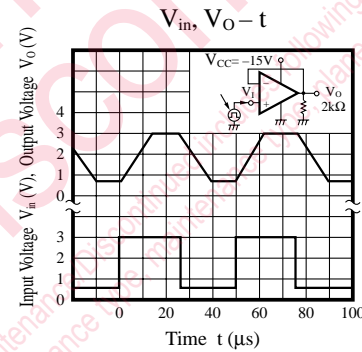
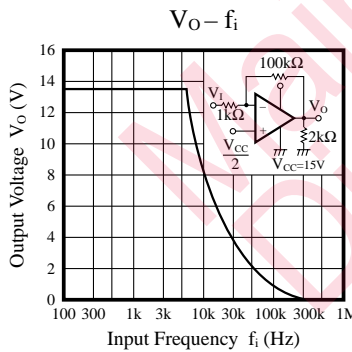
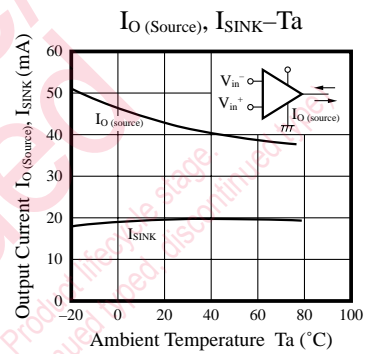
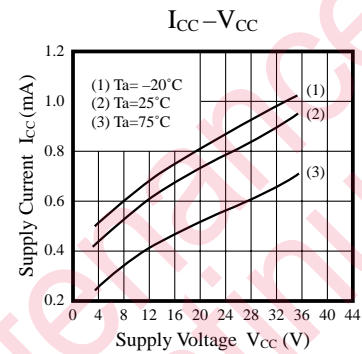
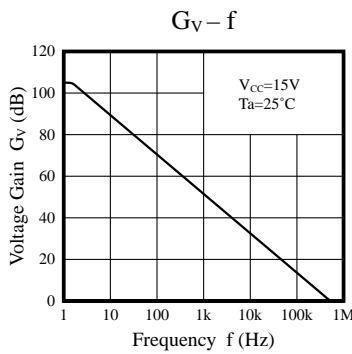
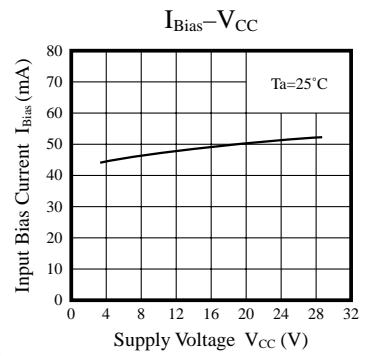
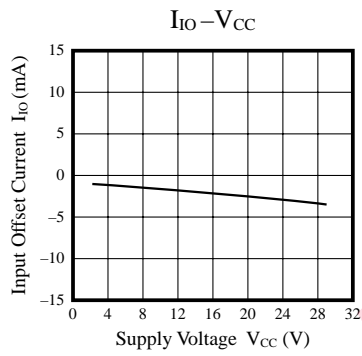
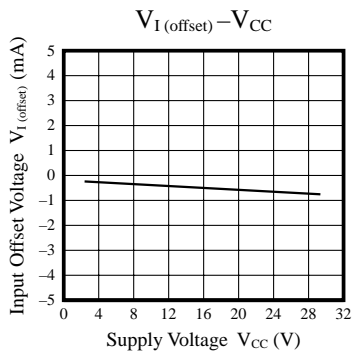
Non-inverting amplifier



■ Pins Descriptions

| Pin No. | Pin name |
|---------|-------------------------------|
| 1 | Positive supply voltage |
| 2 | Ch.1 output pin |
| 3 | Ch.1 inverting input pin |
| 4 | Ch.1 non-inverting input pin |
| 5 | Negative supply voltage (GND) |
| 6 | Ch.2 non-inverting input pin |
| 7 | Ch.2 inverting input pin |
| 8 | Ch.2 output pin |
| 9 | Positive supply voltage |

■ Characteristics Curve



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