

AN6551

Dual Operational Amplifier

Overview

The AN6551 is a dual operational Amplifier with a phase compensation circuit built-in.

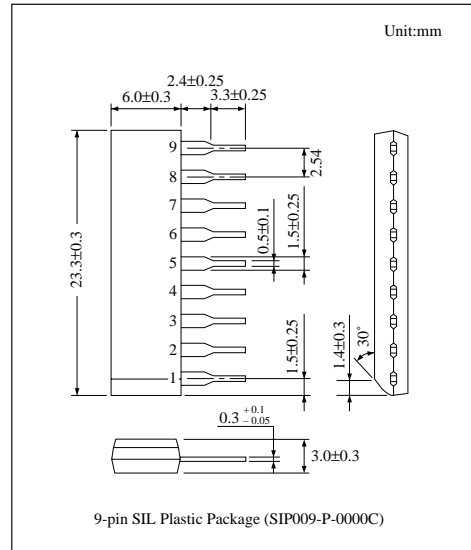
It is suitable for application to various electronic circuits such as active filters and audio pre-amplifiers.

Features

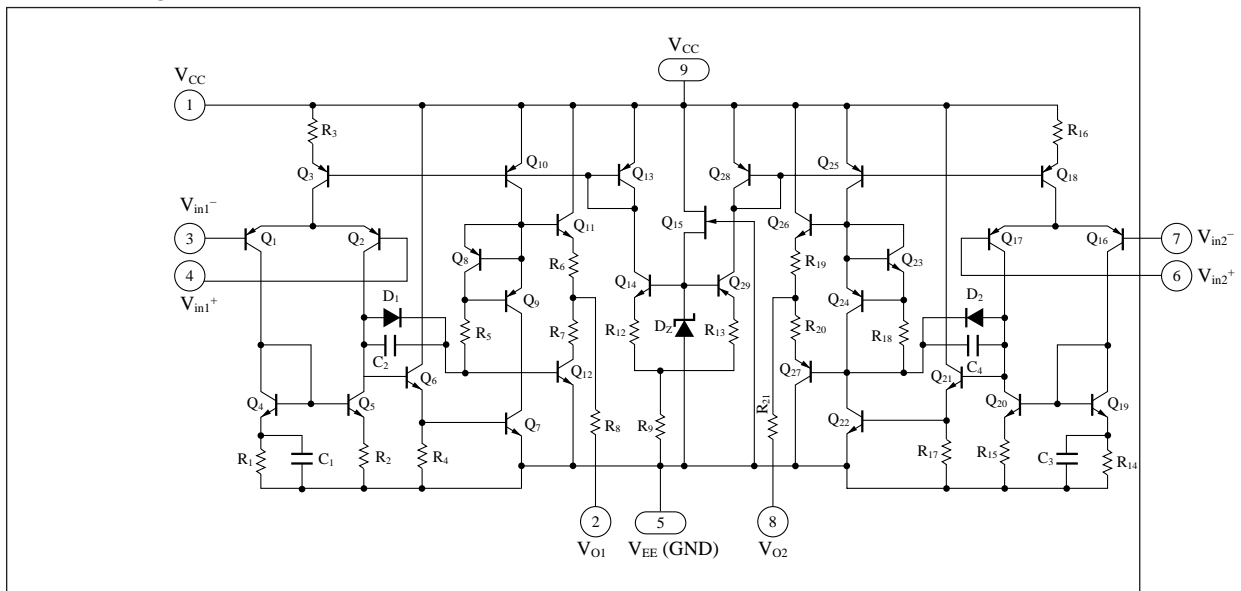
- Phase compensation circuit
- High gain, low noise
- Output short-circuit protection
- Two circuits symmetrically arranged in 9-pin SIL plastic package

Pin Descriptions

| Pin No. | Pin name |
|---------|--------------------------|
| 2 | Ch.1 output |
| 3 | Ch.1 inverting input |
| 4 | Ch.1 non inverting input |
| 5 | V _{EE} (GND) |
| 6 | Ch.2 non inverting input |
| 7 | Ch.2 inverting input |
| 8 | Ch.2 output |
| 1, 9 | V _{CC} |



Block Diagram



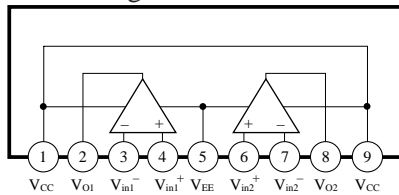
■ Absolute Maximum Ratings (Ta=25°C)

| Parameter | | Symbol | Rating | Unit |
|-------------------|-------------------------------|------------------|-------------|------|
| Voltage | Supply voltage | V_{CC}, V_{EE} | ± 18 | V |
| | Differential input voltage | V_{ID} | ± 30 | V |
| | Common-mode input voltage | V_{ICM} | ± 15 | V |
| Power dissipation | | P_D | 500 | mW |
| Temperature | Operating ambient temperature | T_{opr} | -20 to +75 | °C |
| | Storage temperature | T_{stg} | -55 to +150 | °C |

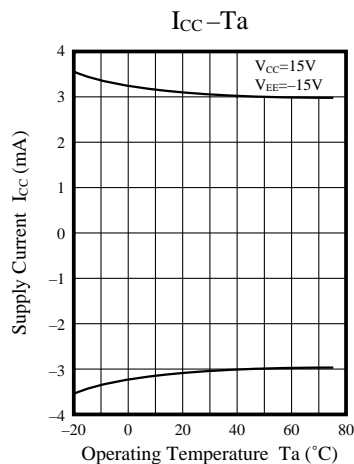
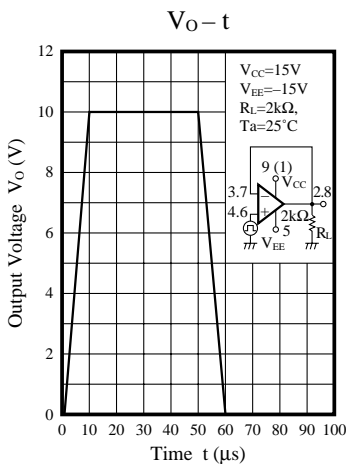
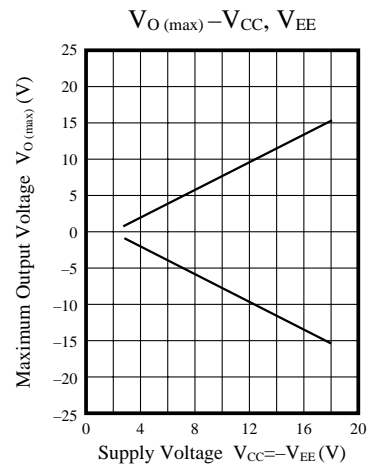
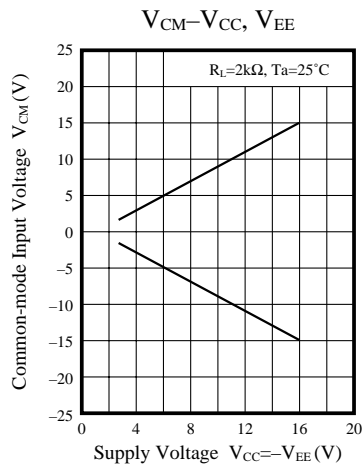
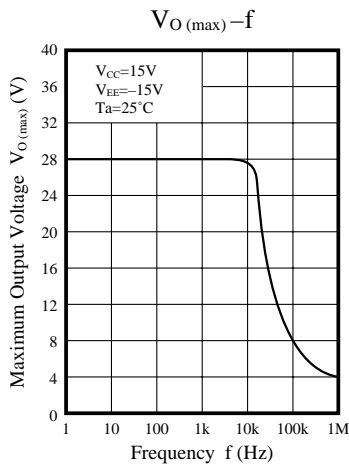
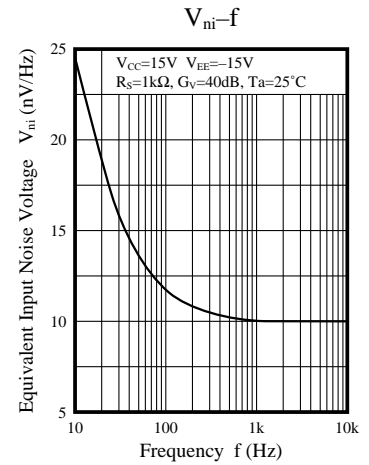
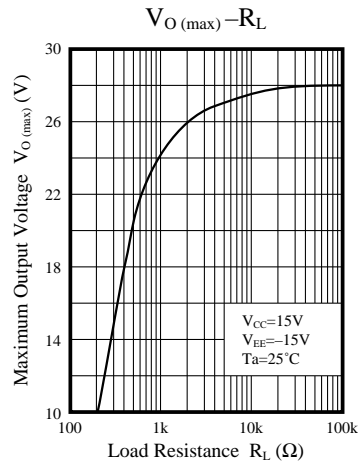
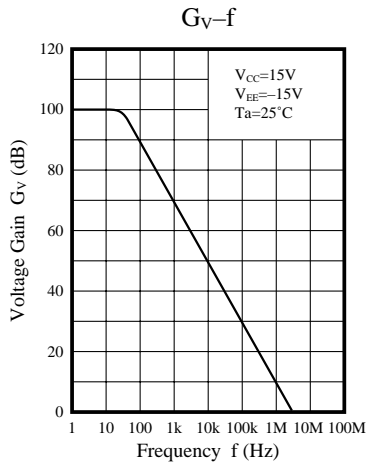
■ Electrical Characteristics (V_{CC}=15V, V_{EE}=-15V, Ta=25°C)

| Parameter | Symbol | Condition | min | typ | max | Unit |
|---------------------------------|-----------------|----------------------------------------------|----------|----------|-----|---------------|
| Input offset voltage | $V_{I(offset)}$ | $R_S \leq 10k\Omega$ | — | 0.5 | 6 | mV |
| Input offset current | I_{IO} | | — | 5 | 200 | nA |
| Input bias current | I_{bias} | | — | — | 500 | nA |
| Voltage gain | G_V | $R_L \geq 2k\Omega, V_O = \pm 10V$ | 86 | 100 | — | dB |
| Maximum output voltage | $V_{O(max)}$ | $R_L \geq 10k\Omega$ | ± 12 | ± 14 | — | V |
| | | $R_L \geq 2k\Omega$ | ± 10 | ± 13 | — | V |
| Common-mode input voltage width | V_{CM} | | ± 12 | ± 14 | — | V |
| Common-mode rejection ratio | CMR | | 70 | 90 | — | dB |
| Supply voltage rejection ratio | SVR | | — | 30 | 150 | $\mu V/V$ |
| Power consumption | P_C | $R_L = \infty$ | — | 90 | 170 | mW |
| Slew rate | SR | $R_L \geq 2k\Omega$ | — | 1.0 | — | V/ μs |
| Equivalent input noise voltage | V_{ni} | $R_S = 1k\Omega, B = 10Hz \text{ to } 30kHz$ | — | 2.5 | — | μV_{rms} |

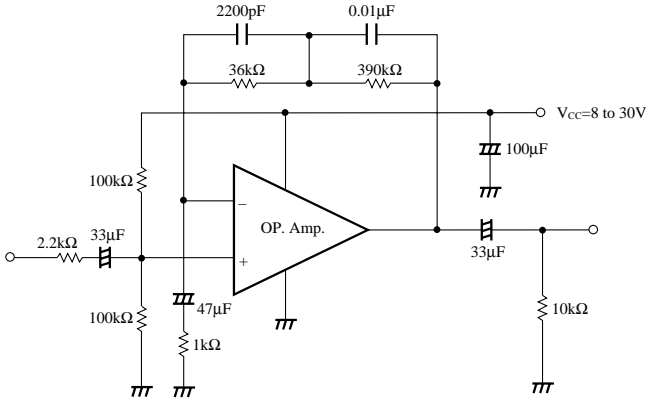
■ Block Diagram



Characteristics Curve



■ Application Circuit



RIAA Pre-amp. (Single voltage operation)