

AN6557, AN6558, AN6558S

Dual Low Noise, High Slew Rate Operational Amplifiers

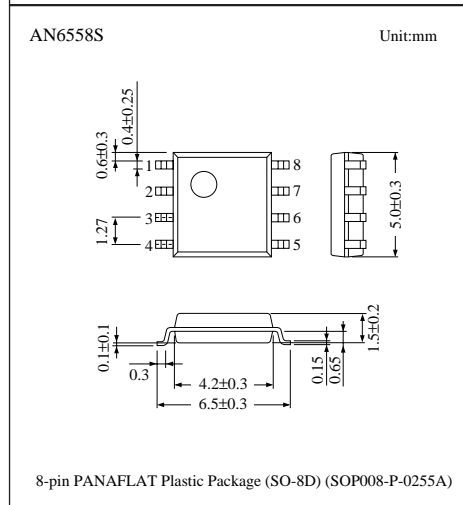
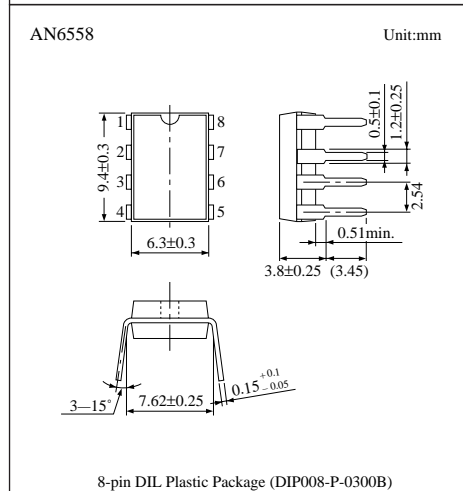
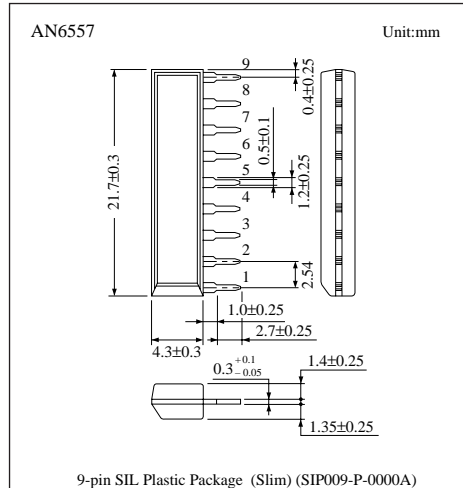
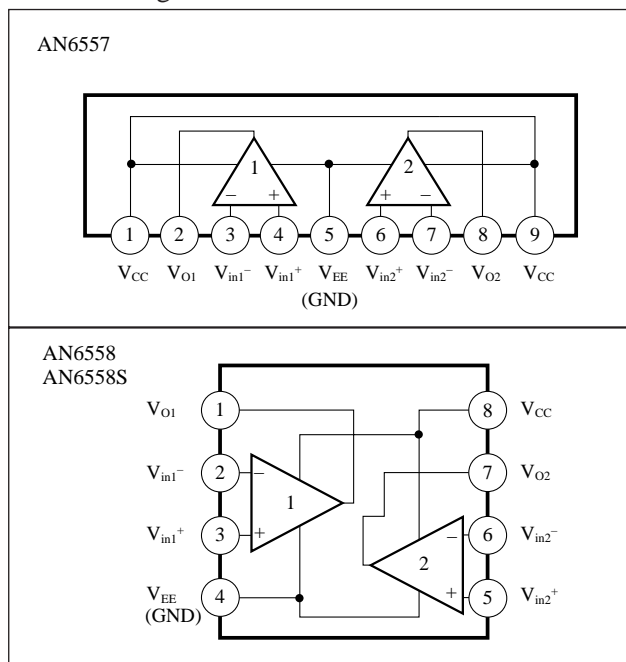
Overview

The AN6557, the AN6558, and the AN6558S are low noise, high slew rate dual operational amplifiers with phase compensation circuits built-in. They are suitable for application to various electronic circuits such as active filters and audio preamplifiers. Moreover, they are high output current type and can also be used as head-phone amplifiers.

Features

- Phase compensation circuit
- High voltage gain: $G_v=100\text{dB}$ typ.
- Low noise: $V_{ni}=0.9\mu\text{V}_{\text{rms}}$ typ.
- High slew rate: $SR=6\text{V}/\mu\text{s}$ typ.
- High output current: $I_o=25\text{mA}$ typ.

Block Diagram



■ Pin Descriptions

〈AN6557〉

| Pin No. | Pin name |
|---------|---------------------------|
| 1 | V _{CC} |
| 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 |
| 9 | V _{CC} |

〈AN6558, AN6558S〉

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

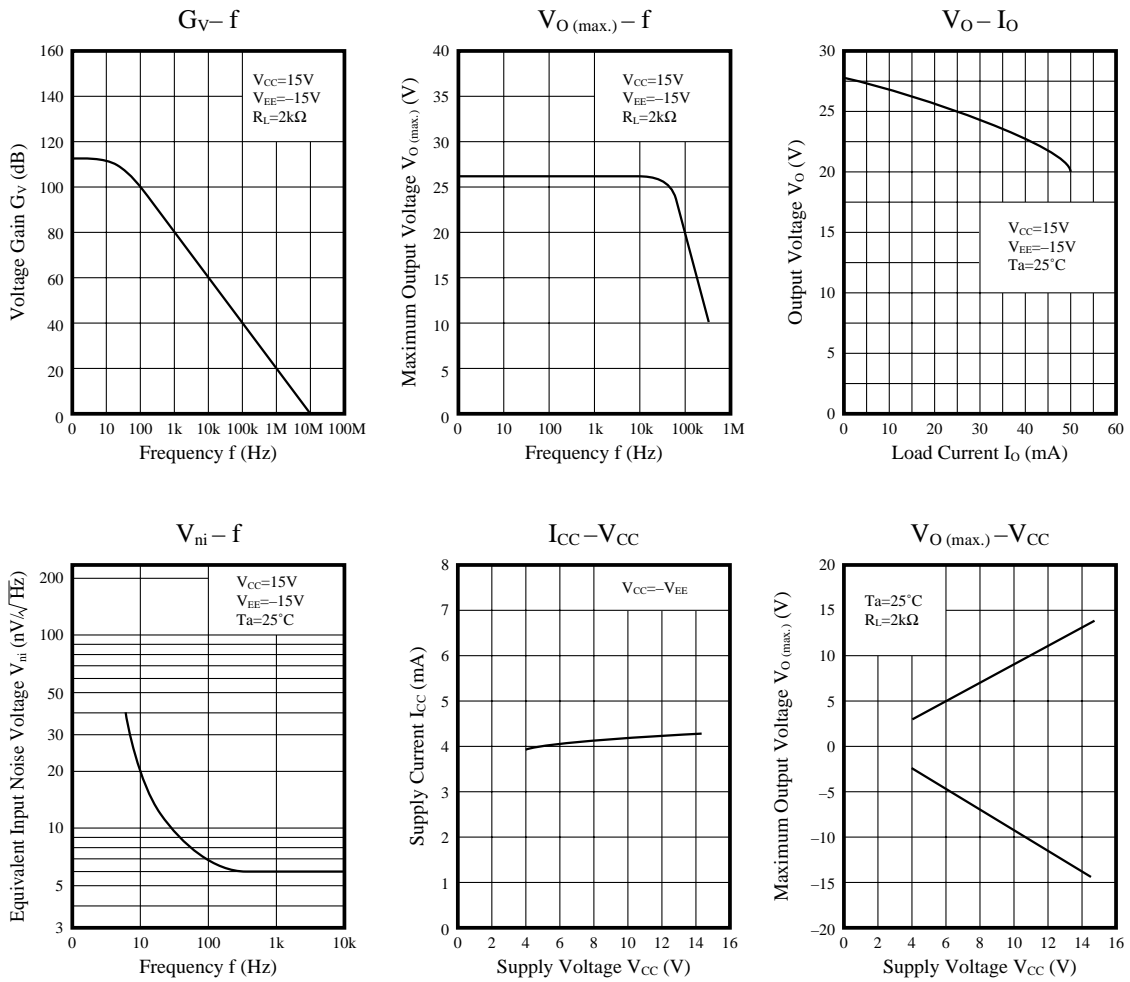
■ Absolute Maximum Ratings (Ta=25°C)

| Parameter | | Symbol | Rating | Unit |
|-------------------------------|----------------------------|------------------|-------------|------|
| Voltage | Supply voltage | V _{CC} | ±18 | V |
| | Differential input voltage | V _{ID} | ±30 | V |
| | Common-mode input voltage | V _{ICM} | ±15 | V |
| Power dissipation | AN6557, AN6558 | P _D | 500 | mW |
| | AN6558S | | 360 | |
| Operating ambient temperature | | T _{opr} | -20 to +75 | °C |
| Storage temperature | AN6557, AN6558 | T _{stg} | -55 to +150 | °C |
| | AN6558S | | -55 to +125 | |

■ 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 ≤ 10kΩ | — | 0.3 | 3 | mV |
| Input offset current | I _{IO} | | — | 10 | 200 | nA |
| Input bias current | I _{Bias} | | — | 1300 | 2000 | nA |
| Voltage gain | G _V | R _L ≥ 2kΩ, V _O = ±10V | 86 | 100 | — | dB |
| Maximum output voltage | V _{O (max.)} | R _L ≥ 10kΩ | ±12 | ±14 | — | V |
| | | I _O = 25mA | ±10 | ±12 | — | V |
| Common-mode input voltage width | V _{CM} | | ±12 | ±14 | — | V |
| Common-mode rejection ratio | CMR | | 70 | 100 | — | dB |
| Supply voltage rejection ratio | SVR | | — | 10 | 150 | μV/V |
| Power consumption | P _C | R _L = ∞ | — | 150 | 240 | mW |
| Slew rate | SR | R _L ≥ 2kΩ | — | 6 | — | V/μs |
| Equivalent input noise voltage | V _{ni} | R _S = 1kΩ, DIN/AUDIO | — | 0.9 | — | μVrms |

Characteristics Curve



Application Circuit

RIAA Amplifier

