

AN6554, AN6554NS

Quadruple Operational Amplifiers

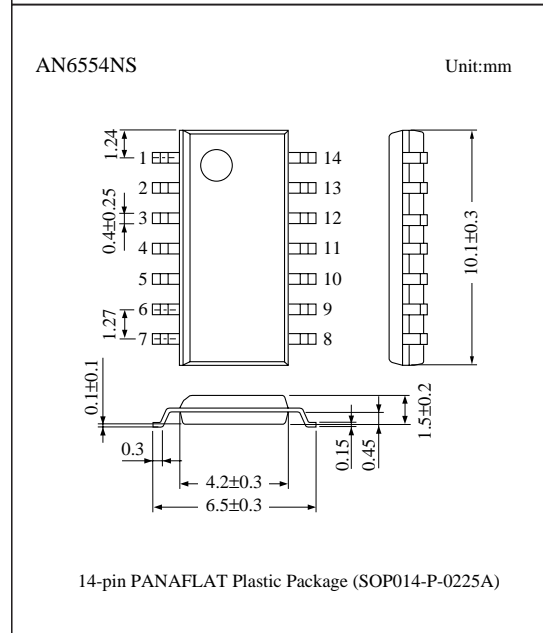
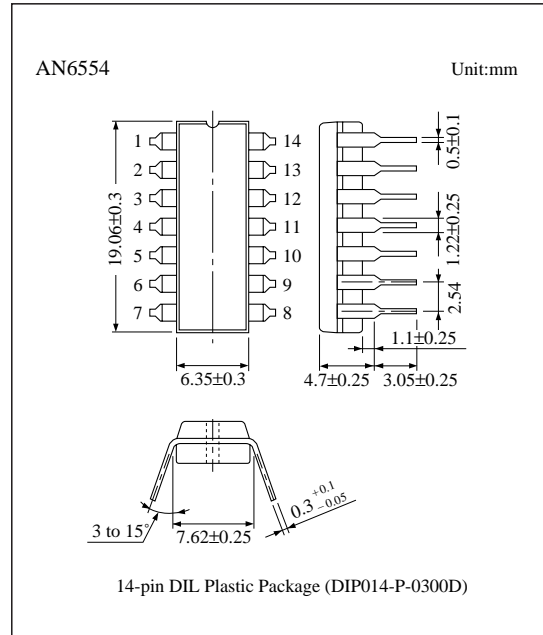
Overview

The AN6554 and the AN6554NS are quadruple operational amplifiers with phase compensation circuits built-in.

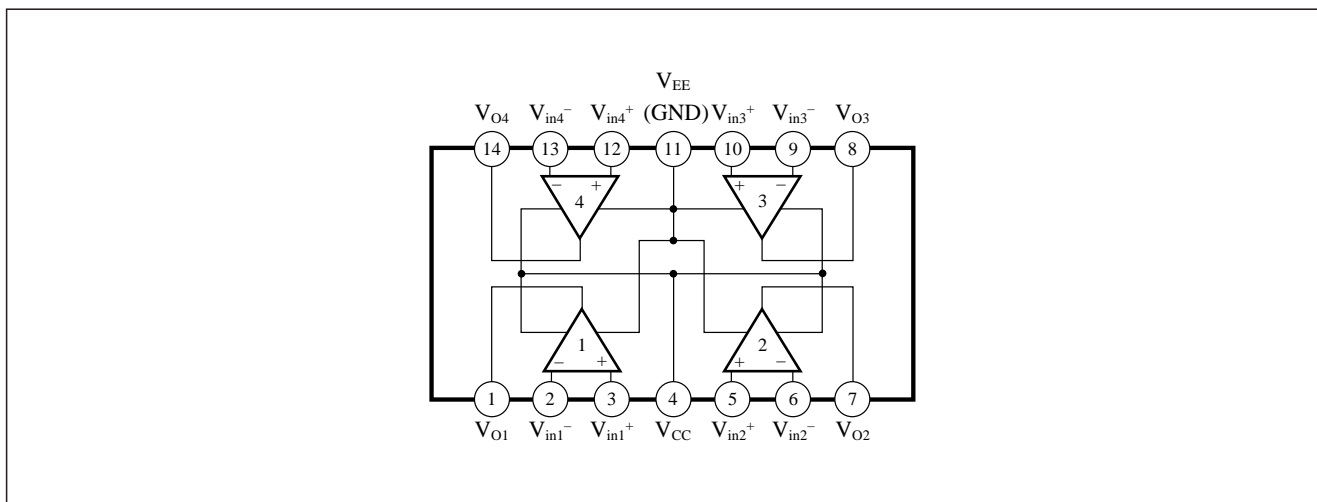
They are suitable for application to various electronic circuits such as active filters and audio pre-amplifiers.

Features

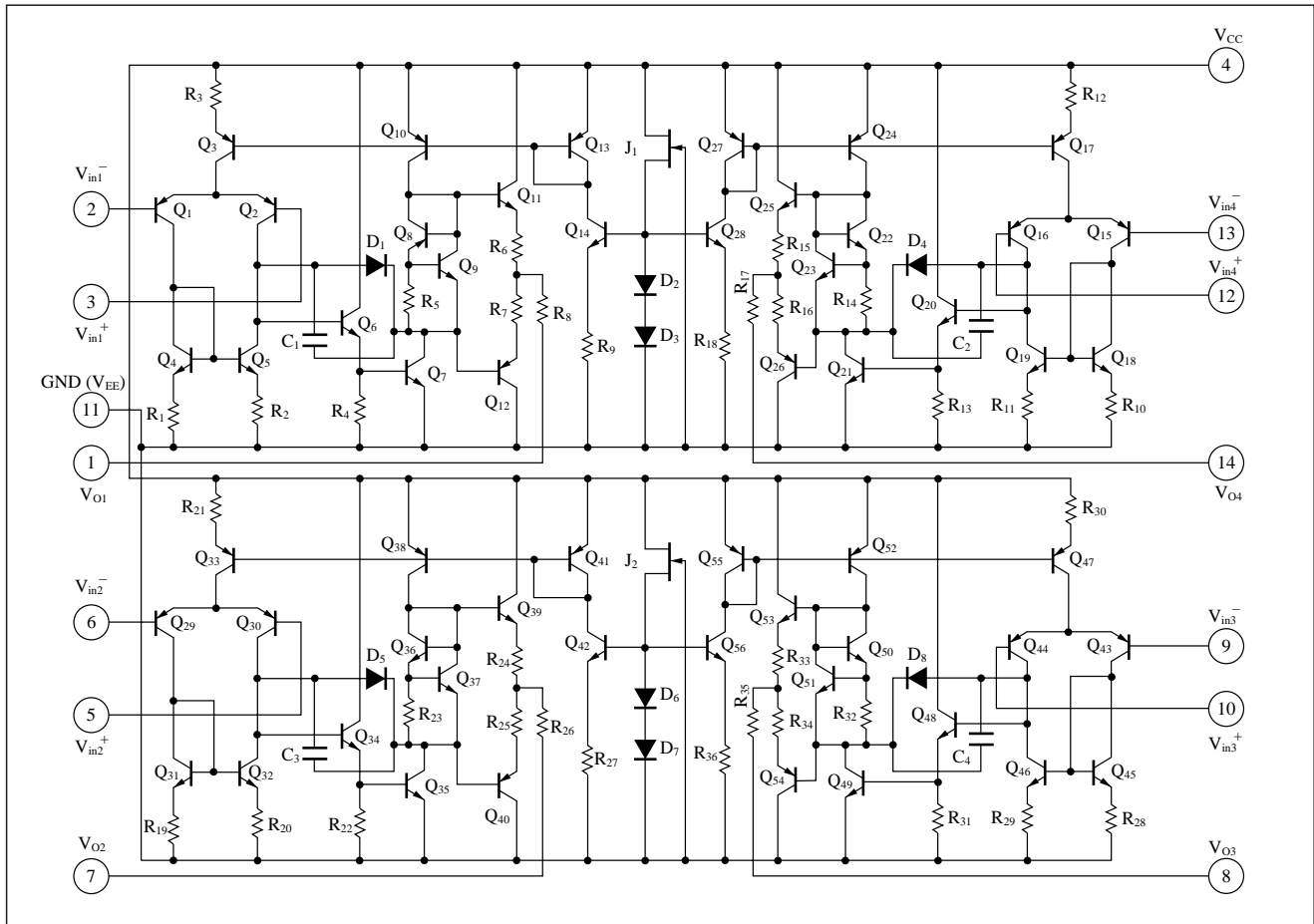
- Phase compensation circuit built-in
- High voltage gain, low noise
- Output short-circuit protection built-in



Block Diagram



Schematic Diagram



Pin Descriptions

| Pin No. | Pin name | Pin No. | Pin name |
|---------|--------------------------|---------|--------------------------|
| 1 | Ch.1 output | 8 | Ch.3 output |
| 2 | Ch.1 inverting input | 9 | Ch.3 inverting input |
| 3 | Ch.1 non inverting input | 10 | Ch.3 non inverting input |
| 4 | V _{CC} | 11 | V _{EE} (GND) |
| 5 | Ch.2 non inverting input | 12 | Ch.4 non inverting input |
| 6 | Ch.2 inverting input | 13 | Ch.4 inverting input |
| 7 | Ch.2 output | 14 | Ch.4 output |

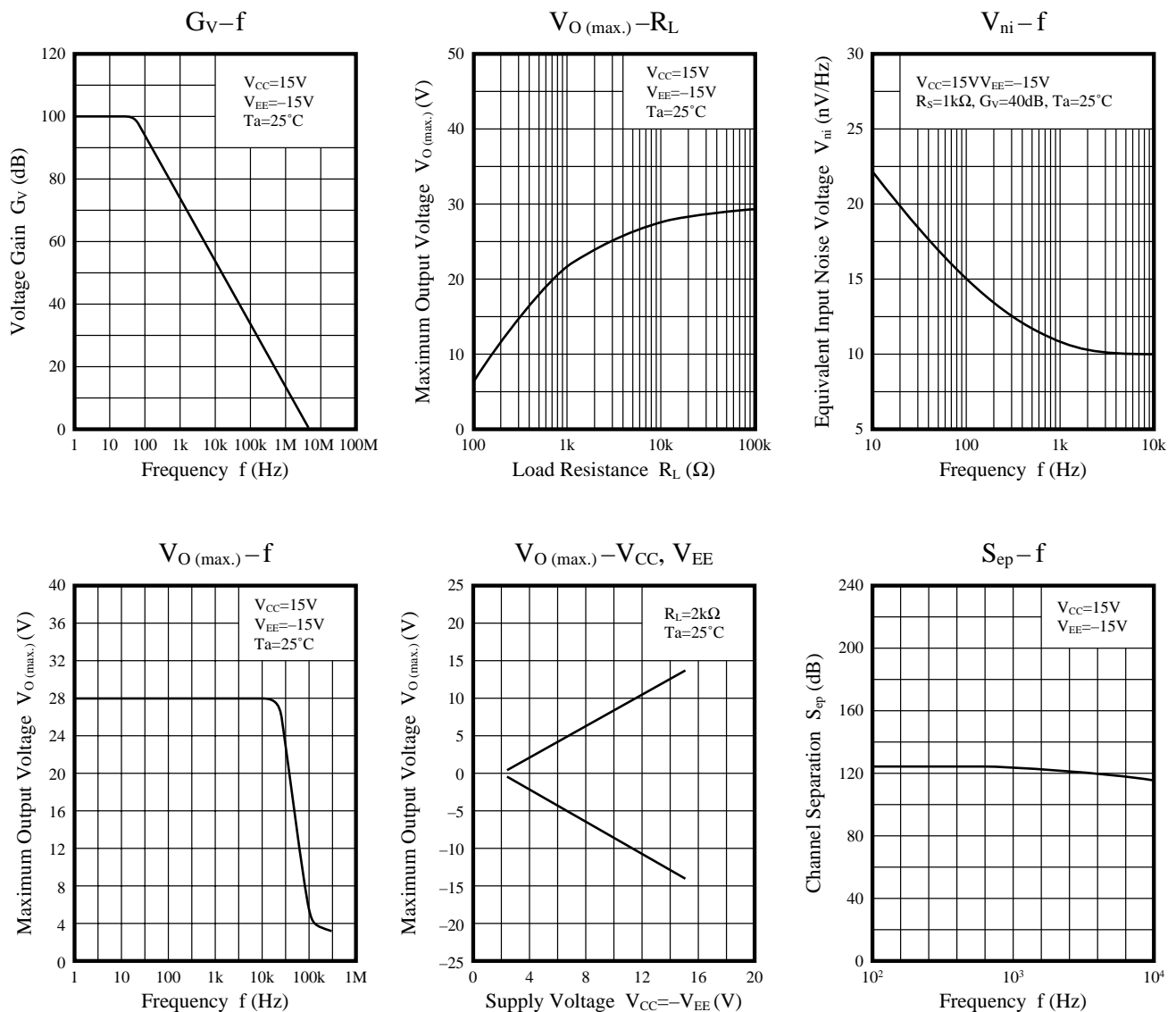
Absolute Maximum Ratings (Ta=25°C)

| Parameter | | Symbol | Rating | Unit |
|-------------------|-------------------------------|------------------|------------|-------------|
| Voltage | Supply voltage | V _{CC} | 36 | V |
| | Differential input voltage | V _{ID} | ±30 | V |
| | Common-mode input voltage | V _{ICM} | ±15 | V |
| Power dissipation | AN6554 | P _D | 570 | mW |
| | AN6554NS | | 380 | |
| Temperature | Operating ambient temperature | T _{opr} | -20 to +75 | °C |
| | Storage temperature | T _{stg} | AN6554 | -55 to +150 |
| | | | AN6554NS | -55 to +125 |

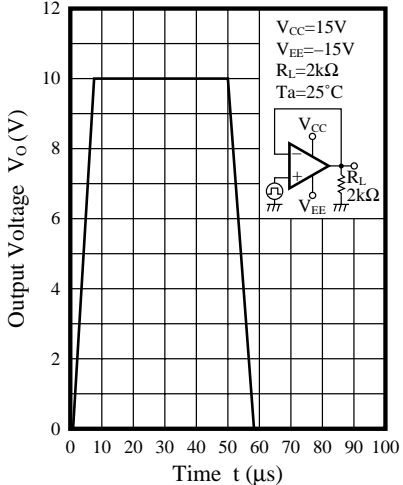
■ Electrical Characteristics ($V_{CC}=15V$, $V_{EE}=-15V$, $T_a=25^\circ C$)

| Parameter | Symbol | Condition | min | typ | max | Unit |
|---------------------------------|------------------------|--|----------|----------|-----|----------------------|
| Input offset voltage | $V_{I(\text{offset})}$ | $R_S \leq 10k\Omega$ | — | 0.5 | 5 | mV |
| Input offset current | I_{IO} | | — | 5 | 50 | nA |
| Input bias current | I_{bias} | | — | 100 | 300 | nA |
| Voltage gain | G_V | $R_L \geq 2k\Omega$, $V_O = \pm 10V$ | 88 | 100 | — | dB |
| Maximum output voltage | $V_{O(\text{max.1})}$ | $R_L \geq 10k\Omega$ | ± 12 | ± 14 | — | V |
| | $V_{O(\text{max.2})}$ | $R_L \geq 2k\Omega$ | ± 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 | 100 | $\mu V/V$ |
| Power consumption | P_C | | — | — | 240 | mW |
| Slew rate | SR | | — | 1.6 | — | V/ μs |
| Equivalent input noise voltage | V_{ni} | $R_S=1k\Omega$, $B=10\text{Hz}$ to 30kHz | — | 2.5 | — | μV_{rms} |
| Channel separation | Sep | $f=10\text{kHz}$ | — | 110 | — | dB |

■ Characteristics Curve



V_O-t



$I_{CC}-V_{CC}$

