

# AN6551

## Dual Operational Amplifier

### Overview

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

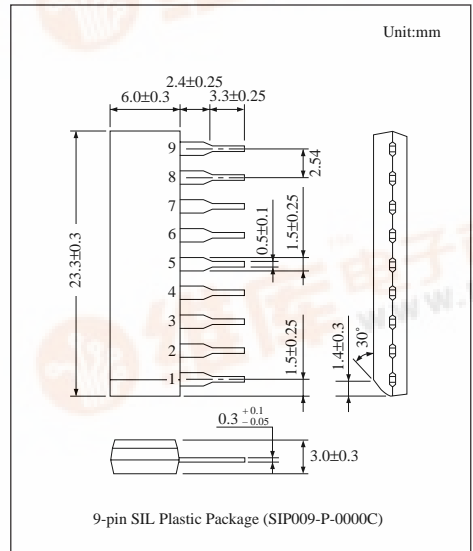
It is suitable for application to various electronic circuits such as active filters and audio pre-amplifiers.

### Features

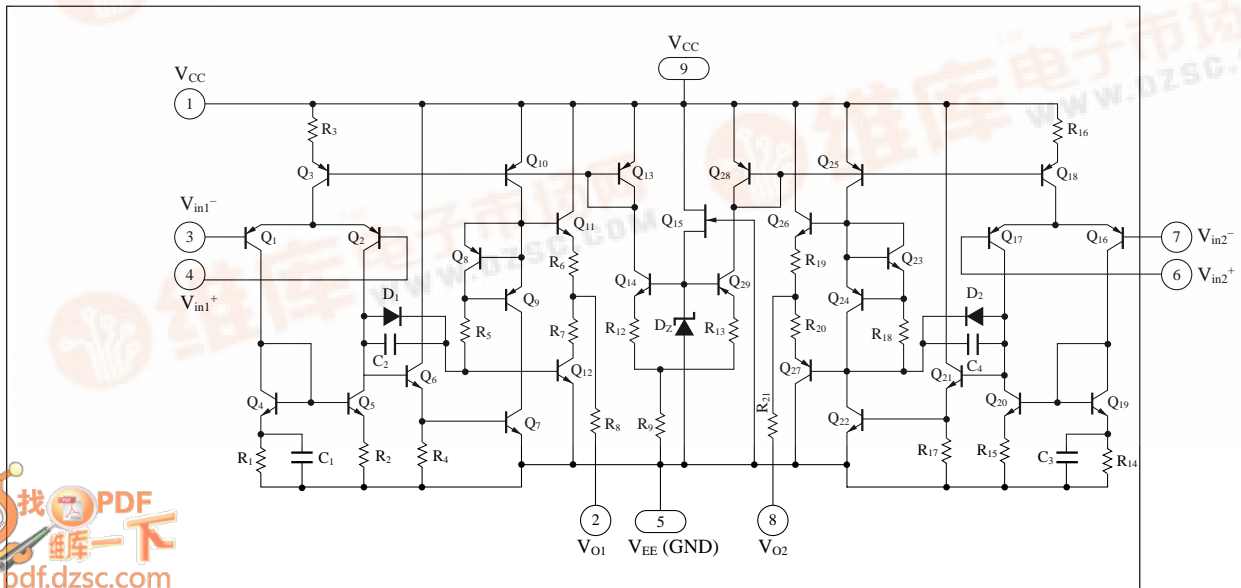
- Phase compensation circuit
- High gain, low noise
- Output short-circuit protection
- Two circuits symmetrically arranged in 9-pin SIL plastic package

### Pin Descriptions

Pin No.	Pin name
2	Ch.1 output
3	Ch.1 inverting input
4	Ch.1 non inverting input
5	V <sub>EE</sub> (GND)
6	Ch.2 non inverting input
7	Ch.2 inverting input
8	Ch.2 output
1, 9	V <sub>CC</sub>



### Block Diagram



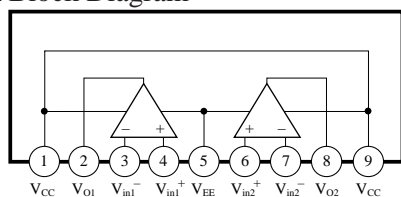
## ■ Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rating	Unit
Voltage	Supply voltage	$V_{CC}, V_{EE}$	$\pm 18$	V
	Differential input voltage	$V_{ID}$	$\pm 30$	V
	Common-mode input voltage	$V_{ICM}$	$\pm 15$	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

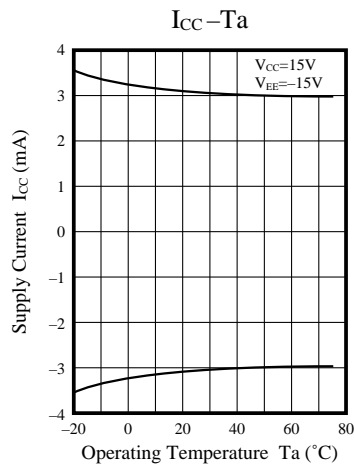
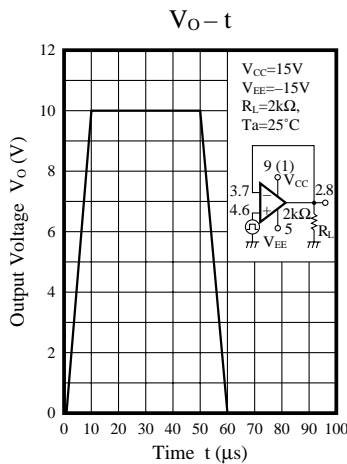
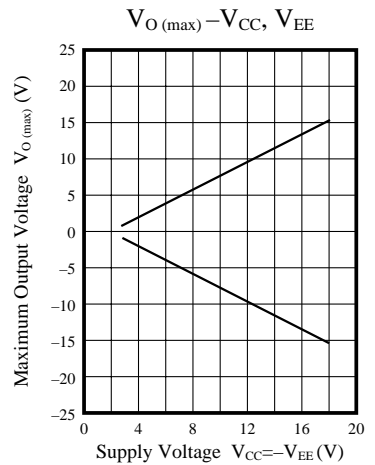
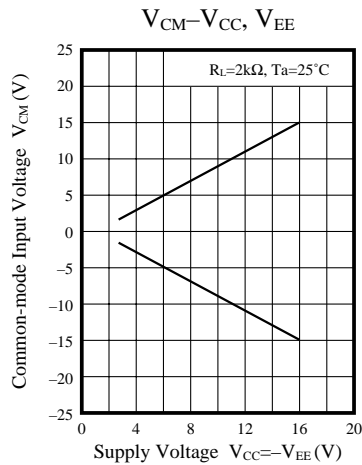
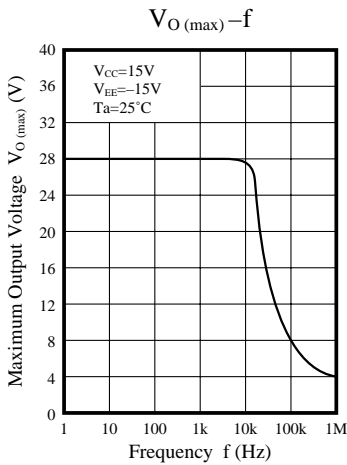
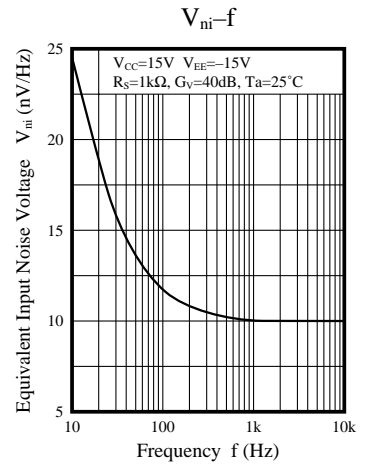
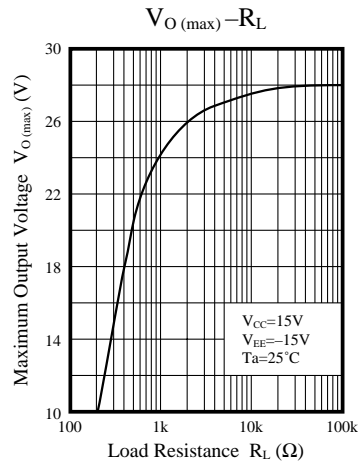
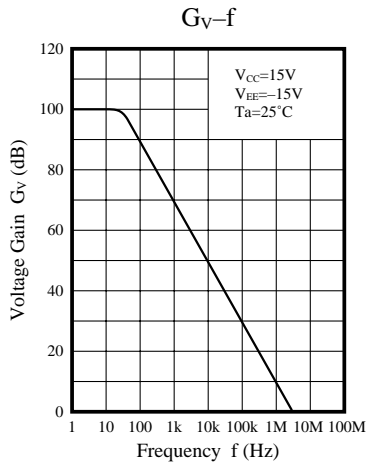
## ■ Electrical Characteristics (V<sub>CC</sub>=15V, V<sub>EE</sub>=-15V, Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Input offset voltage	$V_{I(\text{offset})}$	$R_S \leq 10k\Omega$	—	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	$V_{O(\text{max.})}$	$R_L \geq 10k\Omega$	$\pm 12$	$\pm 14$	—	V
		$R_L \geq 2k\Omega$	$\pm 10$	$\pm 13$	—	V
Common-mode input voltage width	$V_{CM}$		$\pm 12$	$\pm 14$	—	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/ $\mu s$
Equivalent input noise voltage	$V_{ni}$	$R_S = 1k\Omega, B = 10Hz \text{ to } 30kHz$	—	2.5	—	$\mu V_{rms}$

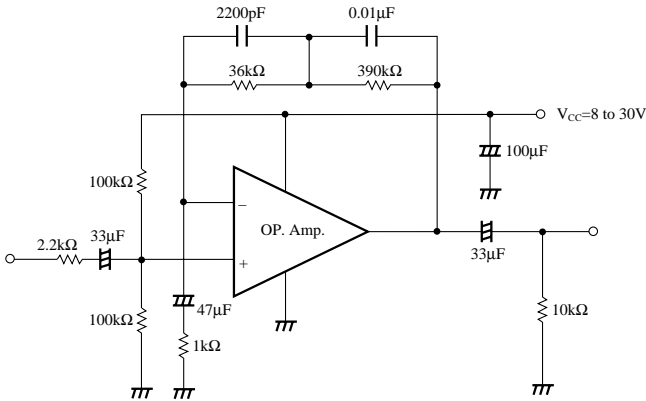
## ■ Block Diagram



## ■ Characteristics Curve



■ Application Circuit



RIAA Pre-amp. (Single voltage operation)