AN4558 (AN6552), AN4558S (AN6552S)

Dual Operational Amplifiers

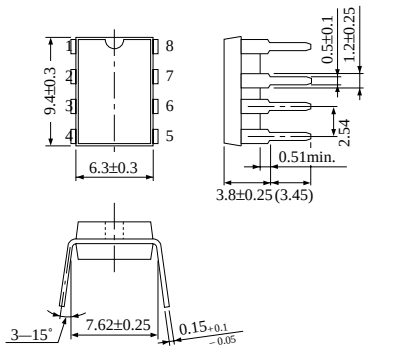
■ Overview

TheAN4558 (AN6552) andthe AN4558S (AN6552S) are dual operational amplifiers with phase compensation circuits built-in, and suitable for application to various electronic circuits such as active filters and audio preamplifiers.

■ Features

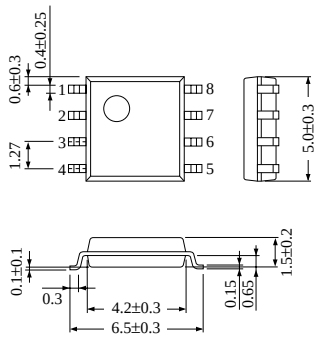
- Phase compensation circuit
- High voltage gain, low noise
- Output short-circuit protection
- Slew rate:SR=1V/μs typ.

AN4558 (AN6552) Unit:mm



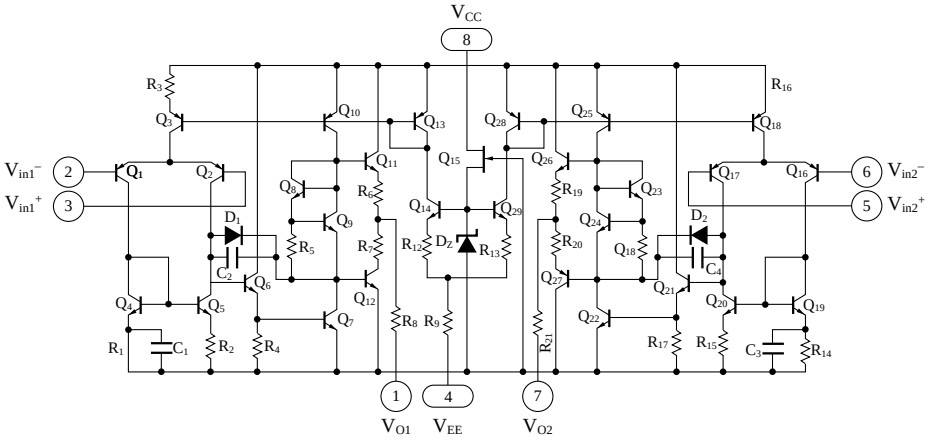
8-pin DIL Plastic Package (DIP008-P-0300B)

AN4558S (AN6552S) Unit:mm



8-pin PANAFLAT Plastic Package (SOP008-P-0225A)

■ Block Diagram



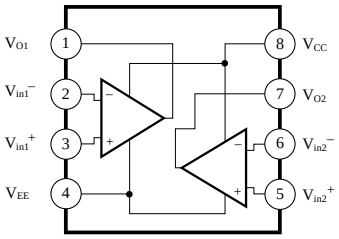
■ Absolute Maximum Ratings (Ta=25˚C)

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		AN4558 (AN6552)	P_D	500	mW
		AN4558S (AN6552S)		360	
Temperature	Operating ambient temperature		T_{opr}	–20 to +75	˚C
	Storage temperature	AN4558 (AN6552)	T_{stg}	–55 to +150	˚C
		AN4558S (AN6552S)		–55 to +125	

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

Parameter	Symbol	Condition	min	typ	max	Unit
Input offset voltage	$V_{I\ (offset)}$	$R_S \leqq 10k\Omega$	—	0.5	6	mV
Input offset current	I_{IO}		—	5	200	nA
Input bias current	I_{Bias}		—	—	500	nA
Voltage gain	G_V	$R_L \geqq 2k\Omega$, V_O=±10V	86	100	—	dB
Maximum output voltage	$V_{O\ (max.)}$	$R_L \geqq 10\Omega$	±12	±14	—	V
		$R_L \geqq 2k\Omega$	±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	μV/V
Power consumption	P_C	$R_L = \infty$	—	90	170	mW
Slew rate	SR	$R_L \geqq 2k\Omega$	—	1.0	—	V/μs
Equivalent input noise voltage	V_{ni}	R_S=1kΩ, B=10Hz to 30kHz	—	2.5	—	μVrms

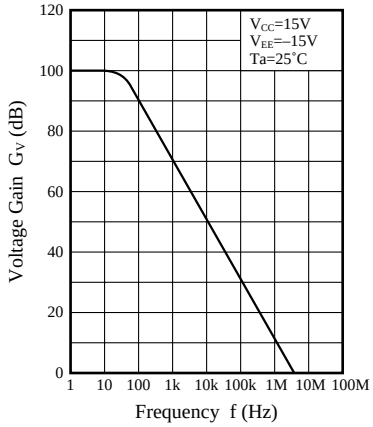
■ Pin Assignments



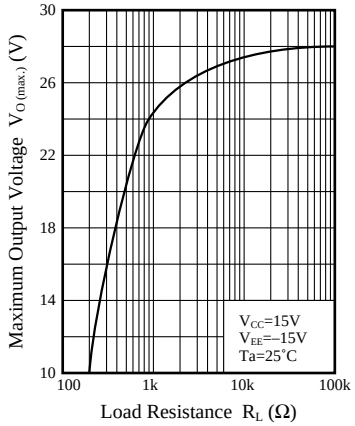
■ Pin Descriptions

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}

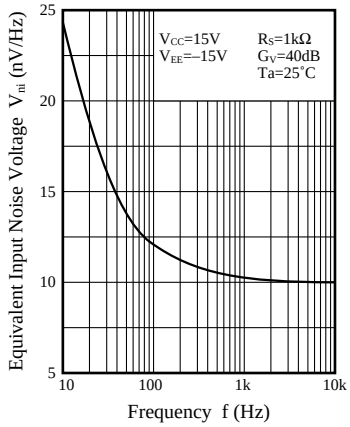
G_V–f



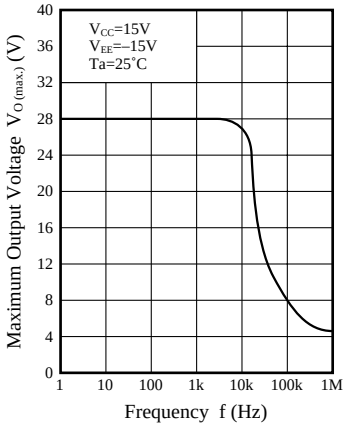
$V_{O\ (max.)}$–R_L



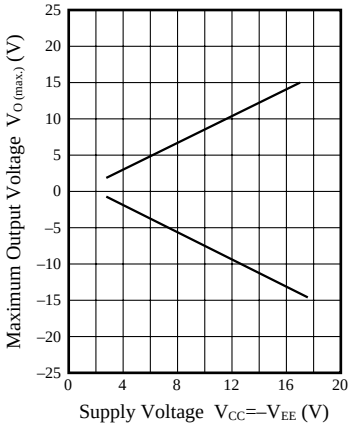
V_{ni}–f



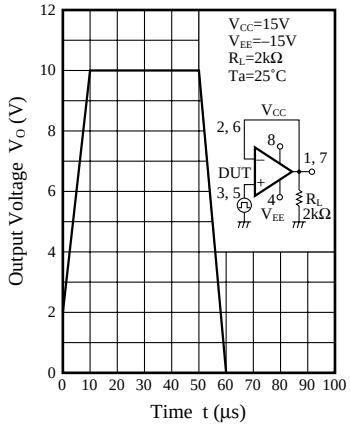
$V_{O\ (max.)}$–f



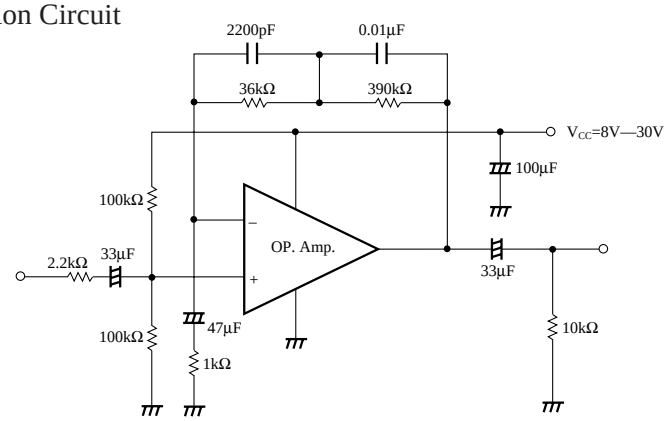
$V_{O\ (max.)}$–V_{CC}, V_{EE}



V_O–t



■ Application Circuit



RIAA Pre-Amp. (Single Voltage Operation)