

AN1358 (AN6562), AN1358S (AN6562S)

Dual Operational Amplifiers

■ Overview

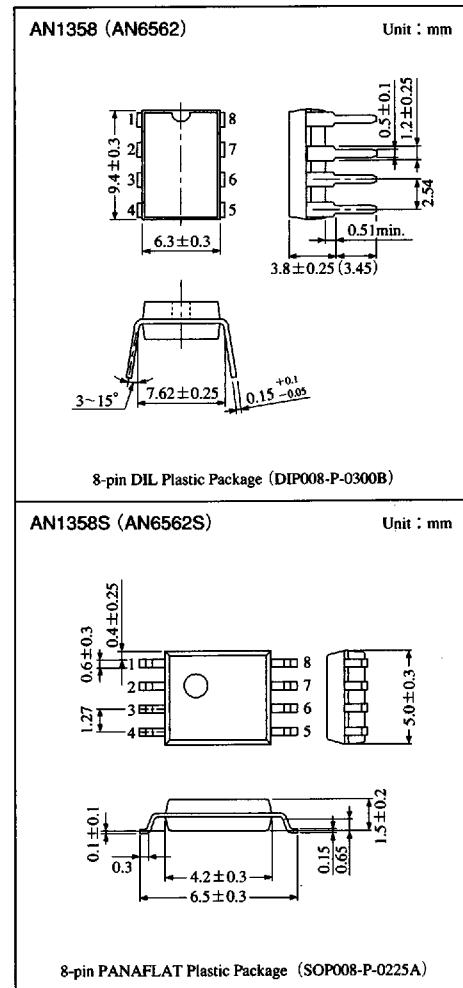
The AN1358 (AN6562) and AN1358S (AN6562S) are dual operational amplifiers with two phase compensation circuits built-in, have a wide range of operating supply voltage, and can operate on a single power supply.

They have electrical characteristics equivalent to those of the conventional operational amplifiers, and are low-powered and suitable for application to various circuits.

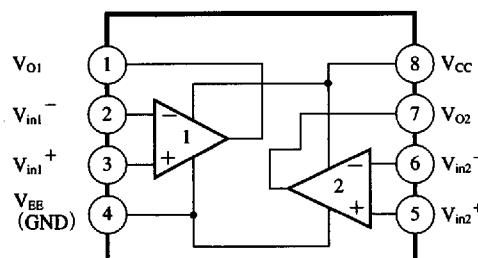
Note) The type numbers in () are old ones.

■ Features

- Built-in phase compensation circuits
- Wide range of input voltage : 0V to V_{CC} - 1.5V
- Wide range of operating supply voltage :
 - Single power supply : 3 to 30V
 - Dual power supply : ± 1.5 to ± 15 V



■ Block Diagram



■ 6932852 0012380 614 ■

■ Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	32	V
Differential input voltage	V_{ID}	32	V
Common-mode input voltage	V_{ICM}	-0.3 to +32	V
Output voltage	V_o	24	V
Power dissipation	P_D	350	mW
AN1358 (AN6562)		360	
Operating ambient temperature	T_{opr}	-20 to +75	°C
Strage temperature	T_{sig}	-55 to +150	°C
AN1358 (AN6562)		-55 to +125	
AN1358S (AN6562S)			

■ Recommended Operating Range ($T_a=25^\circ\text{C}$)

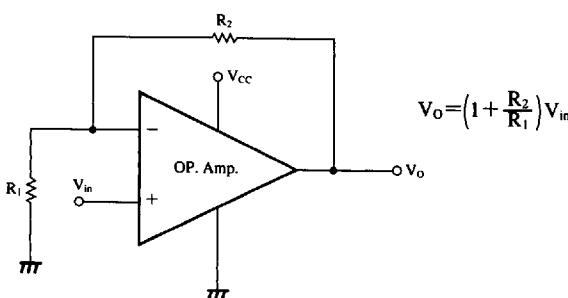
Parameter	Symbol	Range		
Operating supply voltage range	V_{CC}	Single power supply	3V to 30V	
		Dual power supply	$\pm 1.5\text{V}$ to $\pm 15\text{V}$	

■ Electrical Characteristics ($V_{CC}=5\text{V}$, $T_a=25^\circ\text{C}$)

Parameter	Symbol	Condition	min	typ	max	Unit
Input offset voltage	$V_{I(\text{offset})}$	$R_S=50\Omega$	—	2	7	mV
Input bias current	I_{bias}		—	—	250	nA
Input offset current	I_{IO}		—	—	50	nA
Common-mode input voltage width	V_{CM}		0	—	$V_{CC}-1.5$	V
Supply current	I_{CC}	$R_L=\infty$	—	0.6	1.2	mA
Voltage gain	G_V	$R_L \geq 2k\Omega$	—	100	—	dB
Maximum output voltage	$V_{O(\text{max.})}$	$R_L \geq 2k\Omega$	$V_{CC}-1.5$	—	—	V
Common-mode rejection ratio	CMR		65	85	—	dB
Supply voltage rejection ratio	SVR		65	100	—	dB
Channel separation	CS	$f=1$ to 20kHz	—	120	—	dB
Output source current	$I_{O(\text{source})}$	$V_{in^+}=1\text{V}$, $V_{in^-}=0\text{V}$	20	40	—	mA
Output sink current	I_{SINK}	$V_{in^+}=0\text{V}$, $V_{in^-}=1\text{V}$	10	20	—	mA

■ Application Circuit

Non-inverting Amplifier



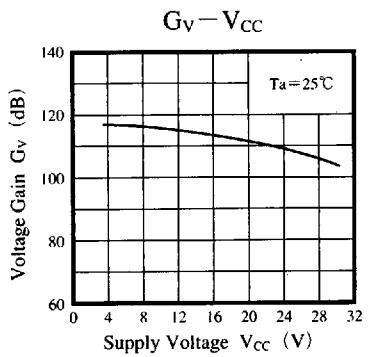
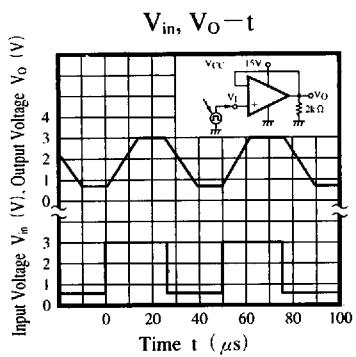
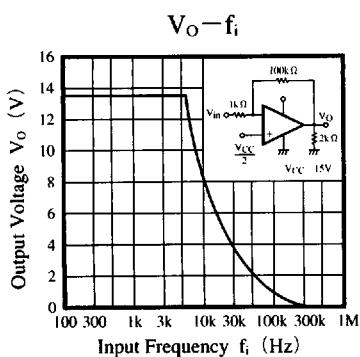
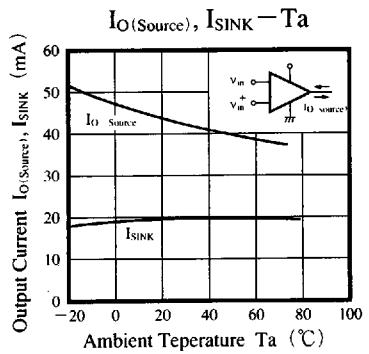
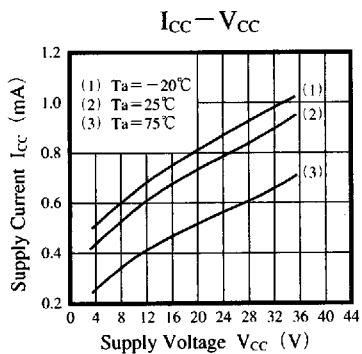
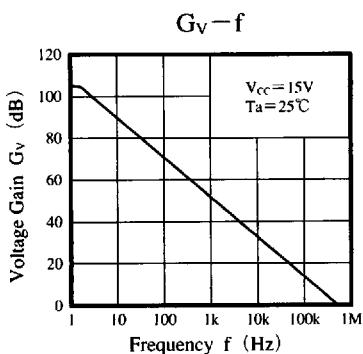
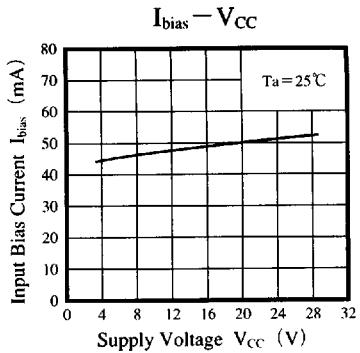
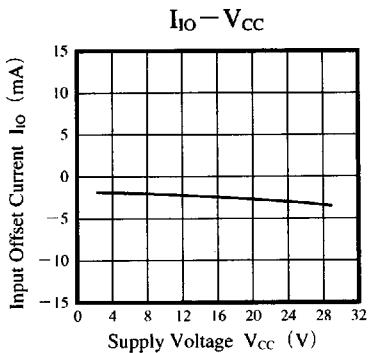
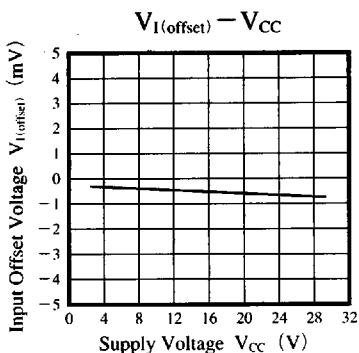
■ Pin Descriptions

Pin No.	Pin name
1	Ch.1 output pin
2	Ch.1 inverting input pin
3	Ch.1 non-inverting input pin
4	Negative supply voltage (GND)
5	Ch.2 non-inverting input pin
6	Ch.2 inverting input pin
7	Ch.2 output pin
8	Positive supply voltage

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■ Characteristics Curve



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