

AN1458 (AN6572), AN1458S, AN6571

Dual Operational Amplifiers

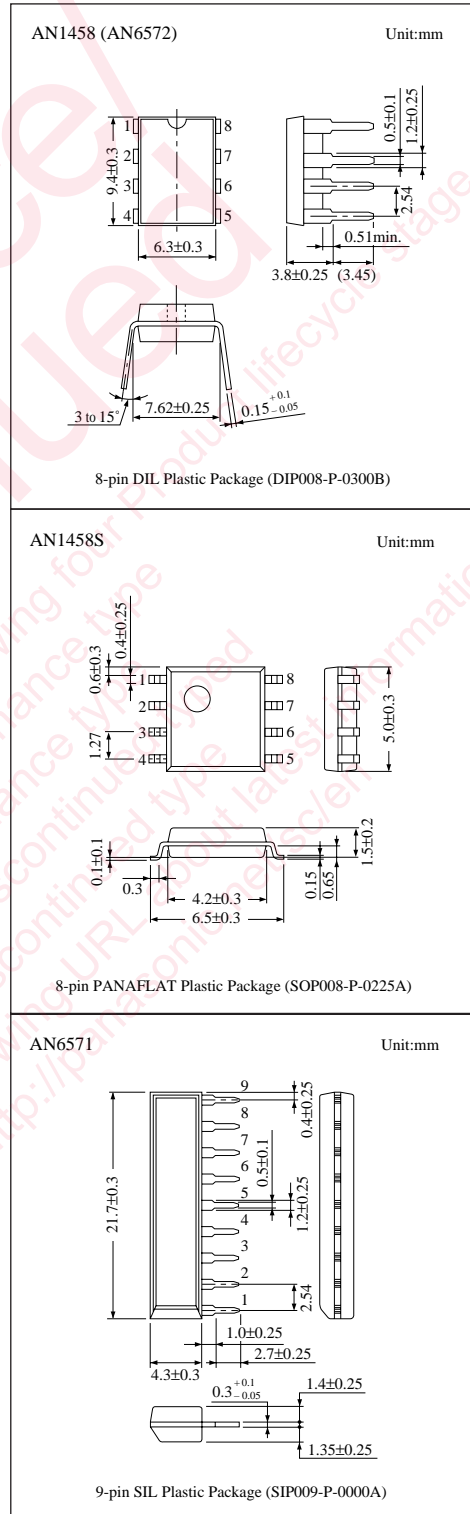
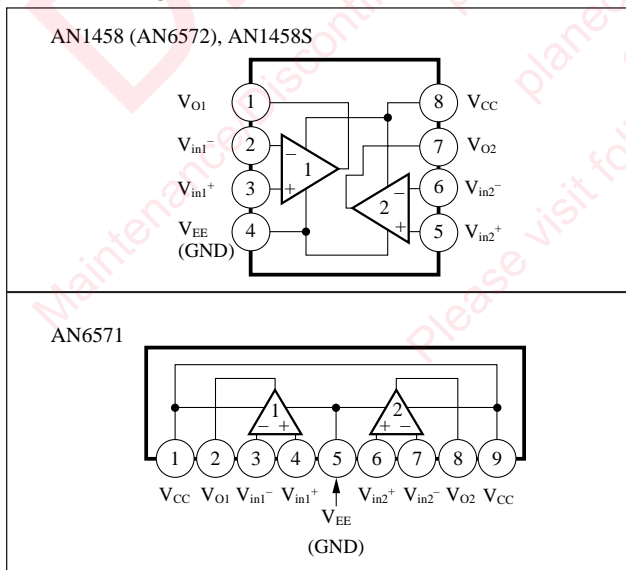
Overview

The AN1458 (AN6572), the AN1458S, and the AN6571 are dual operational amplifiers with phase compensation circuits built-in and also an output short-circuit protection built-in, so that they are highly stable and can be used widely in various electronic circuits.

Features

- Built-in phase compensation circuit
- Wide range of common-mode input voltage, no latch-up
- Built-in short-circuit protection
- Low input offset voltage: $V_{I(\text{offset})} = 0.5\text{mV typ.}$
- Low input offset current: $I_{IO} = 10\text{nA typ.}$

Block Diagram



■ Pin Descriptions

〈AN1458 (AN6572), AN1458S〉

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}

〈AN6571〉

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}

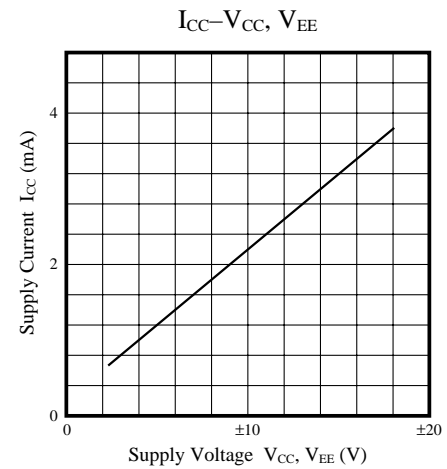
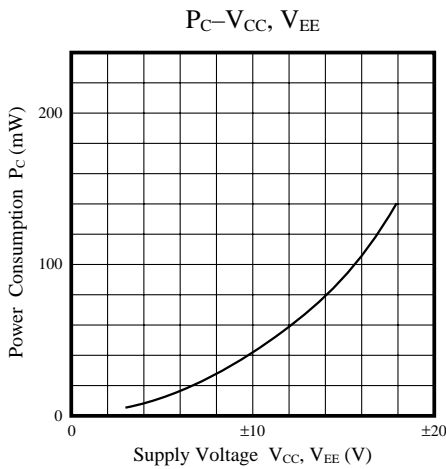
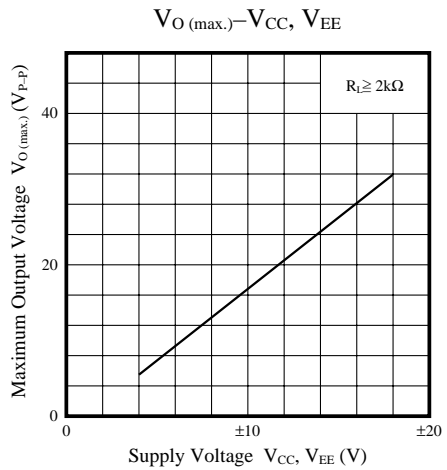
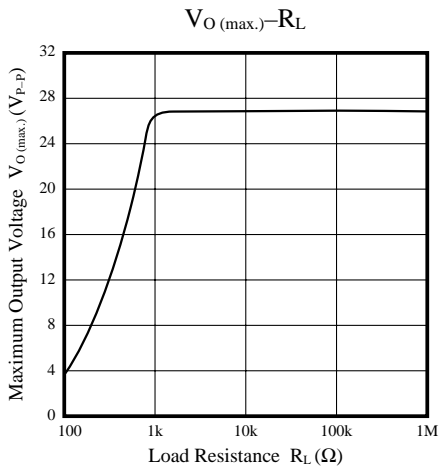
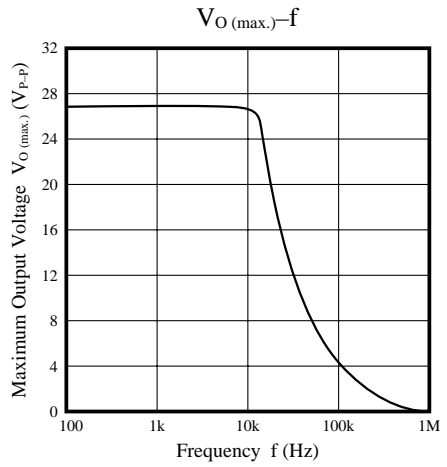
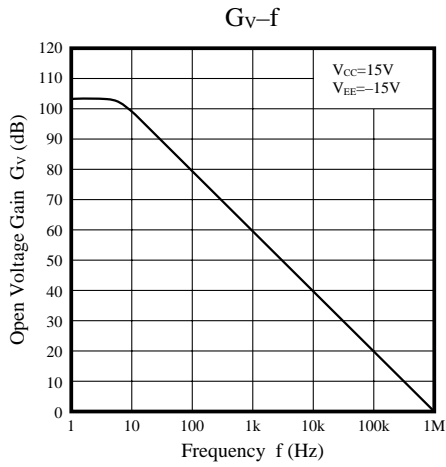
■ Absolute Maximum Ratings (Ta=25°C)

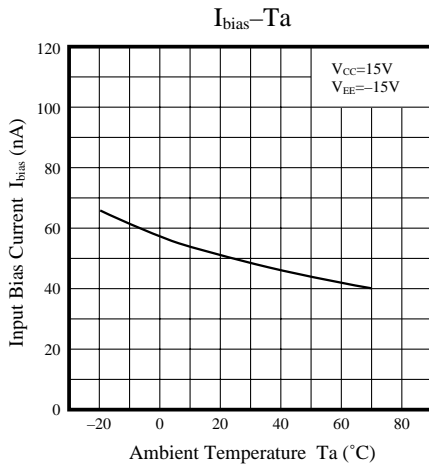
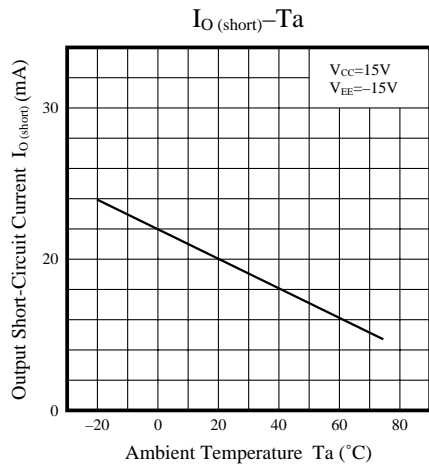
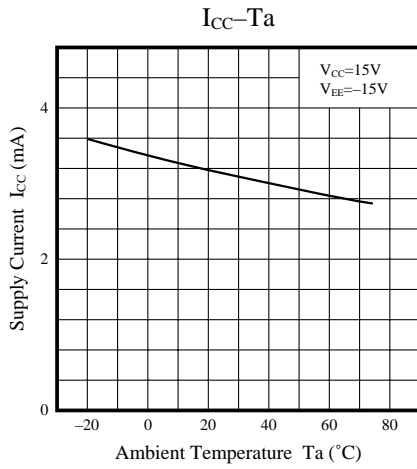
Parameter		Symbol	Rating	Unit
Voltage	Supply voltage	V _{CC}	±18	V
	Differential input voltage	V _{ID}	±30	V
	Common-mode input voltage	V _{ICM}	±15	V
Power dissipation	AN1458 (AN6572), AN6571	P _D	500	mW
	AN1458S		360	
Operating ambient temperature		T _{opr}	-20 to +75	°C
Storage temperature	AN1458 (AN6572), AN6571	T _{stg}	-55 to +150	°C
	AN1458S		-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	—	0.5	4	mV
Input offset current	I _{IO}		—	10	100	nA
Input bias current	I _{bias}		—	50	250	nA
Voltage gain	G _V	R _I ≥2kΩ, V _O =±10V	86	106	—	dB
Maximum output voltage	V _{O (max.)}	R _I ≥10kΩ	±12	±14	—	V
		R _I ≥2kΩ	±10	±13	—	V
Common-mode input voltage width	V _{CM}		±12	±13	—	V
Common-mode rejection ratio	CMR	R _S ≤10kΩ	70	90	—	dB
Supply voltage rejection ratio	SVR	R _S ≤2kΩ	—	3	150	μV/V
Supply current	I _{CC}	R _L =∞	—	—	5.6	mA
Power consumption	P _C	R _L =∞	—	—	170	mW
Output short-circuit current	I _{O (short)}		—	±20	—	mA
Slew rate	SR		—	0.7	—	V/μs

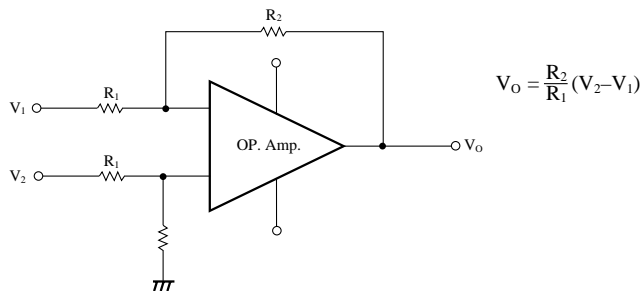
■ Characteristics Curve





■ Application Circuit

Differential Amplifier Circuit



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