

# AN1741 (AN6570), AN1741S (AN6570S), AN6573

## Single Operational Amplifiers

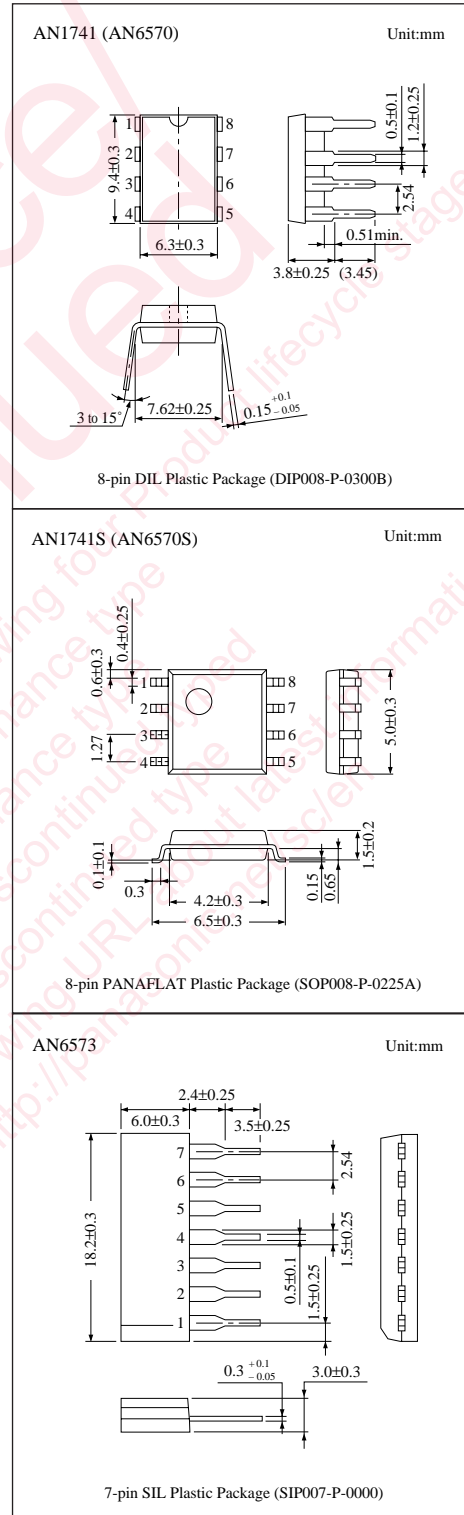
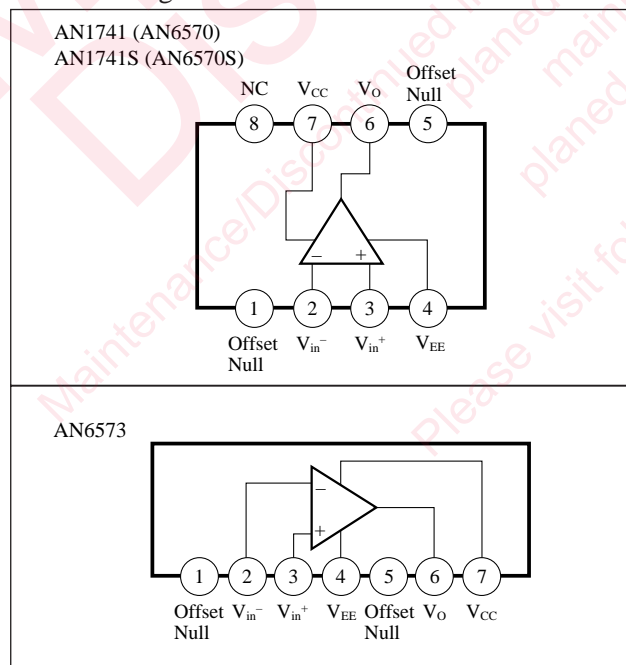
### ■ Overview

The AN1741(AN6570), the AN1741S (AN6570S), and the AN6573 are single-type operational amplifier with a phase compensation circuit built-in and also an output short-circuit protection circuit built-in, so that they are highly stable and can be used widely in various electronic circuits

### ■ Features

- Phase compensation circuit built-in
- High common mode input range, no latch-up
- Short circuit protection
- Low input offset voltage:  $V_{I(\text{offset})} = 0.5\text{mV typ.}$
- Low input offset current:  $I_{IO} = 10\text{nA typ.}$
- Offset null circuit

### ■ Block Diagram



■ Pin Descriptions

〈AN1741 (AN6570), AN1741S (AN6570S)〉

Pin No.	Pin name
1	Offset Null
2	inverting input
3	Non inverting input
4	V <sub>EE</sub>
5	Offset Null
6	Output
7	V <sub>CC</sub>
8	NC

〈AN6573〉

Pin No.	Pin name
1	Offset Null
2	inverting input
3	Non inverting input
4	V <sub>EE</sub>
5	Offset Null
6	Output
7	V <sub>CC</sub>

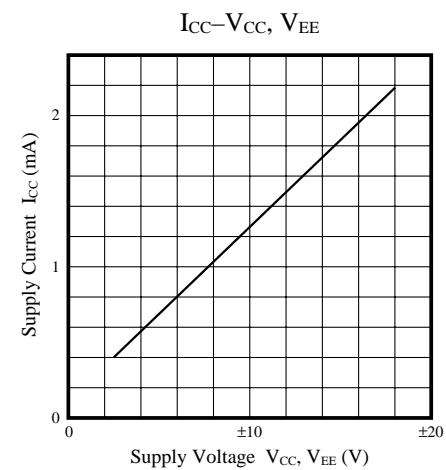
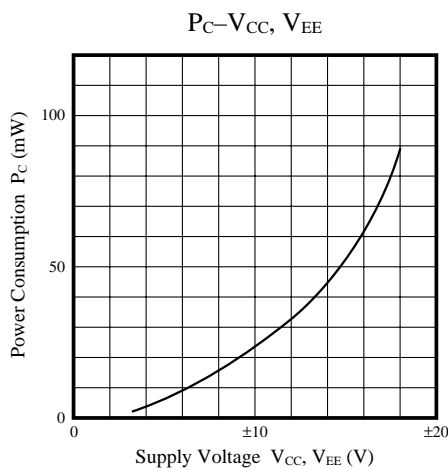
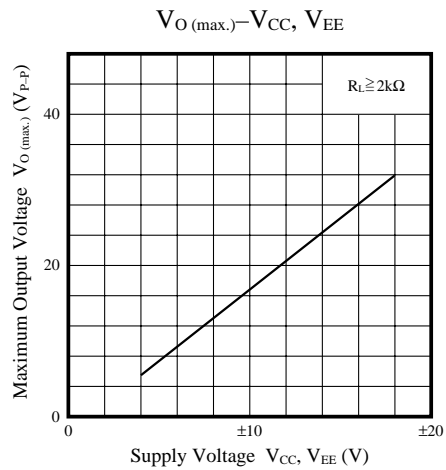
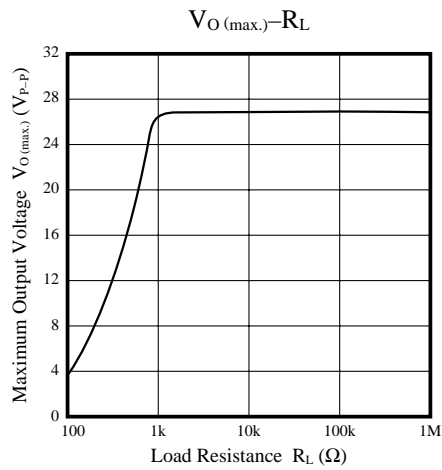
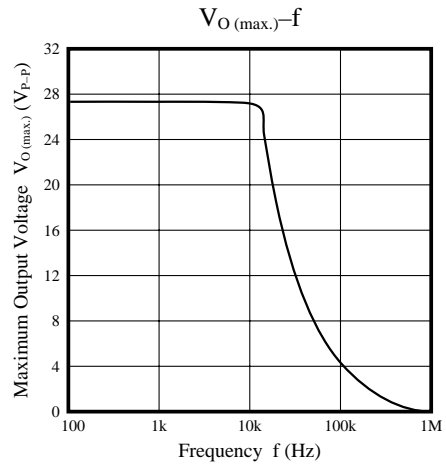
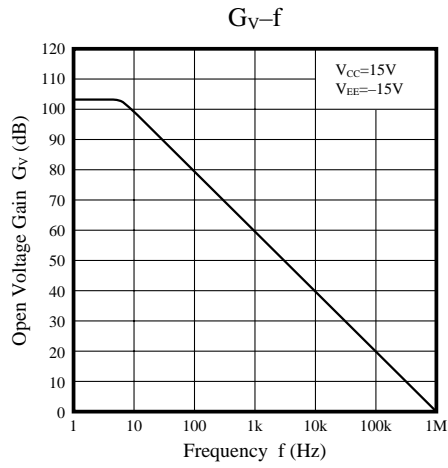
■ Absolute Maximum Ratings (Ta=25°C)

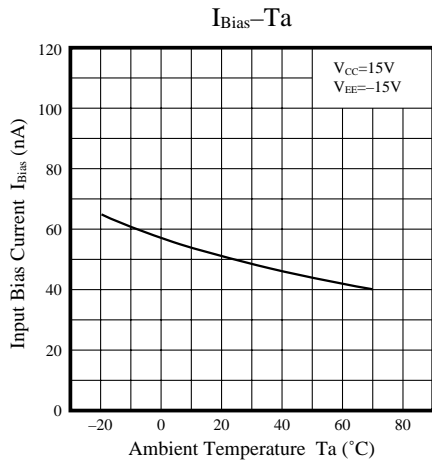
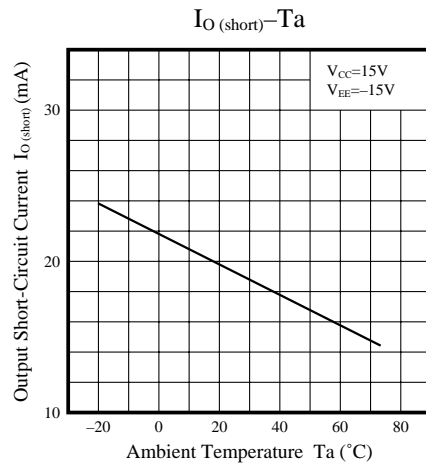
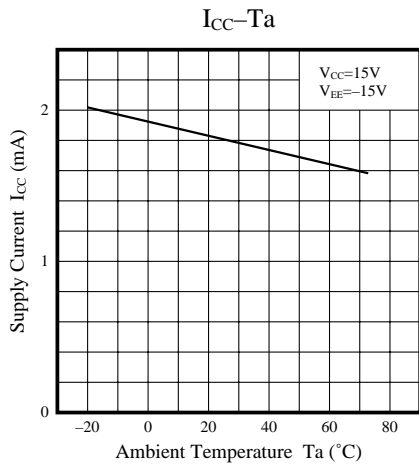
Parameter		Symbol	Rating	Unit
Voltage	Supply voltage	V <sub>CC</sub>	±18	V
	Differential input voltage	V <sub>ID</sub>	±30	V
	Common-mode input voltage	V <sub>ICM</sub>	±15	V
Power dissipation	AN1741 (AN6570), AN6573	P <sub>D</sub>	500	mW
	AN1741S (AN6570S)		360	
Operating ambient temperature		T <sub>opr</sub>	-20 to +75	°C
Storage temperature	AN1741 (AN6570), AN6573	T <sub>stg</sub>	-55 to +150	°C
	AN1741S (AN6570S)		-55 to +125	

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

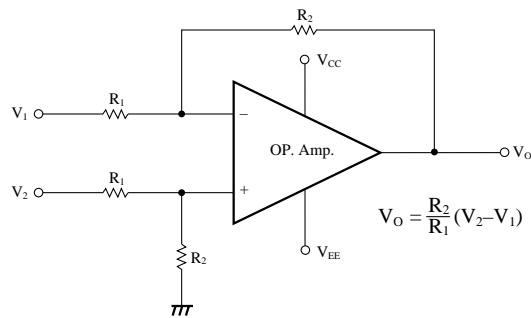
Parameter	Symbol	Condition	min	typ	max	Unit
Input offset voltage	V <sub>I(offset)</sub>	R <sub>S</sub> ≥10kΩ	—	0.5	4	mV
Input offset current	I <sub>IO</sub>		—	10	100	nA
Input bias current	I <sub>bias</sub>		—	50	250	nA
Voltage gain	G <sub>V</sub>	R <sub>L</sub> ≥2kΩ, V <sub>O</sub> =±10V	86	106	—	dB
Maximum output voltage	V <sub>O(max.)</sub>	R <sub>L</sub> ≥10kΩ	±12	±14	—	V
		R <sub>L</sub> ≥2kΩ	±10	±13	—	V
Common-mode input voltage width	V <sub>CM</sub>		±12	±13	—	V
Common-mode rejection ratio	CMR	R <sub>S</sub> ≥10kΩ	70	90	—	dB
Supply voltage rejection ratio	SVR	R <sub>S</sub> ≥10kΩ	—	30	150	μV/V
Supply current	I <sub>CC</sub>	R <sub>L</sub> =∞	—	—	2.8	mA
Power consumption	P <sub>C</sub>	R <sub>L</sub> =∞	—	—	85	mW
Output short-circuit current	I <sub>O(short)</sub>		—	±20	—	mA
Slew rate	SR		—	0.7	—	V/μs

■ Characteristics Curve





■ **Application Circuit**  
Differential Amplifier



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