

AN1741 (AN6570), AN1741S (AN6570S), AN6573

Single Operational Amplifiers

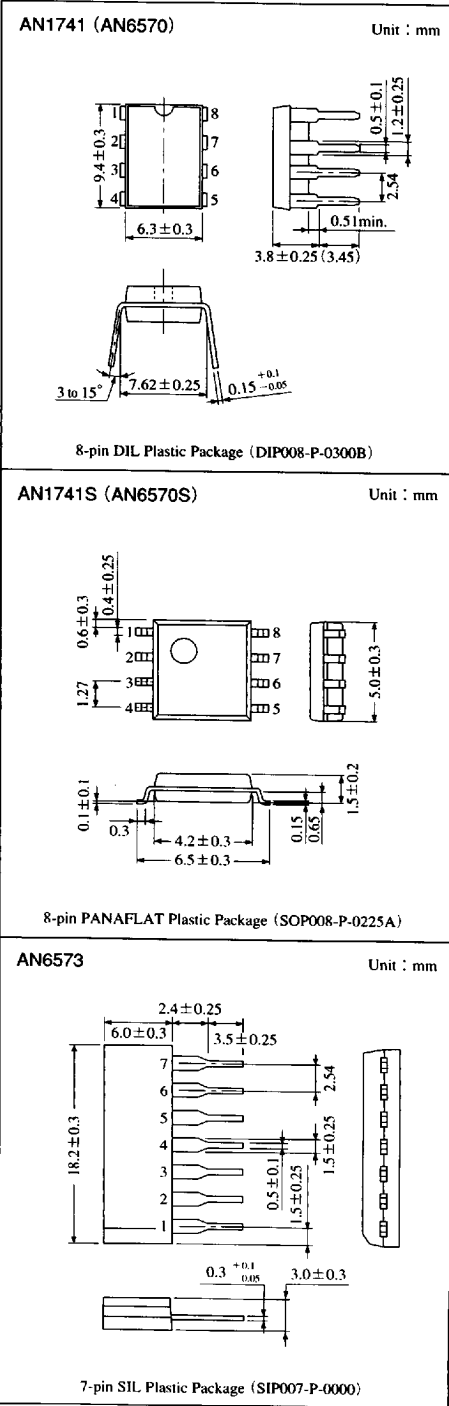
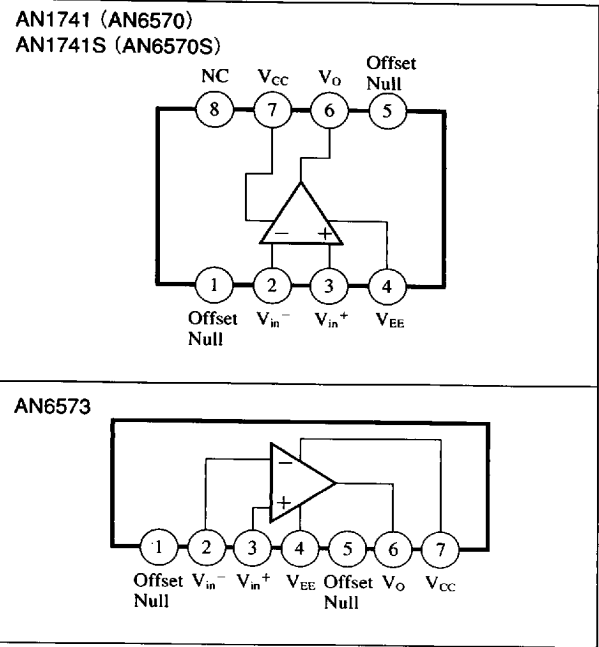
Overview

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 Diagrams



Operational
Amplifiers

■ Pin Descriptions

〈AN1741 (AN6570), AN1741S (AN6570S)〉

Pin No.	Pin name
1	Offset Null
2	inverting input
3	Non inverting input
4	V _{EE}
5	Offset Null
6	Output
7	V _{CC}
8	NC

〈AN6573〉

Pin No.	Pin name
1	Offset Null
2	inverting input
3	Non inverting input
4	V _{EE}
5	Offset Null
6	Output
7	V _{CC}

■ Absolute Maximum Ratings (Ta=25℃)

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	AN1741 (AN6570), AN6573	P _D	500	mW
	AN1741S (AN6570S)		360	
Operating ambient temperature		T _{opr}	−20 to +75	℃
Storage temperature	AN1741 (AN6570), AN6573	T _{sig}	−55 to +150	℃
	AN1741S (AN6570S)		−55 to +125	

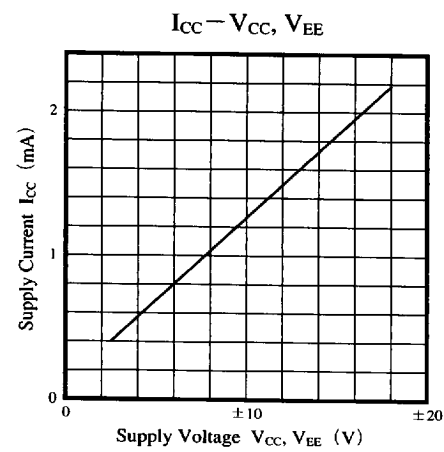
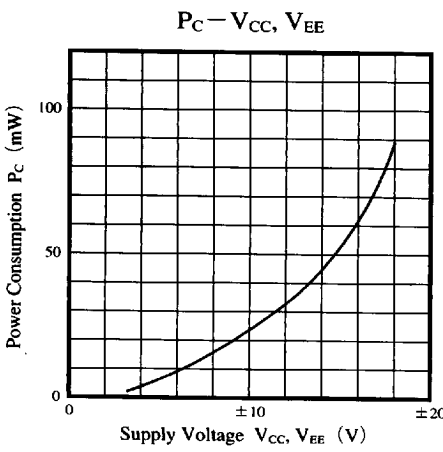
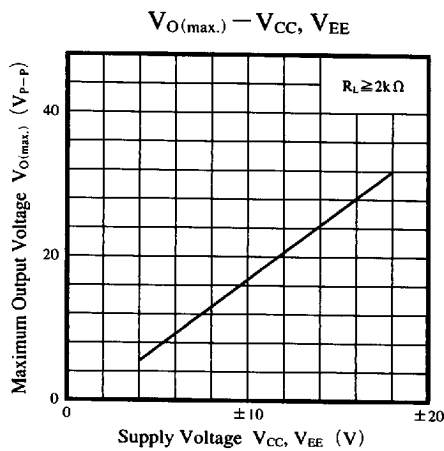
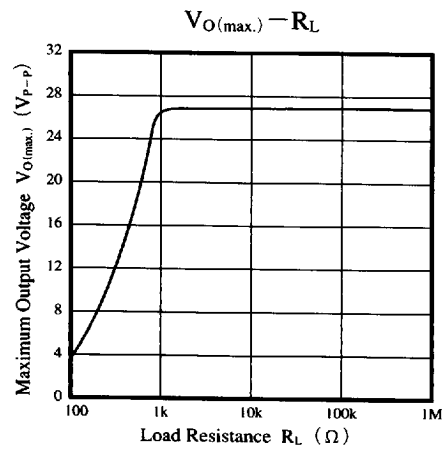
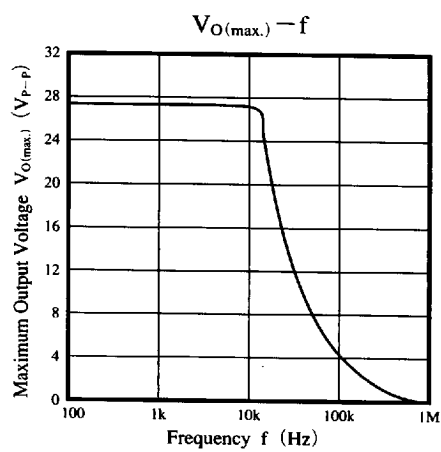
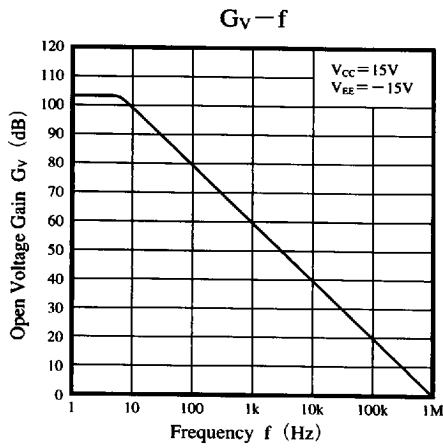
■ Electrical Characteristics (V_{CC} = 15V, V_{EE} = −15V, Ta=25℃)

Parameter	Symbol	Condition	min	typ	max	Unit
Input offset voltage	V _{I(offset)}	R _S ≤ 10k Ω	—	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 _L ≥ 2k Ω, V _O = ±10V	86	106	—	dB
Maximum output voltage	V _{O(max.)}	R _L ≥ 10k Ω	± 12	± 14	—	V
		R _L ≥ 2k Ω	± 10	± 13	—	V
Common-mode input voltage width	V _{CM}		± 12	± 13	—	V
Common-mode rejection ratio	CMR	R _S ≤ 10k Ω	70	90	—	dB
Supply voltage rejection ratio	SVR	R _S ≤ 10k Ω	—	30	150	μV/V
Supply current	I _{CC}	R _L = ∞	—	—	2.8	mA
Power consumption	P _C	R _L = ∞	—	—	85	mW
Output short-circuit current	I _{O(short)}		—	± 20	—	mA
Slew rate	SR		—	0.7	—	V/μs

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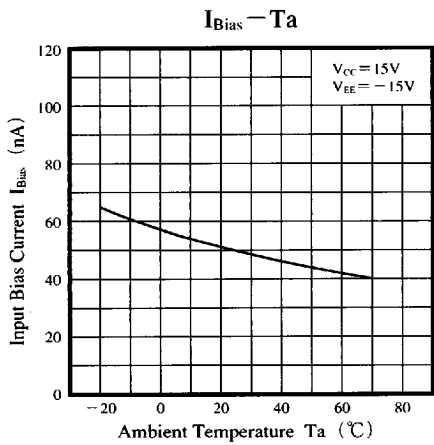
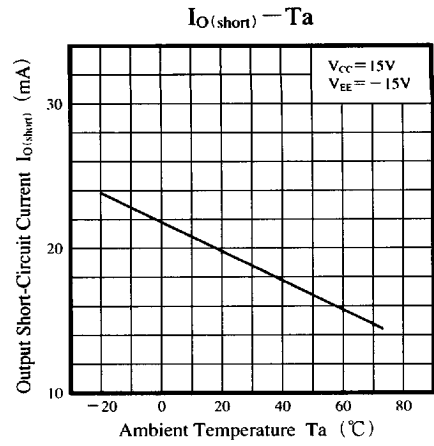
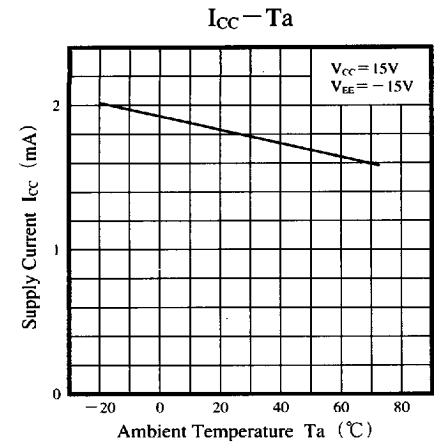
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■ Characteristics Curve



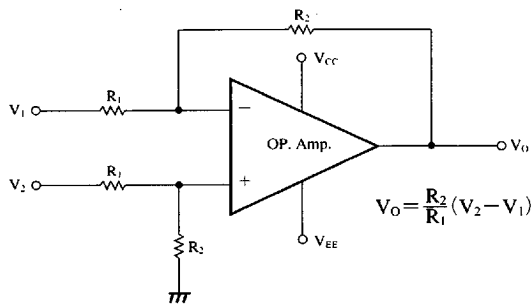
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■ Application Circuit

Differential Amplifier



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