AN1741 (AN6570), AN1741S (AN6570S), AN6573

Single Operational Amplifiers

■ Overview

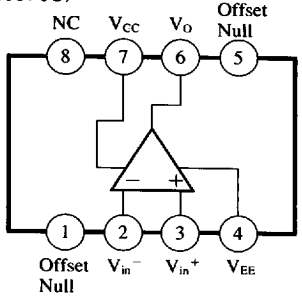
The AN1741 (AN6570), the AN1741S (AN6570S), and the AN6573 are single-type operational amplifier with a phase compensation circuit built-in and also an output short-circuit protection circuit built-in, so that they are highly stable and can be used widely in various electronic circuits

■ Features

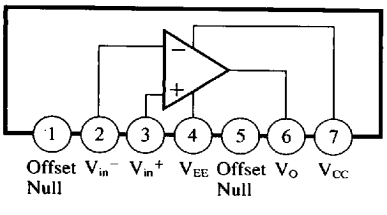
- Phase compensation circuit built-in
- High common mode input range, no latch-up
- Short circuit protection
- Low input offset voltage : $V_{I\,(offset)}$ = 0.5mV typ.
- Low input offset current : I_{IO} = 10nA typ.
- Offset null circuit

■ Block Diagrams

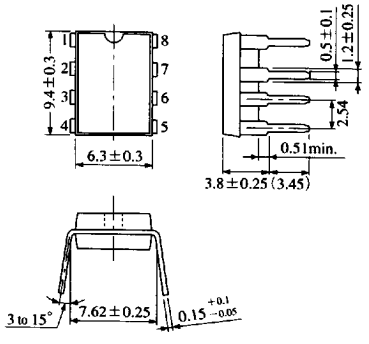
AN1741 (AN6570)
AN1741S (AN6570S)



AN6573

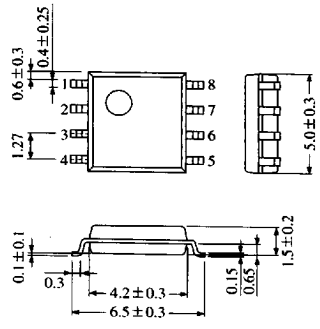


AN1741 (AN6570) Unit : mm



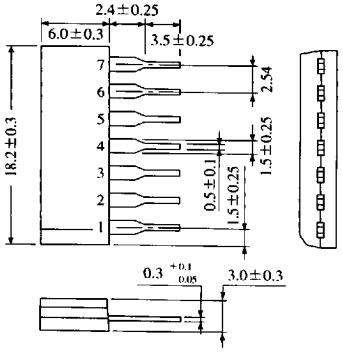
8-pin DIL Plastic Package (DIP008-P-0300B)

AN1741S (AN6570S) Unit : mm



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

AN6573 Unit : mm



7-pin SIL Plastic Package (SIP007-P-0000)

■ 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℃)

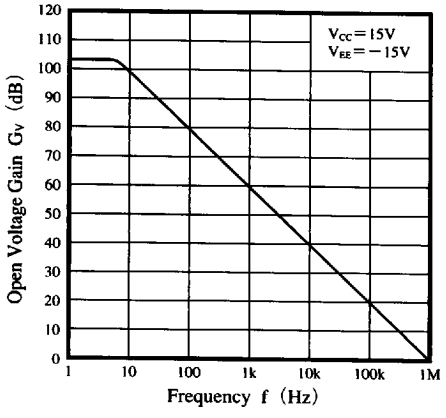
Parameter		Symbol	Rating	Unit
Voltage	Supply voltage	V_{CC}	±18	V
	Differential input voltage	V_{ID}	±30	V
	Common-mode input voltage	V_{ICM}	±15	V
Power dissipation	AN1741 (AN6570), AN6573	P_D	500	mW
	AN1741S (AN6570S)		360	
Operating ambient temperature		T_{opr}	−20 to +75	℃
Storage temperature	AN1741 (AN6570), AN6573	T_{stg}	−55 to +150	℃
	AN1741S (AN6570S)		−55 to +125	

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

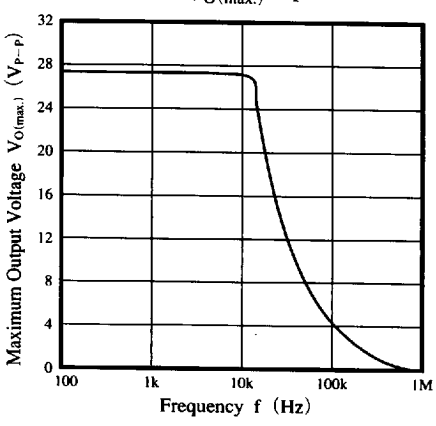
Parameter	Symbol	Condition	min	typ	max	Unit
Input offset voltage	$V_{I(offset)}$	$R_S \leqq 10k\Omega$	—	0.5	4	mV
Input offset current	I_{IO}		—	10	100	nA
Input bias current	I_{bias}		—	50	250	nA
Voltage gain	G_V	$R_L \geqq 2k\Omega$, V_O=±10V	86	106	—	dB
Maximum output voltage	$V_{O(max.)}$	$R_L \geqq 10k\Omega$	±12	±14	—	V
		$R_L \geqq 2k\Omega$	±10	±13	—	V
Common-mode input voltage width	V_{CM}		±12	±13	—	V
Common-mode rejection ratio	CMR	$R_S \leqq 10k\Omega$	70	90	—	dB
Supply voltage rejection ratio	SVR	$R_S \leqq 10k\Omega$	—	30	150	μV/V
Supply current	I_{CC}	$R_L=\infty$	—	—	2.8	mA
Power consumption	P_C	$R_L=\infty$	—	—	85	mW
Output short-circuit current	$I_{O(short)}$		—	±20	—	mA
Slew rate	SR		—	0.7	—	V/μs

■ Characteristics Curve

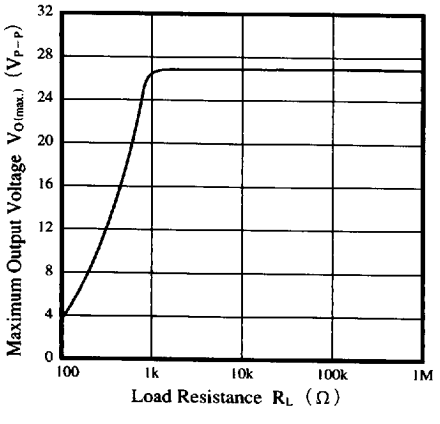
$G_V - f$



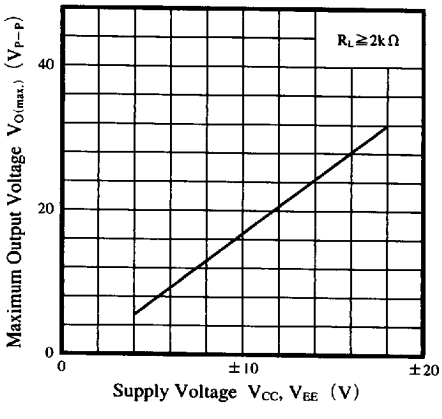
$V_{O(max.)} - f$



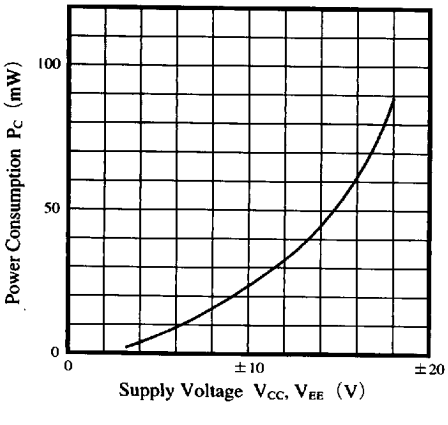
$V_{O(max.)} - R_L$



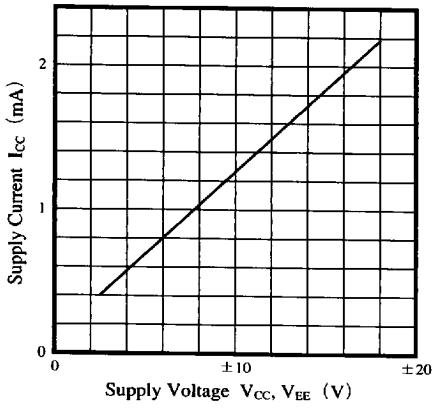
$V_{O(max.)} - V_{CC}, V_{EE}$



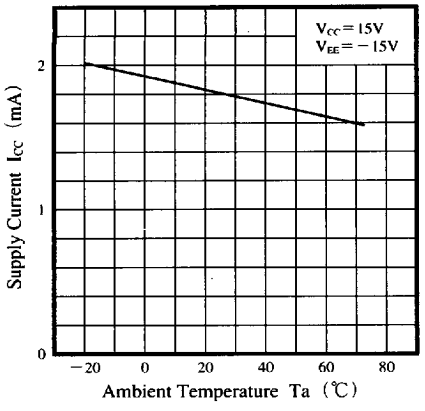
$P_C - V_{CC}, V_{EE}$



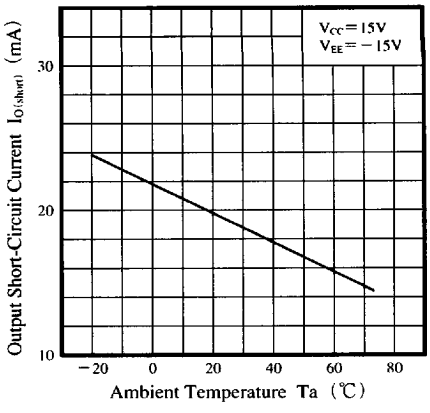
$I_{CC} - V_{CC}, V_{EE}$



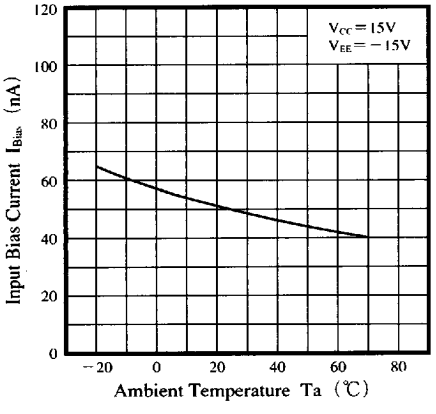
$I_{CC}-Ta$



$I_{O(short)}-Ta$



$I_{Bias}-Ta$



■ Application Circuit

Differential Amplifier