

AN1082, AN1082S, AN6581

Dual J-FET Input Operational Amplifiers

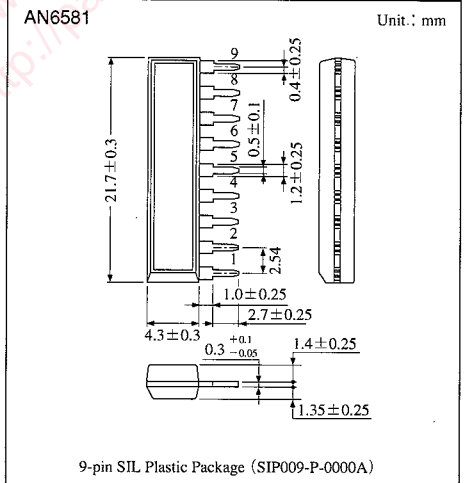
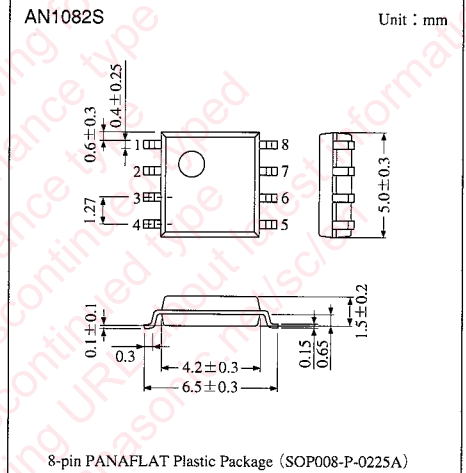
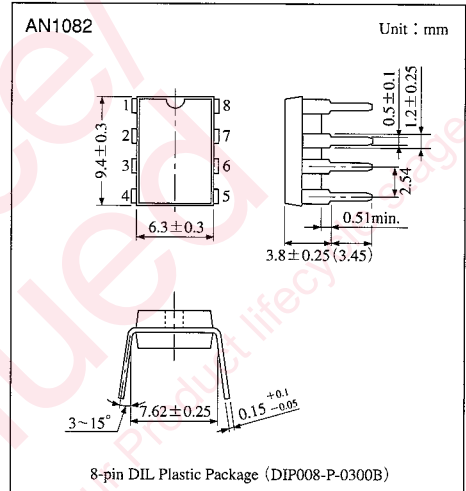
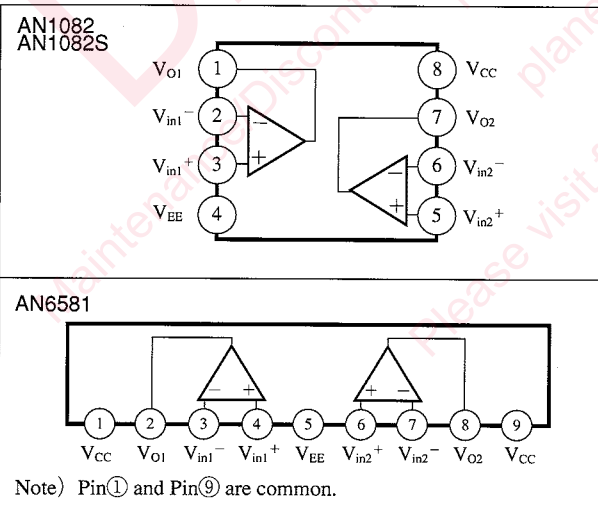
Overview

The AN1082, the AN1082S and the AN6581 are dual operational amplifiers with input stages consisting of P-ch J-FET adopting the ion implantation process, realizing high speed response, high input impedance and low input bias current. Therefore, they can be applied widely to general control equipments and medical equipments such as integrators, sample & hold circuits and high input impedance buffers.

Features

- High slew rate : $SR=11V/\mu s$ typ.
- Low input bias current : $I_{Bias}=30pA$ typ.
- Low offset current : $I_{IO}=5pA$ typ.
- High input impedance : $10^{12}\Omega$
- High voltage gain : $G_V=106dB$ typ.
- Wide range of supply voltage : $\pm 5V$ to $\pm 18V$
- Built-in phase compensation circuit

Block Diagrams



Operational Amplifiers

Pin Descriptions

(AN1082, AN1082S)

Pin No.	Pin name
1	Ch.1 output
2	Ch.1 inverting input
3	Ch.1 non inverting input
4	V _{EE}
5	Ch.2 non inverting input
6	Ch.2 inverting input
7	Ch.2 output
8	V _{CC}

(AN6581)

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}
6	Ch.2 non inverting input
7	Ch.2 inverting input
8	Ch.2 output
9	V _{CC}

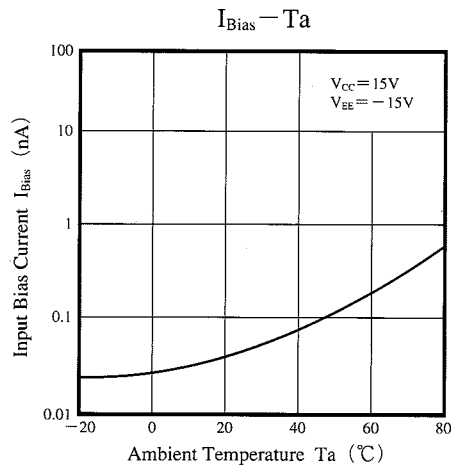
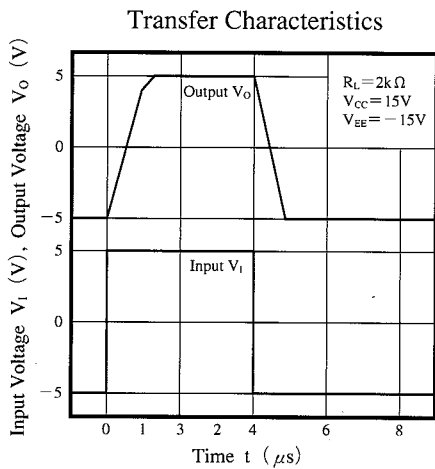
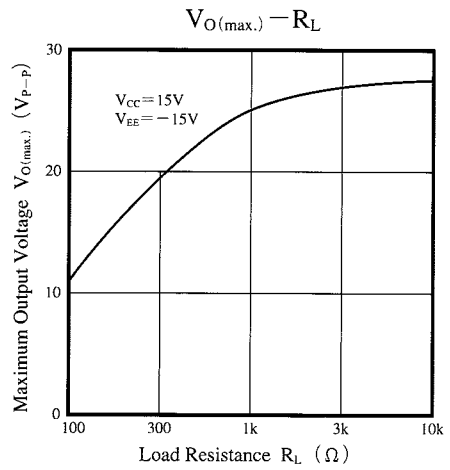
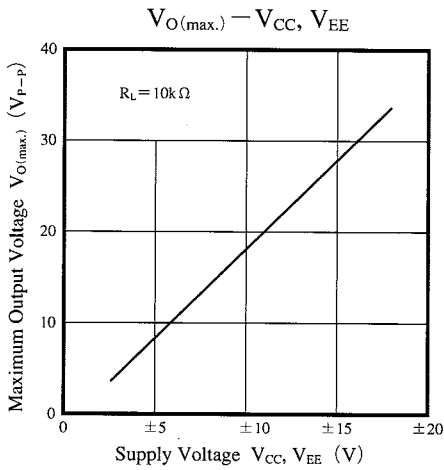
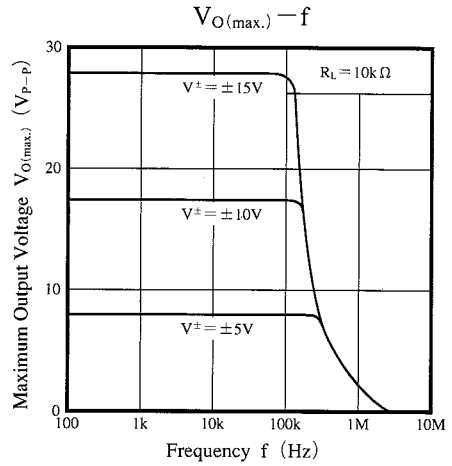
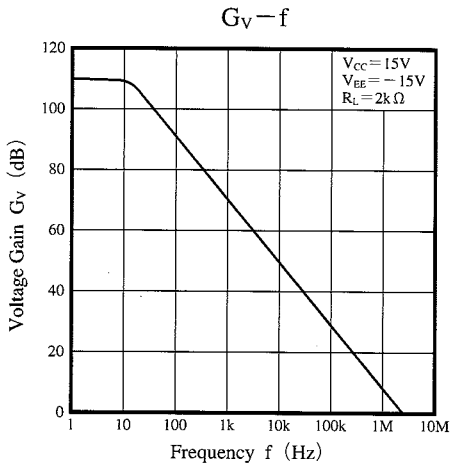
Absolute Maximum Ratings (T_a = 25°C)

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	AN1082, AN6581	P _D	500	mW
	AN1082S		360	
Operating ambient temperature		T _{opr}	-20 to +75	°C
Storage temperature	AN1082, AN6581	T _{stg}	-55 to +150	°C
	AN1082S		-55 to +125	

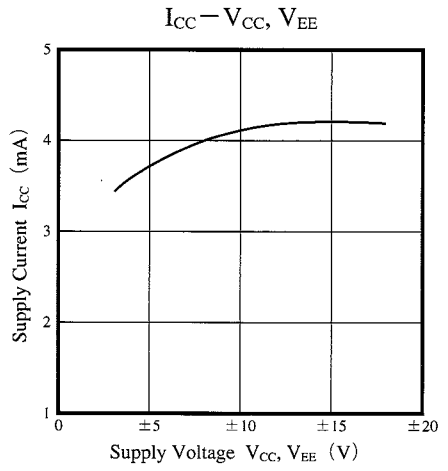
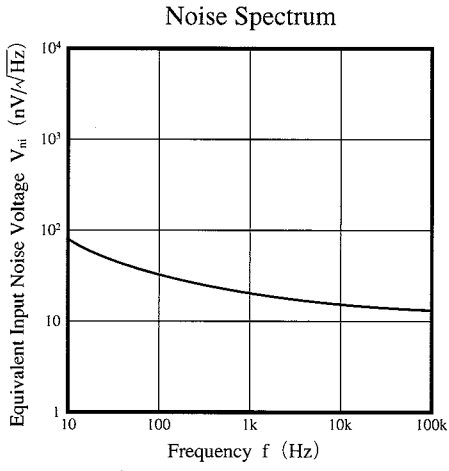
Electrical Characteristics (V_{CC} = 15V, V_{EE} = -15V, T_a = 25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Input offset voltage	V _{I(offset)}	R _S ≤ 50 Ω	—	2	10	mV
Input offset current	I _{IO}		—	5	200	pA
Input bias current	I _{Bias}		—	30	400	pA
Voltage gain	G _V	R _L = 2k Ω, V _O = ±10V	88	106	—	dB
Maximum output voltage	V _{O(max.)}	R _L ≥ 10k Ω	±12	±14	—	V
Maximum output voltage	V _{O(max.)}	R _L ≥ 2k Ω	±10	±12.5	—	V
Common-mode input voltage range	V _{CM}		±10	—	—	V
Common-mode rejection ratio	CMR		70	76	—	dB
Supply voltage rejection ratio	SVR		70	76	—	dB
Power consumption	P _C	R _L = ∞	—	120	168	mW
Slew rate	SR	R _L ≥ 2k Ω	—	11	—	V/μs
Zero-cross frequency	f _(T)	A _V = 1	—	3	—	MHz
Equivalent input noise voltage	V _{ni}	R _S = 100 Ω, B = 10Hz to 30kHz	—	4	—	μVrms

■ Characteristics Curve



Operational
Amplifiers



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