AUK Semiconductor

S324P

Low Power Quad OP AMP

Description

The S324 consists of four independent high gain Internally frequency compensated operational amplifiers designed to operate from a single power supply over a wide range of voltage.

Features

- Input common mode voltage range includes ground
- Internally frequency compensated for unity gain
- Large DC voltage gain : 100dB
- Wide bandwidth for unity gain : 1 MHz
- Very low power consumption
- Wide supply voltage range : Single : 3V ~ 36V, Dual : ±1.5 ~ ±18V

Applications

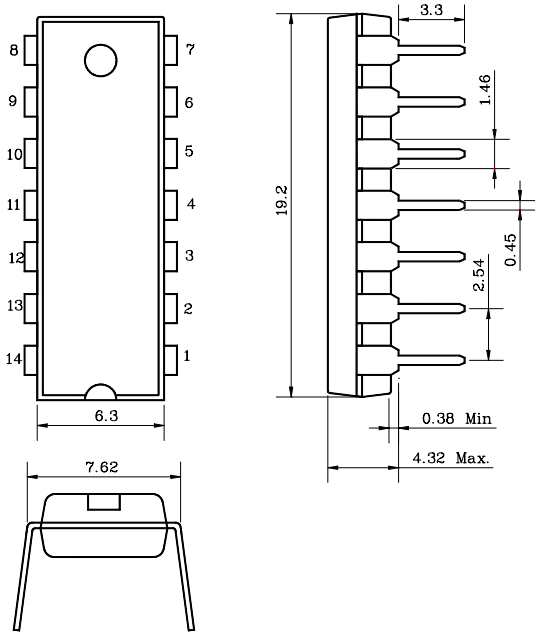
- Transducer amplifier
- DC gain blocks
- Conventional operational amplifiers

Ordering Information

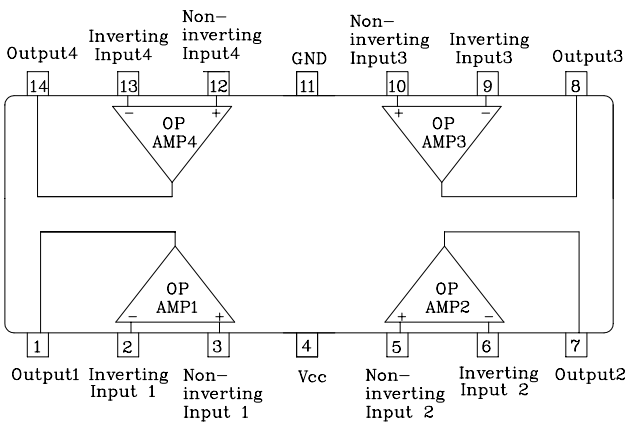
Type NO.	Marking	Package Code
S324P	S324P	DIP-14

Outline Dimensions

unit : mm



Block Diagram



Absolute maximum ratings

Characteristic	Symbol	Ratings	Unit
Supply voltage	V_{CC}	36 or ±18	V
Differential input voltage	V_{IND}	36	V
Input voltage	V_{IN}	-0.3 ~ +36	V
Power Dissipation	P_D	570	mW
Operating temperature	T_{opr}	-40 ~ +85	°C
Storage temperature	T_{stg}	-55 ~ 150	°C

Electrical Characteristics

(Unless otherwise specified. V_{CC} = 5V, V_{EE} = GND and –40 °C ≤ Ta ≤ +85 °C)

Characteristic	Symbol	Test Condition		Min.	Typ.	Max.	Unit
Input offset voltage	V_{IOS}	V_{CC} = 5~30V Rg = 0Ω		-	2	7	mV
Input offset current	I_{IOS}	-		-	5	30	nA
Input bias current	I_{IB}	-		-	45	150	nA
Input common mode voltage range	V_{ICR}	V_{CC} = 30V		0	-	V_{CC} –1.5	V
Supply current	I_{CC}	R_L = ∞, All Channel		-	0.7	1.2	mA
Large signal voltage gain	G_V	V_{CC} = 15V R_L ≥ 2 KΩ		86	100	-	dB
Output voltage swing	V_{OH}	V_{CC} = 30V	R_L=2 KΩ	26	-	-	V
			R_L=10 KΩ	27	28	-	
	V_{OL}	V_{CC} =5V, R_L ≤10 KΩ		-	5	20	mV
Common mode rejection ratio	CMRR	(Ta=25 °C)		65	85	-	dB
Power supply rejection ratio	PSRR	(Ta=25 °C)		65	100	-	dB
Output source current	I_{O+}	V_{CC} = 15V V_{IN+} = 1V, V_{IN-} = 0V		20	40	-	mA
Output sink current	I_{O-}	V_{CC} = 15V V_{IN+} = 0V, V_{IN-} = 1V		10	20	-	mA
		V_{OUT} = 200mV, V_{IN+}= 0V, V_{IN-}= 1V, V_{CC}= 15V		12	45	-	μA

Electrical Characteristic Curves

Fig. 1 I_{CC}-V_{CC}

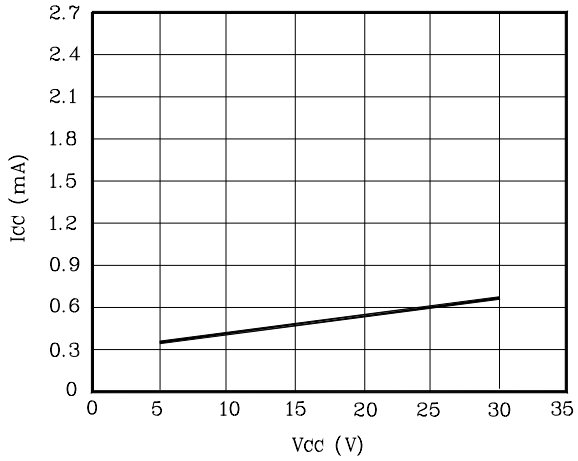


Fig. 2 I_{IB}-V_{CC}

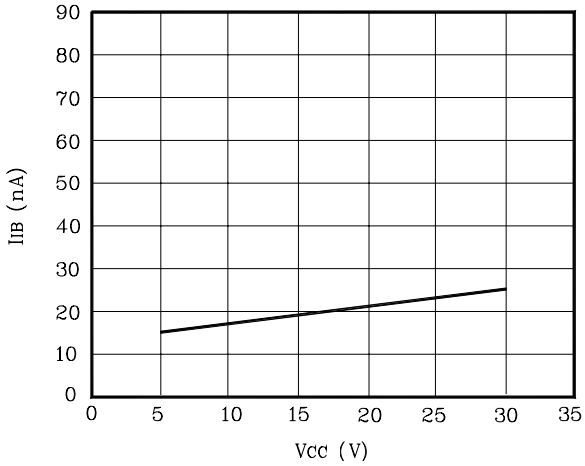


Fig. 3 V_{IOS}-T_a

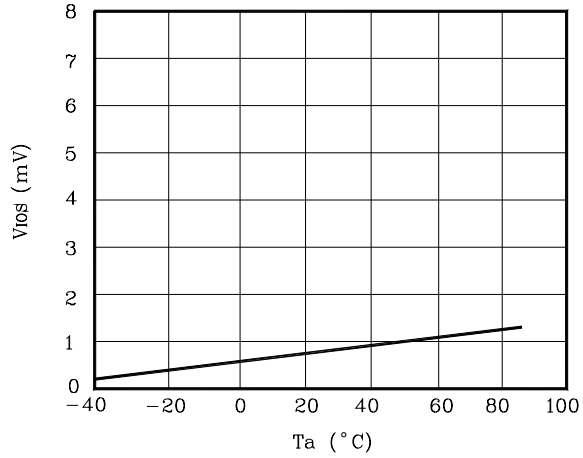


Fig. 4 I_O-T_a

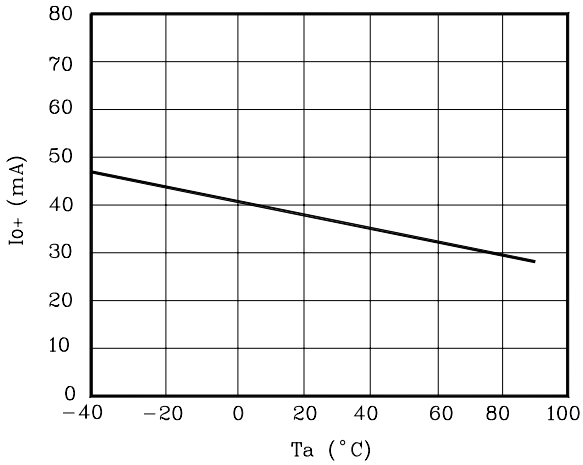


Fig. 5 CMRR-f

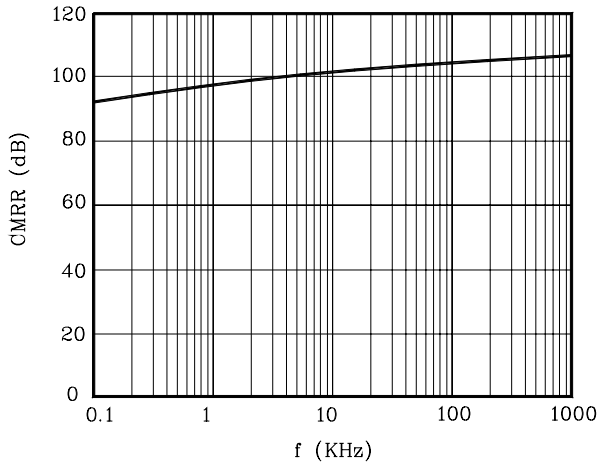


Fig. 6 V_{OR}-f