

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 : 100 dB
- Wide bandwidth for unity gain : 1 MHz
- Very low power consumption
- Wide supply voltage range : Single : 3V ~ 36V, Dual : $\pm 1.5 \sim \pm 18V$

Applications

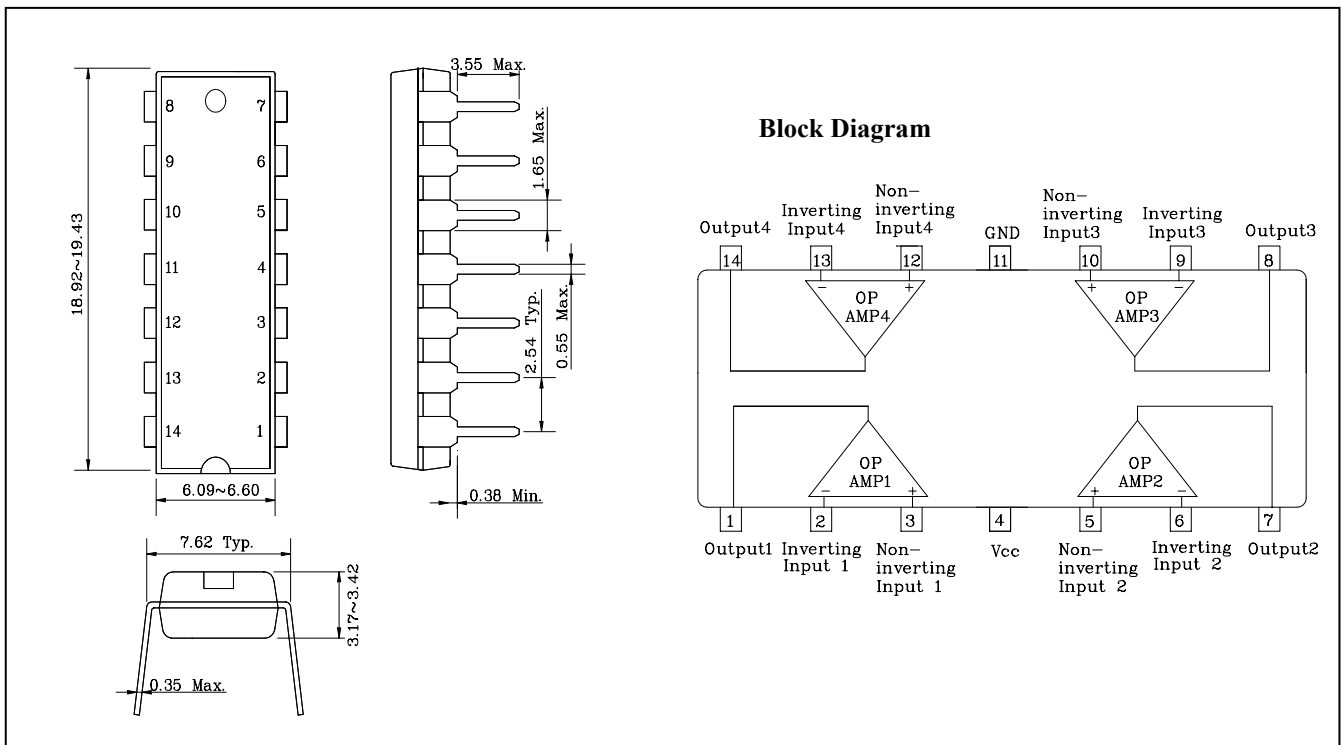
- Transducer amplifier
- DC gain blocks
- Conventional operational amplifiers

Ordering Information

Type NO.	Marking	Package Code
S324P	S324P	DIP-14

Outline Dimensions

unit : mm



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 $-40\text{ °C} \leq T_a \leq +85\text{ °C}$)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Input offset voltage	V_{IOS}	$V_{CC} = 5\sim 30V$ $R_g = 0\Omega$	-	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}	$R_L = \infty$, All Channel	-	0.7	1.2	mA	
Large signal voltage gain	G_V	$V_{CC} = 15V$ $R_L \geq 2\text{ K}\Omega$	86	100	-	dB	
Output voltage swing	V_{OH}	$V_{CC} = 30V$	$R_L = 2\text{ K}\Omega$	26	-	-	V
			$R_L = 10\text{ K}\Omega$	27	28	-	
	V_{OL}	$V_{CC} = 5V$, $R_L \leq 10\text{ K}\Omega$	-	5	20	mV	
Common mode rejection ratio	CMRR	($T_a = 25\text{ °C}$)	65	85	-	dB	
Power supply rejection ratio	PSRR	($T_a = 25\text{ °C}$)	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	
		$V_{OUT} = 200\text{ mV}$, $V_{IN+} = 0V$, $V_{IN-} = 1V$, $V_{CC} = 15V$	12	45	-	μA	

Electrical Characteristic Curves

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

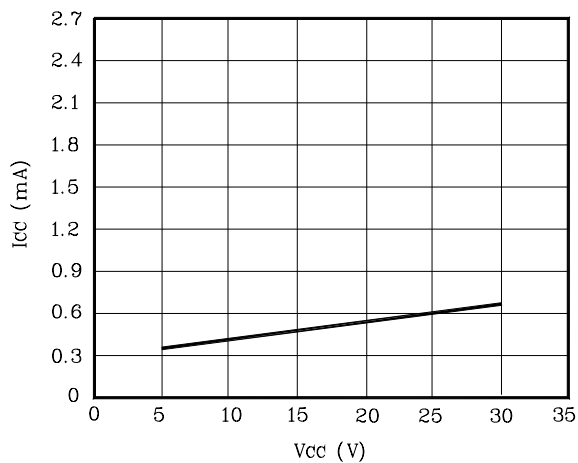


Fig. 2 $I_{IB}-V_{CC}$

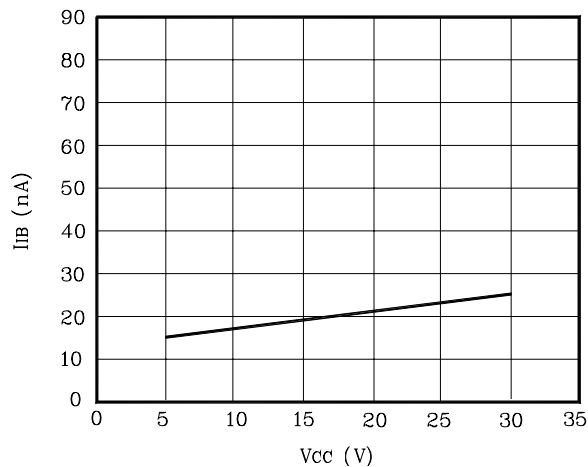


Fig. 3 $V_{IOS}-T_a$

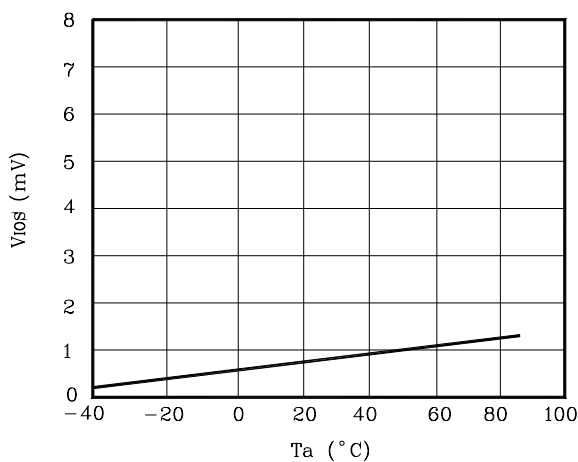


Fig. 4 I_O-T_a

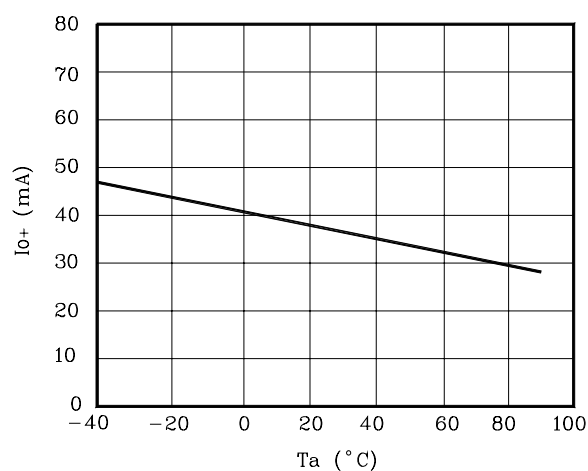


Fig. 5 CMRR-f

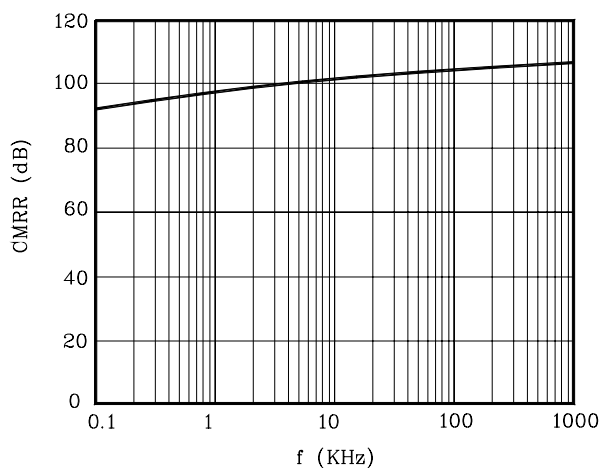
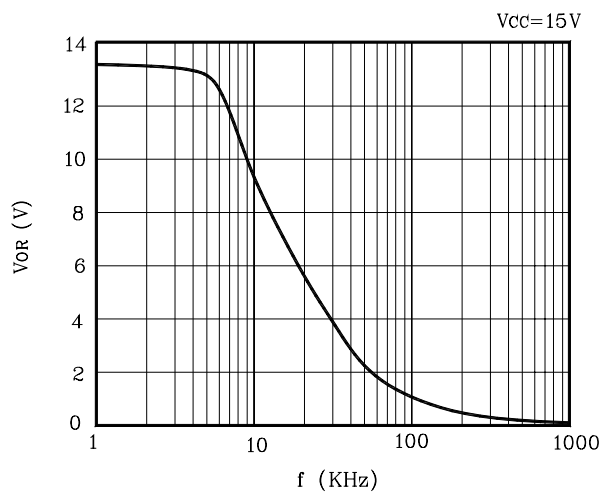


Fig. 6 $V_{OR}-f$



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