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FEATURES

Wide power supply range:
 3V ~ 32V (or ±1.5V ~ ±16V)

voltage

Large DC voltage gain: 100dB

Internally frequency compensated for unity gain

Input common-mode voltage range includes ground
 Large output voltage swing: 0V DC to VCC-1.5V DC

Differential input voltage range equal to the power supply

Power drain suitable for battery operation
 Low input offset voltage and offset current

HX074-S/HX074-P/HX074A-S/HX074A-P Low Power Quad Operational Amplifier

The HX074-S/HX074-P/HX074A-S/HX074A-P features four independent high gain operational amplifiers with internal frequency compensation. These four op-amps operate over a wide voltage range using either a single power supply or a split power supply. The device exhibits low power supply current drain, regardless of the power supply voltage, making it suitable for batteryoperated applications. When your project requires a traditional op-amp function, you can simplify your design by utilizing a single +5VDC power supply commonly found in various digital systems or personal computer applications, eliminating the need for an additional 15V power supply solely for interface electronics. The HX074-S/HX074-P/HX074A-S/HX074A-P is a versatile and durable component capable of amplifying signals from various transducers, serving as a dc gain block, or performing any op-amp function. The accompanying pages provide useful instructions that will expedite the progress of your project.



SOP-14



DIP-14

PIN ASSIGNMENT

$\begin{bmatrix} IN1(-) & [2 & 13] & IN4(-) \\ IN1(+) & [3 & 12] & IN4(+) \\ V_{CC} & [4 & 11] & GND \\ IN2(+) & [5 & 10] & IN3(+) \\ IN2(-) & [6 & 9] & IN3(-) \\ OUT & 2 & [7 & 8] & OUT & 3 \\ \end{bmatrix}$	OUT 1	1 •	14] OUT 4
V_{CC} 4 11 GND $IN2$ (+) 5 10 $IN3(+)$ $IN2$ (-) 6 9 $IN3(-)$	IN1(-)	2	13 IN4(-)
$IN2 (+) \begin{bmatrix} 5 & 10 \\ IN3(+) \\ IN2(-) \begin{bmatrix} 6 & 9 \\ IN3(-) \end{bmatrix} IN3(-)$	IN1(+)	3	12] IN4(+)
IN2(-) [6 9] IN3(-)	V _{CC} [4	11 GND
	IN2 (+)	5	10 IN3(+)
OUT 2 7 8 OUT 3	IN2(-)	6	9 🗍 IN3(-)
	OUT 2	7	8] OUT 3
	OUT 2 [7	8 00°

Product Info	ormation			
	Package Information	temperature	Orchestration	quantity
HX074-S	SOP-14	0°C~70°C	Taping	2500
HX074-P	DIP-14	0°C~70°C	Taping	1000
HX074A-S	SOP-14	-40°C~85°C	Taping	2500
HX074A-P	DIP-14	-40°C~85°C	Taping	1000

RECOM	MENDED OPERATING CONDITIONS			
Symbol	Parameter	Min	Max	Unit
Vcc	DC Supply Voltage	±2.5 or 5.0	±15 or 30	V
T _A	Operating Temperature, All Package Types	-40	+105	°C

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MA	XIMUM RATINGS		
Symbol	Parameter	Value	Unit
V _{CC}	Power Supply Voltages Single Supply Split Supplies	32±16	V
VIDR	Input Differential Voltage Range a	±32	V
VICR	Input Common Mode Voltage Range	-0.3 to 32	V
I _{SC}	Output Short Circuit Duration	Continuous	
TJ	Junction Temperature	150	°C
Tstg	Storage Temperature Plastic Packages	-55 to +125	°C
I _{IN}	Input Current, per pin b	50	mA
TL	Lead Temperature, 1mm from Case for 10 Seconds	260	°C

Notes

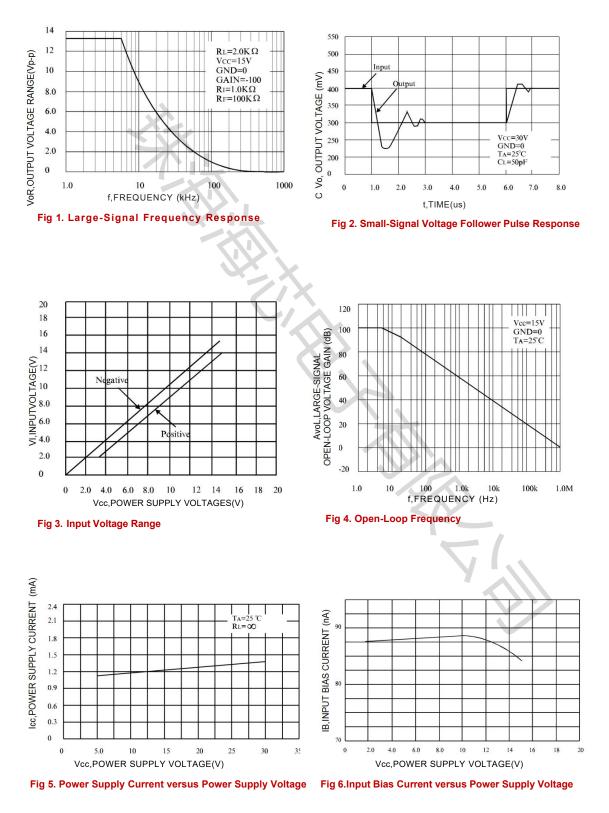
a. Split Power Supplies.b. VIN<-0.3V. This input current will only exist when voltage at any of the input leads is driven negative.

DC EL	ECTRICAL CHARACTERIS	TICS (TA=-40 to +105°	С)			
Symbol	Parameter	Test Conditions	Guara	anteed	Limit	
Symbol	Parameter	Test Conditions	Min	Тур	Max	Unit
VIO	Maximum Input Offset Voltage	VO=1.4V VCC=5.0-			7.0	mV
ΔVΙΟ/ΔΤ	Input Offset Voltage	RS=0Ω, VCC=30V		7.0		µV/°C
IIO	Maximum Input Offset Current	VCC=5.0V			150	nA
ΔΙΙΟ/ΔΤ	Input Offset Current Drift	RS=0Ω, VCC=30V		10		pA/°C
lib	Maximum Input Bias Current	VCC=5.0V			500	nA
VICR	Input Common Mode Voltage Range	VCC=30V	0		28	V
ICC	Maximum Power Supply Current	RL=∞,VCC=30V,V0=0V			3	mA
		RL=∞,VCC=5V,V0=0V			1.2	
AVOL	Minimum Large Signal	VCC=15V, RL≥2KΩ	15			V/mV
	Open-Loop Voltage Gain		25a			
VOH	Minimum Output High- Level Voltage	VCC=30V,RL=2KΩ	26			v
	Swing	VCC=30V,RL=10KΩ	27			
VOL	Maximum Output Low- Level Voltage	VCC=5V,RL=10KΩ			20	mV
CMR	Common Mode	VCC=30V, RS=10KΩ	65ª			dB
PSR	Power Supply Rejection	VCC=30V	65*	\sim		dB
CS	Channel Separation	f=1KHz to 20KHz,VCC=30V	- 120a			dB
ISC	Maximum Output Short Circuit to GND	VCC=5.0V			60a	mA
Isource	Minimum Output Source Current	VIN+=1V, VIN-=0V,	20		50	mA
lsink	Minimum Output Sink Current	VIN+=0V, VIN-=1V,	5			mA
VIDR	Differential Input Voltage Range	All VIN≥GND or V-Supply (if used)			VCC _a	V

Notes a. =@25°C

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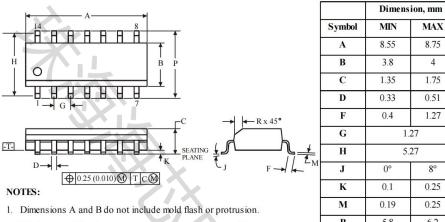




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Package Information

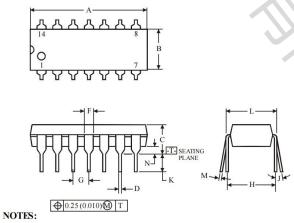
SOP14 (Package Outline Dimensions)



2. Maximum mold flash or protrusion 0.15 mm (0.006) per side for A; for B - 0.25 mm (0.010) per side.

	U	1.	21
+	Н	5.	27
- ^M	J	0°	8°
	K	0.1	0.25
	Μ	0.19	0.25
	Р	5.8	6.2
	R	0.25	0.5

DIP14 (Package Outline Dimensions)



1. Dimensions "A", "B" do not include mold flash or protrusions. Maximum mold flash or protrusions 0.25 mm (0.010) per side.

	Dimens	ion, mm
Symbol	MIN	MAX
А	18.67	19.69
В	6.1	7.11
С		5.33
D	0.36	0.56
F	1.14	1.78
G	2.	54
Н	7.	62
J	0°	10°
K	2.92	3.81
L	7.62	8.26
М	0.2	0.36
Ν	0.38	

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