

HX062-S/HX062-P/HX062A-S/HX062A-P JFET Low Power Dual Operational Amplifier

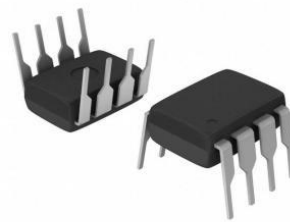
The HX062-S/HX062-P/HX062A-S/HX062A-P is equipped with two separate high gain operational amplifiers that feature internal frequency compensation. These op-amps can function effectively within a wide voltage range using a single power supply or a split power supply. The device exhibits low power supply current drain, regardless of the power supply voltage, making it an ideal choice for battery-operated applications. When your project requires a traditional op-amp function, you can now 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 HX062-S/HX062-P/HX062A-S/HX062A-P is a versatile and durable component that can be utilized for a myriad of purposes, including amplifying signals from different 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.

FEATURES

- Internally frequency compensated for unity gain
- Large DC voltage gain: 100dB
- Wide power supply range:
3V ~ 32V (or $\pm 1.5V \sim \pm 16V$)
- Input common-mode voltage range includes ground
- Large output voltage swing: 0V DC to $V_{CC}-1.5V$ DC
- Power drain suitable for battery operation
- Low input offset voltage and offset current
- Differential input voltage range equal to the power supply voltage

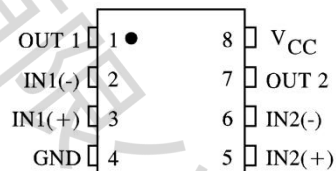


SOP-8



DIP-8

PIN ASSIGNMENT



Product Information

	Package Information	temperature	Orchestration	quantity
HX062-S	SOP-8	0°C~70°C	Taping	2500
HX062-P	DIP-8	0°C~70°C	Taping	1000
HX062A-S	SOP-8	-40°C~85°C	Taping	2500
HX062A-P	DIP-8	-40°C~85°C	Taping	1000

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Min	Max	Unit
V_{CC}	DC Supply Voltage	± 2.5 or 5.0	± 15 or 30	V
T_A	Operating Temperature, All Package Types	0	+70	°C

MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	Power Supply Voltages	32 $\pm$ 16	V
V_{IDR}	Input Differential Voltage Range ^a	$\pm$ 32	V
V_{ICR}	Input Common Mode Voltage Range	-0.3 to 32	V
I_{SC}	Output Short Circuit Duration	Continuous	
T_J	Junction Temperature	150	$^{\circ}$ C
T_{stg}	Storage Temperature	-55 to +125	$^{\circ}$ C
I_{IN}	Input Current, per pin ^b	50	mA
T_L	Lead Temperature, 1mm from Case for 10 Seconds	260	$^{\circ}$ C

Notes

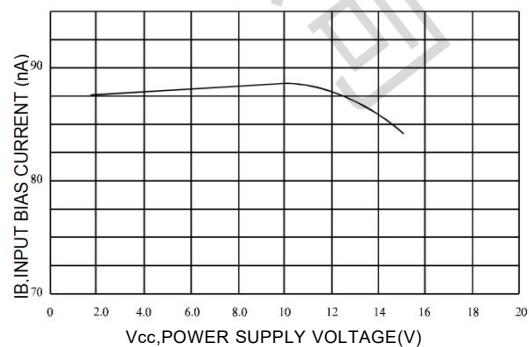
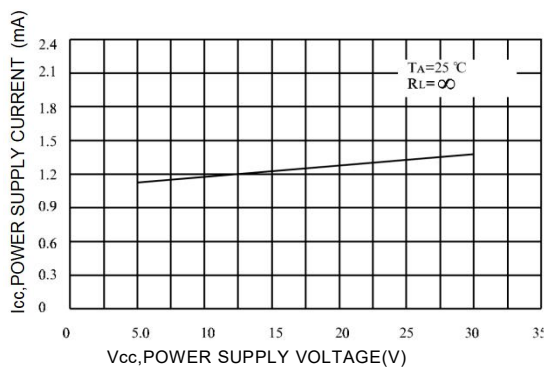
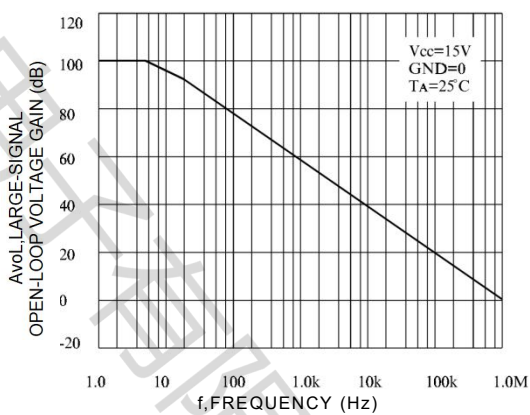
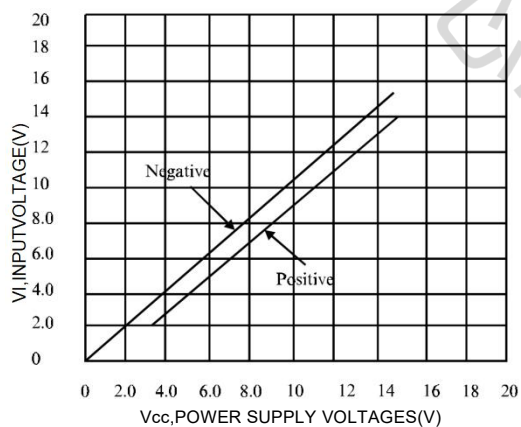
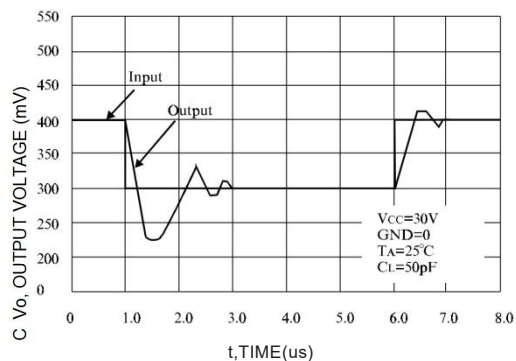
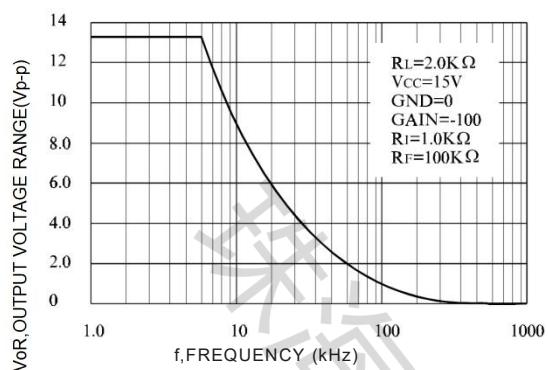
a. Split Power Supplies.

b. $V_{IN} < 0.3V$. This input current will only exist when voltage at any of the input leads is driven negative.DC ELECTRICAL CHARACTERISTICS ($T_A = 0$ to $+70^{\circ}$ C)

Symbol	Parameter	Test Conditions	Guaranteed Limit			Unit
			Min	Typ	Max	
V_{IO}	Maximum Input Offset Voltage	$V_O = 1.4V$, $V_{CC} = 5.0-30V$; $R_S = 0\Omega$ $V_{ICM} = 0V$ to $V_{CC} - 1.7V$			9.0	mV
$\Delta V_{IO}/\Delta T$	Input Offset Voltage Drift	$R_S = 0\Omega$, $V_{CC} = 30V$		7.0		$\mu V/^{\circ}C$
I_{IO}	Maximum Input Offset Current	$V_{CC} = 5.0V$			150	nA
$\Delta I_{IO}/\Delta T$	Input Offset Current Drift	$R_S = 0\Omega$, $V_{CC} = 30V$		10		$pA/^{\circ}C$
I_{IB}	Maximum Input Bias Current	$V_{CC} = 5.0V$			-500	nA
V_{ICR}	Input Common Mode Voltage Range	$V_{CC} = 30V$	0		28	V
I_{CC}	Maximum Power Supply Current	$R_L = \dots$, $V_{CC} = 30V$, $V_O = 0V$ $R_S = \dots$, $V_{CC} = 5V$, $V_O = 0V$			3	mA
A_{VOL}	Minimum Large Signal Open-Loop Voltage Gain	$V_{CC} = 15V$, $R_L \geq 2K\Omega$	15			V/mV
V_{OH}	Minimum Output High- Level Voltage Swing	$V_{CC} = 30V$, $R_L = 2K\Omega$ $V_{CC} = 30V$, $R_L = 10K\Omega$	26 27			V
V_{OL}	Maximum Output Low- Level Voltage Swing	$V_{CC} = 5V$, $R_L = 10K\Omega$			20	mV
CMR	Common Mode Rejection	$V_{CC} = 30V$, $R_S = 10K\Omega$	65 _a			dB
PSR	Power Supply Rejection	$V_{CC} = 30V$	65			dB
CS	Channel Separation	$f = 1KHz$ to $20KHz$, $V_{CC} = 30V$	-120 _a			dB
I_{SC}	Maximum Output Short Circuit to GND	$V_{CC} = 5.0V$			60*	mA
I_{source}	Minimum Source Output Current	$V_{IN+} = 1V$, $V_{IN-} = 0V$, $V_{CC} = 15V$, $V_O = 0V$	10			mA
I_{sink}	Minimum Output Sink Current	$V_{IN+} = 0V$, $V_{IN-} = 1V$, $V_{CC} = 15V$, $V_O = 15V$ $V_{IN+} = 0V$, $V_{IN-} = 1V$, $V_{CC} = 15V$, $V_O = 0.2V$	5 12 _a			mA μA
V_{IDR}	Differential Input	All $V_{IN} \geq GND$ or V-Supply (if used)			V_{CCa}	V

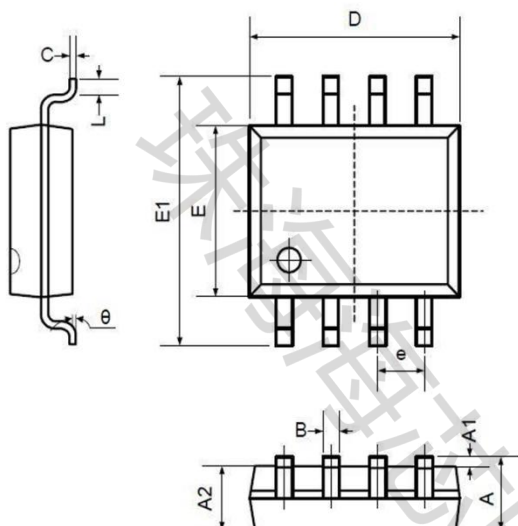
Notes

a. $\approx 25^{\circ}C$



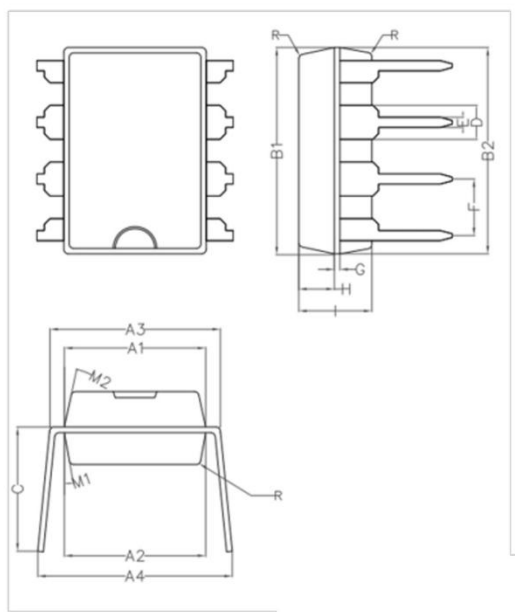
Package Information

SOP8 (Package Outline Dimensions)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
B	0.330	0.510	0.013	0.020
C	0.190	0.250	0.007	0.010
D	4.780	5.000	0.188	0.197
E	3.800	4.000	0.150	0.157
E1	5.800	6.300	0.228	0.248
e	1.270TYP		0.050TYP	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

DIP8 (Package Outline Dimensions)



Symbol	Min	Non	Max
A1	6.28	6.33	6.38
A2	6.33	6.38	6.43
A3	7.52	7.62	7.72
A4	7.80	8.40	9.00
B1	9.15	9.20	9.25
B2	9.20	9.25	9.30
C		5.57	
D		1.52	
E	0.43	0.45	0.47
F		2.54	
G		0.25	
H	1.54	1.59	1.64
I	3.22	3.27	3.32
R		0.20	
M1	9°	10°	11°
M2	11°	12°	13°

Disclaimer

All products due to improve reliability, function or design or for other reasons, product specifications and data are subject to change without notice.

Zhuhai Haixin Electronics Co., Ltd., branches, agents, employees, and all persons acting on its or their representatives (collectively, the "Zhuhai Haixindianzi"), assumes no responsibility for any errors, inaccuracies or incomplete data contained in the table or any other any disclosure of any information related to the product.(www.haixindianzi.com)

Zhuhai Haixin makes no guarantee, representation or warranty on the product for any particular purpose of any goods or continuous production. To the maximum extent permitted by applicable law on Zhuhai Haixin relinquished: (1) any application and all liability arising out of or use of any products; (2) any and all liability, including but not limited to special, consequential damages or incidental ; (3) any and all implied warranties, including a particular purpose, non-infringement and merchantability guarantee.

Statement on certain types of applications are based on knowledge of the product is often used in a typical application of the general product Haixin Zhuhai demand that the Zhuhai Haixin of. Statement on whether the product is suitable for a particular application is non-binding. It is the customer's responsibility to verify specific product features in the products described in the specification is appropriate for use in a particular application. Parameter data sheets and technical specifications can be provided may vary depending on the application and performance over time. All operating parameters, including typical parameters must be made by customer's technical experts validated for each customer application. Product specifications do not expand or modify Zhuhai Haixin purchasing terms and conditions, including but not limited to warranty herein.

Unless expressly stated in writing, Zhuhai Haixin products are not intended for use in medical, life saving, or life sustaining applications or any other application. Wherein Haixin product failure could lead to personal injury or death, use or sale of products used in Zhuhai Haixin such applications using client did not express their own risk. Contact your authorized Zhuhai Haixin people who are related to product design applications and other terms and conditions in writing.

The information provided in this document and the company's products without a license, express or implied, by estoppel or otherwise, to any intellectual property rights granted to the Haixin act or document. Product names and trademarks referred to herein are trademarks of their respective representatives will be all.