



Product Description

The HMCP6001(single), HMCP6002(dual) and HMCP6004(quad) are general purpose, low offset, high frequency response and micro power operational amplifiers. With an excellent bandwidth of 1MHz, a slew rate of 1V/ μ s, and a quiescent current of 65 μ A per amplifier at 5V, the HMCP6001/6002/6004 family can be designed into a wide range of applications.

The HMCP6001/6002/6004 op-amps are designed to provide optimal performance in low voltage and low power systems. The input common-mode voltage range includes ground, and the maximum input offset voltage are 4.0mV. These parts provide rail-to-rail output swing into heavy loads. The HMCP6001/6002/6004 family is specified for single or dual power supplies of +2.0V to +5.5V. All models are specified over the extended industrial temperature range of -40°C to +125°C.

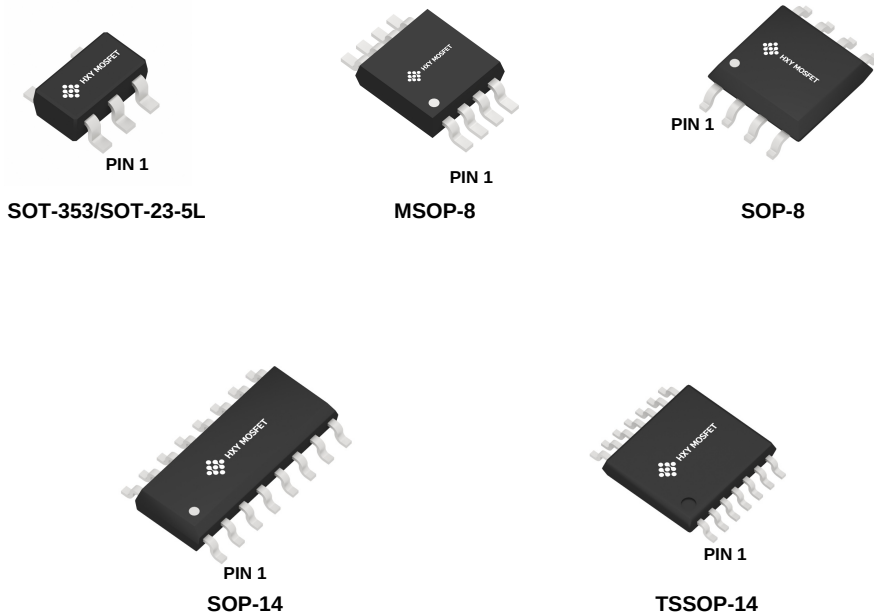
Features

- General Purpose 1 MHz Amplifiers, Low Cost
- High Slew Rate: 1 V/ μ s
- Low Offset Voltage: 4 mV Maximum
- Low Power: 75 μ A per Amplifier Supply Current
- Unit Gain Stable
- Rail-to-Rail Input and Output
- Operating Power Supply: +2.0 V to +5.5V
- Operating Temperature Range: -40°C to +125°C
- ESD Rating: HBM – 4kV, CDM – 2kV

Applications

- Smoke/Gas/Environment Sensors
- Audio Outputs
- Battery and Power Supply Control
- Portable Equipments and Mobile Devices
- Active Filters
- Sensor Interfaces
- Battery-Powered Instrumentation
- Medical instrumentation

Pin Configurations And Pin Description



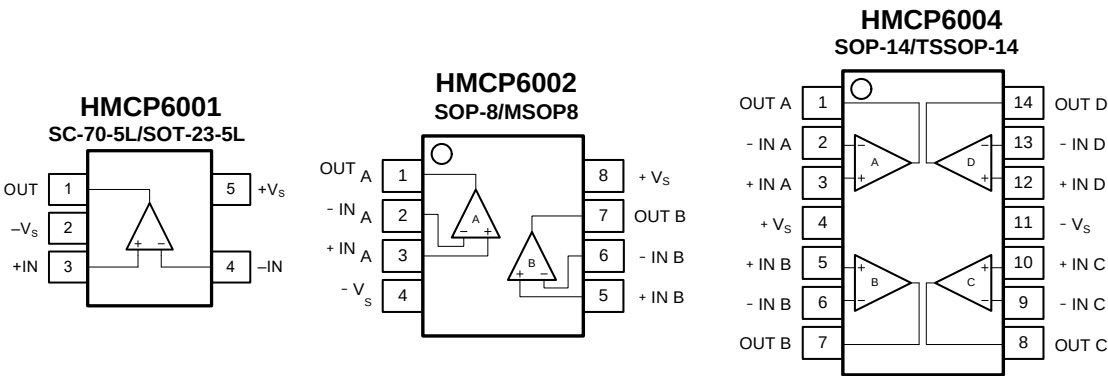


Figure 1. Pin Assignment Diagram

Symbol	Description
–IN	Inverting input of the amplifier.
+IN	Non-inverting input of the amplifier.
+V _S	Positive (highest) power supply.
–V _S	Negative (lowest) power supply.
OUT	Amplifier output.
NC	No internal connection.

Absolute Maximum Ratings

Supply Voltage, +V _S to –V _S	7V	ESD Susceptibility	
Input Common Mode Voltage Range	(–V _S) – 0.5V to (+V _S) + 0.5V	HBM (WDJ8631/2)	8000V
Storage Temperature Range	–65°C to +150°C	HBM (WDJ8633)	4000V
Junction Temperature	+160°C	MM	400V
Lead Temperature (Soldering 10sec)	+260°C	CDM	2000V

Recommended Operating Conditions

Operating Temperature Range–40°C to +125°C

Note: Stress greater than those listed under Absolute Maximum Ratings may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions outside those indicated in the operational sections of this specification are not implied. Exposure to absolute maximum rating conditions for extended periods may affect reliability.

Ordering Information

Type Number	Package Name	Package Quantity
HMCP6001T-I/OT	SOT-23-5L	Tape and Reel, 3 000
HMCP6001T-I/LT	SO-70-5L	Tape and Reel, 3 000
HMCP6002T-I/SN	SOP-8	Tape and Reel, 3 000
HMCP6002T-I/MS	MSOP-8	Tape and Reel, 3 000
HMCP6004T-I/SL	SOP-14	Tape and Reel, 3 000
HMCP6004T-I/ST	TSSOP-14	Tape and Reel, 3 000

