New Products

LM112/LM212/LM312 micropower operational amplifiers

general description

The LM112, LM212 and LM312 are micropower operational amplifiers with very low offset-voltage and input-current errors—for the LM112 and LM212, at least a factor of ten better than FET amplifiers over a −55°C to 125°C temperature range. Similar to the LM108 series, that also use supergain transistors,* they differ in that they include internal frequency compensation and have provisions for offset adjustment with a single potentiometer.

These amplifiers will operate on supply voltages of ±2V to ±20V, drawing a quiescent current of only 300 μA. Performance is not appreciably affected over this range of voltages, so operation from unregulated power sources is easily accomplished. They can also be run from a single supply like the 5V used for digital circuits. Some noteworthy features are:

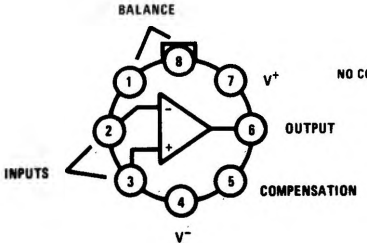
- Low noise
- Guaranteed drift specifications
- Long term stability typically 3 μV/year

The LM112 series are the first IC amplifiers to improve reliability by including overvoltage protection for the MOS compensation capacitor. Without this feature, IC's have been known to suffer catastrophic failure caused by short-duration overvoltage spikes on the supplies. Unlike other internally-compensated IC amplifiers, it is possible to overcompensate with an external capacitor to increase stability margin.

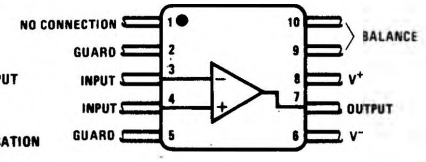
The LM212 is identical to the LM112, except that the LM212 has its performance guaranteed over a −25°C to 85°C temperature range, instead of −55°C to 125°C. The LM312 has its performance guaranteed over a 0°C to 70°C temperature range.

*Patent pending

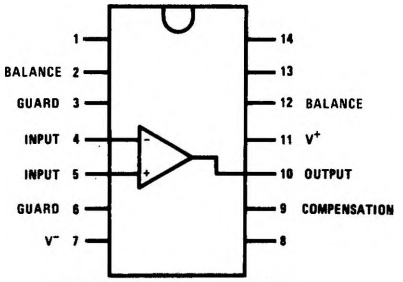
connection diagrams



Note: Pin 4 connected to case.
TOP VIEW



Note: Pin 8 connected to bottom of package
TOP VIEW



Note: Pin 7 connected to bottom of package
TOP VIEW