

New Ultra-Low Noise Operational Amplifier Family Ideal for Low Frequency Measurement Applications

CS3001/02/11/12 Features

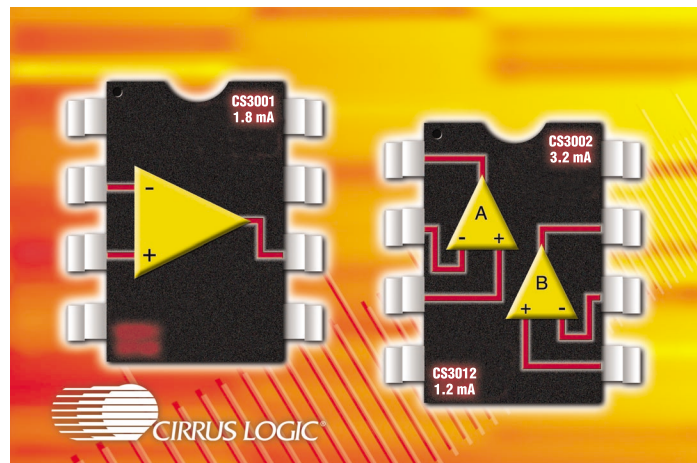
- Low offset: 10 μ V max
- Low drift: 0.05 μ V/ $^{\circ}$ C max
- Low noise (1/f corner @ 0.08 Hz)
 - CS3001/11
 - 6 nV/ $\sqrt{\text{Hz}}$ @ 0.5 Hz
 - 0.1 to 10 Hz = 125 nV_{p-p}
 - CS3002/12
 - 12 nV/ $\sqrt{\text{Hz}}$ @ 0.5 Hz
 - 0.1 to 10 Hz = 250 nV_{p-p}
- Open-loop voltage gain
 - 1000 trillion typ
 - 10 billion min
- Rail-to-Rail output swing
- 1.8 mA supply current
- Slew rate: 5 V/ μ s
- Available in a 8-pin SOIC
- CS3001/11 price: \$1.94 (10K)
CS3002/12 price: \$3.02 (10K)

CS3001/02/11/12 Applications

- Process Control
- Test Equipment
- Temperature Measurement
- Weigh Scales



Actual Size



The new CMOS operational amplifier family, the CS3001/02/11/12, is designed to achieve optimum performance while reducing component count and bill of materials (BOM) costs. This innovative single and dual op amp family builds on Cirrus' patented Multipath™ amplifier technology, which completely eliminates the need to choose between low noise or low drift requirements. These powerful amplifiers deliver both! In fact, system noise is reduced by 10X and system drift by 4X compared to our closest competitor's devices.

All devices provide excellent CMRR and PSRR and their common mode input range includes a negative supply rail. Delivering excellent offset stability, very high open loop gain, and low noise below 1 kHz, performance is maintained over time and temperature. The CS3001/11 are single op amps that consume 1.8 mA and 0.6 mA while providing 125 nV_{p-p} and 250 nV_{p-p} noise performance, respectively. The CS3002/12, dual op amps, consume 3.2 mA and 1.2 mA while providing 125 nV_{p-p} and 250 nV_{p-p} noise performance, respectively. Process control, medical and test equipment, temperature measurement, and weigh scale applications are a few of the target markets that need these innovative operational amplifiers.