



Touchstone Semiconductor Adds Two New 0.8V/0.6µA Rail-to-Rail Operational Amplifiers to the Nanowatt Analog Family

TS1002 & TS1004 Cut Power Requirements in Half Compared to Other Amplifiers

MILPITAS, CALIF. – March 13, 2012 – Touchstone Semiconductor, Inc., a developer of high-performance analog integrated circuit solutions, today announced the newest members of its operational amplifier family: the TS1002 dual and TS1004 quad operational amplifiers.

They are the industry's first and only dual and quad single-supply, precision CMOS operational amplifiers fully specified to operate at 0.8V while consuming less than 0.6µA supply current per amplifier. They are designed to cut power requirements at least in half compared to any other amplifier.

Optimized for ultra-long-life, battery-powered applications, the TS1002 and the TS1004 join the TS1001 single-supply operational amplifier in Touchstone's "NanoWatt Analog™" high-performance analog integrated circuits portfolio.

The combination of low supply current, low power and a small footprint make these op amps ideal choices for applications where very low supply current and low operating supply voltage translate into very long equipment operating time.

Key Specifications:

- Single 0.65V to 2.5V Operation
- Supply current: 0.6µA per amplifier (typ)
- Offset voltage: 0.5mV (typ)
- Low TCVO: 10µV/°C (typ)
- AVOL Driving 100kΩ Load: 90dB (min)
- Unity Gain Stable
- Rail-to-rail Input and Output
- No Output Phase Reversal
- Packaging: TS1002 – 8-pin MSOP; TS1004 – 14-pin TSSOP

The TS1002 and the TS1004 are fully specified at VDD = 0.8V and over the industrial temperature range of –40°C to +85°C. The TS1002 is available in PCB-space saving, 8-lead MSOP surface-mount packages. The TS1004 is available in a 14-pin TSSOP package. TS1002 prices start at \$1.05 each in 1000-piece quantities and TS1004 prices start at \$1.50 each in 1,000 piece quantities. The product is in stock and available from **Future Electronics** (www.futureelectronics.com).

Free samples and free demo boards are available to qualified engineers at <http://www.touchstonesemi.com/freedemoboards.html>. The products are part of Touchstone Semiconductor's NanoWatt Analog™ high-performance analog integrated circuits portfolio.

ABOUT TOUCHSTONE

Touchstone Semiconductor, Inc. (www.touchstonesemi.com) creates high-performance analog integrated circuit solutions that solve critical problems for electronics companies. Touchstone's second-source products are pin-compatible, specification identical solutions, offering customers a long-awaited alternative source for hard to get sole-sourced products. Touchstone's proprietary products provide unique combinations of features and performance that cannot be found from any other supplier. Founded in 2010, Touchstone is headquartered in Milpitas, Calif. Its investors include Opus Capital and Khosla Ventures. Find us at Twitter: @touchstonesemi or Facebook: Touchstone Semiconductor.

Editors Note: Photos and datasheet are available at <http://www.touchstonesemi.com>

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