

Touchstone Semiconductor's New All-in-One Op Amp, Comparator and Reference ICs Cut Power by More Than 10X

New TS12011 and TS12002 Use Only 1.6µA Icc Max

MILPITAS, Calif. – June 12, 2012 – Touchstone Semiconductor, a developer of high-performance, low power analog integrated circuit solutions, today announced the new TS12011 and TS12012, 0.9µW operational amplifier (op amp), comparator and voltage reference in one IC.

This 10 times reduction in power consumption and operation down to 0.8V enables always-on, single-cell operation that was not previously possible.

Both the TS12011 and TS12012 combine a 0.6V reference, 20µs analog comparator and unity-gain stable operational amplifier in a single package. The TS12011 has a push-pull output, and the TS12012 has an open-drain output.

Both the analog comparator and the op amp feature rail-to-rail input stages. The analog comparator has ±7.5µs of internal hysteresis for clean, chatter-free output switching. The internal reference is designed to sink or source up to 0.1µA load currents.

The TS12011 and TS12012 are ideal for low-frequency, battery-powered systems including local-area alarms/detectors; smoke detectors and safety sensors, infrared receivers for remote controls; instruments, terminals, and bar-code readers; and smart-card readers.

Key Specifications

- Nanopower Op Amp, Comparator, and 0.6V Reference in Single 4 mm² Package
- Ultra Low Total Supply Current: 1.6µA (max)
- Supply Voltage Operation: 0.8V to 2.5V
- Internal 0.6V Reference
- Op Amp and Comparator Input Ranges are Rail-to-Rail
- Unity-gain Stable Op Amp with AVCL = 110dB
- Op Amp Output: Rail-to-Rail and Phase-Reversal-Free
- Internal ±7.5mV Comparator Hysteresis
- 20µs Comparator Propagation Delay
- Resettable Latched Comparator
- TS12011: Push-pull Rail-to-Rail Output Stage with Crowbar-Current Free Switching
- TS12012: Open-drain Output Stage for Wired-OR or Mixed-Voltage System Applications

The TS12011 and the TS12012 are fully specified over the -40°C to +85°C temperature range. Each is available in a low-profile, 10-pin 2x2mm TDFN package.

The TS12011 and TS12012 are in stock and ready to ship. Pricing starts at \$1.70 each in 1,000 piece quantities. The product is in stock and available from Touchstone's worldwide distributor Future Electronics (www.futureelectronics.com).

Free samples and free demo boards are available for engineers wanting to test the product by visiting <http://www.touchstonesemi.com/comparators.html>. Optimized for ultra-long life operation, the TS12011 and TS12012 expand Touchstone's growing "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.

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

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