

THE ONLY 0.8V TO 5.5V, 1.3µA, 20kHz RAIL-TO-RAIL SINGLE OP AMP

FEATURES

- Single 0.8V to 5.5V Operation
- Supply current: 1.3µA (typ)
- Low Input Bias Current: 2pA
- Low TCV_{OS}: 9µV/°C (typ)
- A_{VOL} Driving 100kΩ Load: 90dB (min)
- Gain-Bandwidth Product: 20kHz
- Unity Gain Stable
- Rail-to-rail Input and Output
- No Output Phase Reversal
- 5-pin SC70 Packaging

APPLICATIONS

- Battery/Solar-Powered Instrumentation
- Portable Gas Monitors
- Low-voltage Signal Processing
- Micropower Active Filters
- Wireless Remote Sensors
- Battery-powered Industrial Sensors
- Active RFID Readers
- Powerline or Battery Current Sensing
- Handheld/Portable POS Terminals

DESCRIPTION

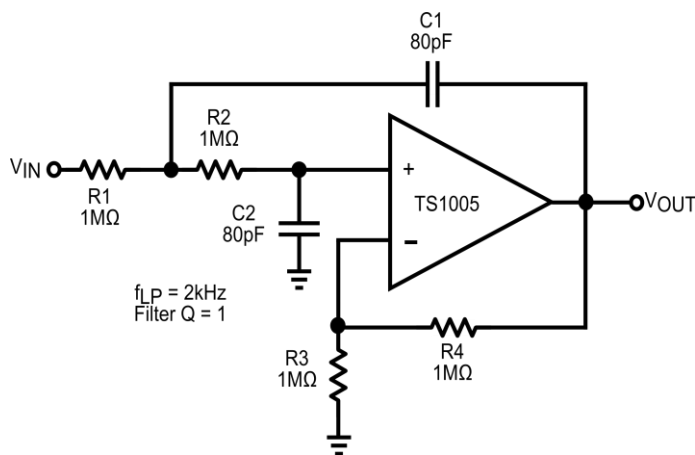
The TS1005 is the industry's first 20kHz GBWP, precision CMOS operational amplifier designed to operate over a supply voltage range from 0.8V to 5.5V. Fully specified at 1.8V, the TS1005 is optimized for ultra-long-life battery-powered applications. The TS1005 is Touchstone's fifth operational amplifier in its "NanoWatt Analog™" high-performance analog integrated circuits portfolio. The TS1005 exhibits a typical input bias current of 2pA and rail-to-rail input and output stages.

The TS1005's combined features make it an excellent choice in applications where very low supply current and low operating supply voltage translate into very long equipment operating time. Applications include: micropower active filters, wireless remote sensors, battery and powerline current sensors, portable gas monitors, and handheld/portable POS terminals.

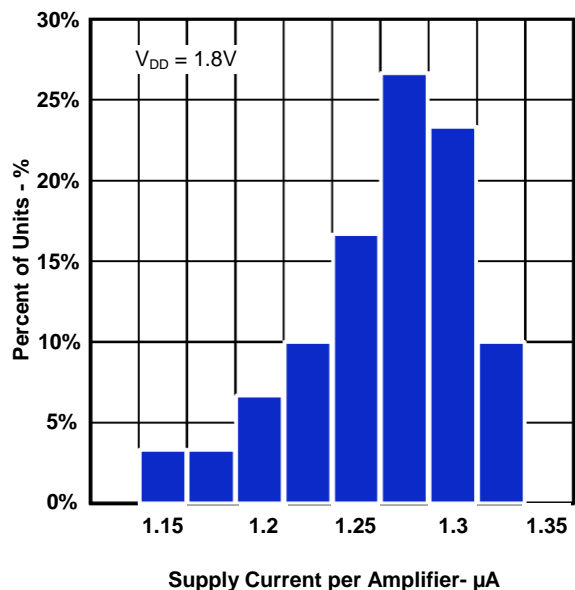
The TS1005 is fully specified over the industrial temperature range (-40°C to +85°C) and is available in either a PCB-space saving 5-lead SC70 package.

TYPICAL APPLICATION CIRCUIT

A 2-kHz, Microwatt 2-Pole Sallen-Key Low Pass Filter



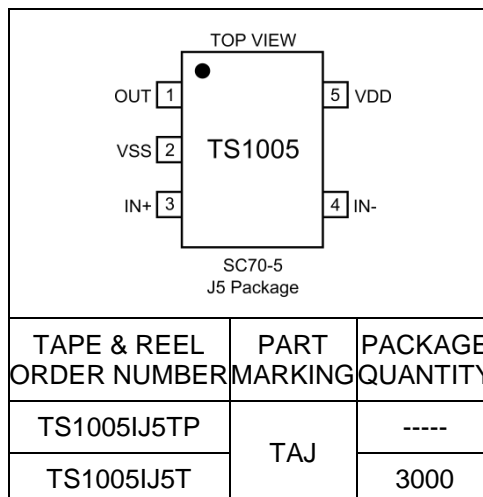
Supply Current Distribution



Patent(s) Pending

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PACKAGE/ORDERING INFORMATION



Lead-free Program: Touchstone Semiconductor supplies only lead-free packaging.

Consult Touchstone Semiconductor for products specified with wider operating temperature ranges.

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