



## PRODUCT OUTLINE

### CM1012bg – 17.5nA Current Bias

Ultra Low Voltage (1V), Ultra Low Power (90nW)

## Part Number

- CM1012bg

## Features

- Ultra low power current bias
- $I_{bias}=17.5nA \pm 10\%$  (without trimming)
- Current consumption below 90nA in active mode
- Flexible voltage operation: 1.0V–3.3V
- Automatic start-up as soon as power supply starts
- Indicative area: 0.015mm<sup>2</sup>

## Applications

- Battery powered equipment
- Passive/active RFID tag ICs
- Energy Haversting ICs
- Hearing Aids

## Technology

- LFoundry 0.15µm LF150 CMOS

## Deliverables

- Datasheet/Integration Guide
- HDL Model
- Flat GDSII database/LVS netlist
- Customer Support

## Status

- Silicon Proven

## Overview

This macro-cell is an ultra low power general purpose current bias generator core designed for LFoundry 0.15µm LF150 CMOS technology STD (Standard) and LP (Low Power) process.

The circuit generates 5 × PMOS 17.5nA current branches and 1 × PMOS 175nA branch for test purposes. The core can be adjusted or trimmed through a 3-bit digital bus. The current bias is temperature compensated. The circuit starts as soon as the power supply ramps up. Start-up circuit consumes no power in normal operation.

The core is easily retargeted to any other CMOS technology due to high portability MOSFET-only current bias architecture.

## Functional Diagram

