



Part Number

- CM4018hlf

Features

- Supply voltage from 1.0–1.2V
- Oscillating Frequency 200kHz-20MHz
- Load capacitance: < 100fF
- Precision $\pm 2.5\%$ (after trimming)
- 4-bit process trimming
- Low current (typ. 2 – 13 $\mu\text{A}@1.1\text{V}$)
- Indicative area: 0.0022mm²

Applications

- Microcontrollers
- Battery powered equipment
- General purpose ICs

Technology

- TSMC 40nm CRN40LP CMOS

Deliverables

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

PRODUCT OUTLINE

CM4018hlf – Flexible 0.2-20MHz Oscillator
 Customizable frequency, Low Power

Status

- Silicon Proven

Overview

This macro-cell is a flexible general purpose oscillator core designed for TSMC 40nm CRN40LP CMOS technology. This IP can be customized upon customer request.

The customized **CM4018hlf** IP oscillates at a specific frequency selected between 200kHz and 20MHz, and consumes a proportional quiescent current (typ. 1.8 μA to 13 μA). An external 1.3 μA bias current is required for proper operation, this can be implemented with Chipus **CM1218hl** voltage & current reference IP. A 4-bit digital bus allows frequency calibration against process variations with $\pm 2.5\%$ precision.

The core is easily retargeted to any other CMOS technology due to its MOSFET-only oscillator architecture.

Functional Diagram

