



PRODUCT OUTLINE

CM1511ae – Voltage & Current References
Flexible Supply Voltage (1.6–3.6V), Low Power (5 μ A)

Part Number

■ CM1511ae

Features

- Combo voltage and current reference
- $V_{ref} = 1.29V \pm 2\%$ after trimming
- $I_{ref} = 1.6\mu A$
- Low current (below 5 μA)
- Flexible supply range: 1.6–3.6V
- Reference OK indicator
- Indicative area: 0.12mm²

Applications

- Microcontrollers
- Consumer electronics
- Battery powered equipment
- Appliances

Technology

- X-FAB 0.35 μm XH035 CMOS

Deliverables

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

Status

- Silicon Proven

Overview

This macro-cell is a low consumption combo voltage and current reference core designed for X-FAB 0.35 μm XH035 CMOS technology.

The circuit generates an unbuffered 1.29V, temperature compensated voltage reference (70ppm/ $^{\circ}C$) and provides a 1.6 μA PMOS current branch (200ppm/ $^{\circ}C$). It also provides a digital output signal to indicate that the reference voltage and current are at the correct levels (reference OK). The voltage reference can be trimmed against process variations by a 4-bit digital bus.

The core is easily retargeted to any other CMOS technology with R-poly devices.

Functional Diagram

