

RC oscillator

Specially designed for battery applications

Description

The RC oscillator is a general-purpose low frequency oscillator specially designed for battery applications.

The oscillator frequency accuracy is traded off with very low power consumption. No external components are required for operation and the oscillator only takes up a very small layout area.

The oscillator is implemented in the CMOS Core Module using only transistors; thereby it can be used in pure digital applications handling power-on-reset, intermittent battery 'exercise' or maintenance routines etc.

Features

- Very low supply current (typically below 1 μ A)
- Small layout area (0.0126 μ m²)
- No start-up delay as XTAL oscillators

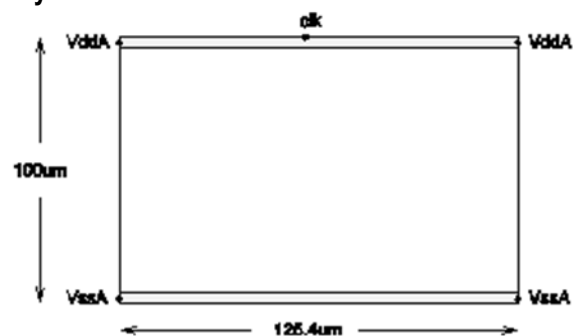
Technology

X-FAB: XC035-CMOS Core module
 Portable to alternative CMOS technologies

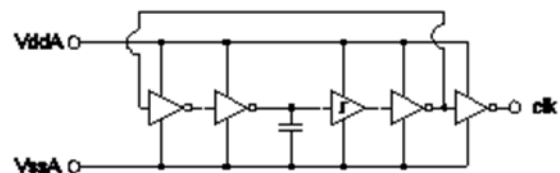
Pin list

Signal name	Description	Impedance
clk	Oscillator output	X
VddA	Positive supply voltage	X
VssA	Negative supply voltage	X

Layout



Schematic

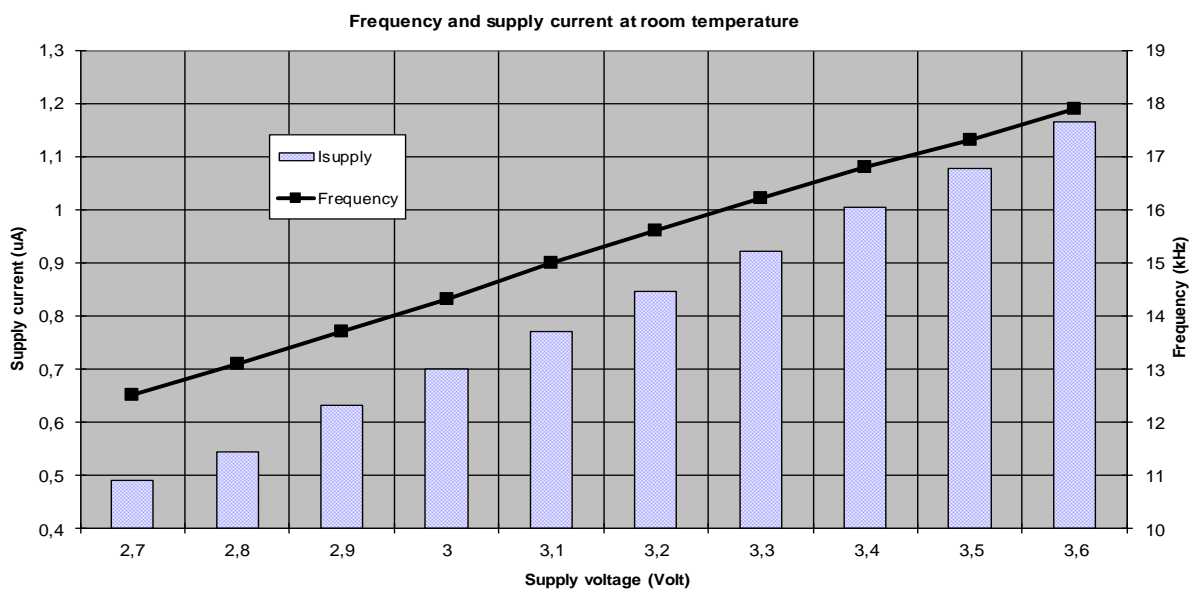




Electrical characteristics

Power	Symbol	Minimum	Typical	Maximum	Notes / Units
Power Supply Range	VddA	2.7 ¹		3.6	V
Supply current	Idd		0.7		μA @ (3.0 V, 25°C)
Supply current	Idd	~0.4		~1.5	μA @ (2.7 V-3.6 V, ~-50°C to ~90°C)
Frequency	Fout		14		kHz @ (3.0 V, 25°C)
Frequency	Fout	~10.8		~22.5	kHz @ (2.7 V-3.6 V, ~-50°C to ~90°C)
Supply sensitivity			6		kHz/V
Temp. sensitivity			~0.037		kHz/°C

Measurements



For further information please contact us

asic@delta.dk

¹ Only minimum for which the output frequency and supply current are specified. The oscillator is typically functional at 1.0-1.5V supply voltage.