Bit number				31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0
ID				A A
Reset 0x00000000				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

ID	R/W	Field	Value ID	Value	Description
A	RW	SRC			Value of LFCLK.SRC register when LFCLKSTART task was triggered
			LFRC	0	32.768 kHz RC oscillator
			LFXO	1	32.768 kHz crystal oscillator
			LFSYNT	2	32.768 kHz synthesized from HFCLK

5.5 OSCILLATORS — Oscillator control

The system oscillators are automatically controlled by the clock control system, see CLOCK — Clock control on page 70.

The system has the following crystal oscillators:

- High-frequency 32 MHz crystal oscillator (HFXO)
- Low-frequency 32.768 kHz crystal oscillator (LFXO)

The crystal oscillators can be configured to use either internal or external capacitors.

5.5.1 High-frequency (32 MHz) crystal oscillator (HFXO)

The high-frequency crystal oscillator (HFXO) is controlled by a 32 MHz external crystal.

The crystal oscillator is designed for use with an AT-cut quartz crystal in parallel resonant mode and is connected between pins **XC1** and **XC2**. For correct oscillation frequency, the load capacitance must match the specification in the crystal datasheet. The following figure shows how the 32 MHz crystal is connected to the high frequency crystal oscillator.
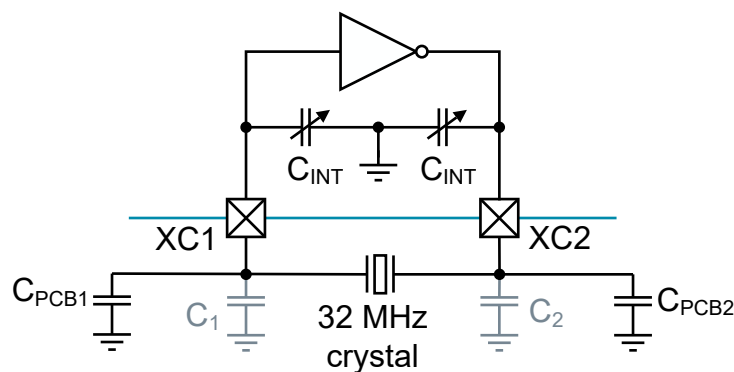

Figure 13: Circuit diagram of the high-frequency crystal oscillator

The device can be used with external capacitors C1 and C2 or the internal capacitors C_{INT}, which are configurable.

For reliable operation, the crystal load capacitance, shunt capacitance, equivalent series resistance, and drive level must comply with the specifications in table 32 MHz crystal oscillator (HFXO) on page 902. It is recommended to use a crystal with lower than maximum load capacitance and/or shunt capacitance. A low load capacitance reduces both start up time and current consumption.

When using internal capacitors, the load capacitance (CL) is the total capacitance seen by the crystal across its terminals and is calculated by the following equation.

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