

Table 6-12. 128 kHz Internal Oscillator Operating Modes

Nominal Frequency ⁽¹⁾	CKSEL3..0
128 kHz	0011

Note: 1. Note that the 128 kHz oscillator is a very low power clock source, and is not designed for a high accuracy.

When this clock source is selected, start-up times are determined by the SUT Fuses as shown in [Table 6-13](#).

Table 6-13. Start-up Times for the 128 kHz Internal Oscillator

Power Conditions	Start-up Time from Power-down and Power-save	Additional Delay from Reset	SUT1..0
BOD enabled	6 CK	14CK ⁽¹⁾	00
Fast rising power	6 CK	14CK + 4 ms	01
Slowly rising power	6 CK	14CK + 64 ms	10
Reserved			11

Note: 1. If the RSTDISBL fuse is programmed, this start-up time will be increased to 14CK + 4.1 ms to ensure programming mode can be entered.

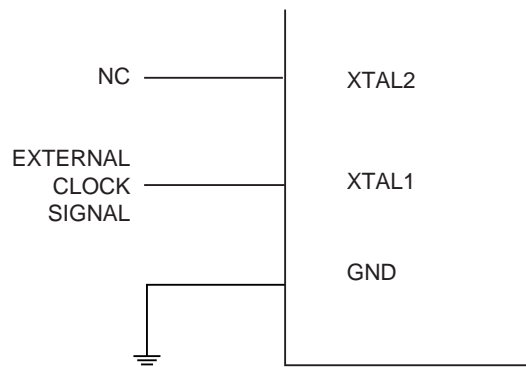
6.8 External Clock

To drive the device from an external clock source, XTAL1 should be driven as shown in [Figure 6-4 on page 34](#). To run the device on an external clock, the CKSEL Fuses must be programmed to “0000” (see [Table 6-14](#)).

Table 6-14. Crystal Oscillator Clock Frequency

Frequency	CKSEL3..0
0 - 20 MHz	0000

Figure 6-4. External Clock Drive Configuration



When this clock source is selected, start-up times are determined by the SUT Fuses as shown in [Table 6-15](#).