

R_10030

Driving the LPC11Cxx with Murata resonators

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Report

Document information

Info	Content
Keywords	LPC11C12FBD48; LPC11C14FBD48; LPC11C22FBD48; LPC11C24FBD48, Murata resonators, LPC11Cxx
Abstract	Characterization results of Murata resonators for LPC11Cxx



Revision history

Rev	Date	Description
1	20120501	Initial release.

Contact information

For more information, please visit: <http://www.nxp.com>

For sales office addresses, please send an email to: salesaddresses@nxp.com

1. Introduction

The LPC11Cxx series microcontrollers are based on the ARM Cortex-M0 core operating at frequencies of up to 50 MHz. These low power 32-bit microcontrollers feature serial interfaces including UART, and I²C.

The LPC11Cxx devices have an integrated IRC oscillator. On the LPC11Cxx, the IRC is nominally 12 MHz and accurate within 1 % over temperature and voltage. Many applications can utilize the IRC as the clock source; others may use a suitable crystal for more accuracy, particularly for CAN and USB applications. The LPC11Cxx devices can also use a resonator as a clock source.

2. Characterization results

Based on characterization results, the following table details the most suitable devices available from Murata. Devices from other manufacturers can also be used.

Table 1. Recommended devices (for consumer) [1]

V_{DD}: 1.8 V to 3.6 V; -40 to +85 °C

Device	Freq. [MHz]	Type	Part number	Supply voltage range	Temp. range
LPC11C12	4	SMD	CSTCR4M00G55-R0	1.8 to 3.6	-40 to +85 °C
LPC11C14	8		CSTCE8M00G55-R0		
LPC11C22	12		CSTCE12M0G55-R0		
LPC11C24	16		CSTCE16M0V53-R0		
	25		CSTCW25M0X51-R0		

[1] These resonators have load capacitors included so external load capacitors are not necessary. Suffix indicates packaging style. SMD type[-R0:Plastic tape package($\varnothing = 180\text{mm}$), -B0:Bulk]

For more information and a detailed report please go to the Murata website <http://search.murata.co.jp/Ceramy/ICsearchAction.do?sLang=en> and search for 'LPC'.

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