

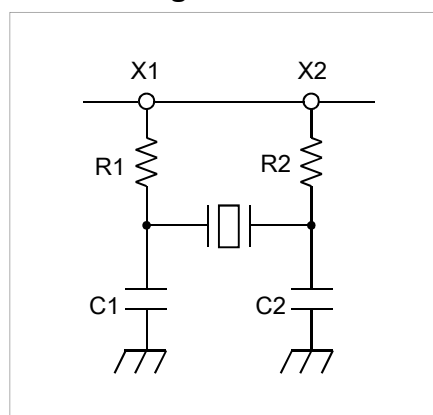
Crystal Unit

Product	TFX-03
Model number	ST-RIVER-2012-5PF-80K
Nominal frequency	32.768 kHz
Overtone order [Cut]	Fundamental [X-cut]
Load capacitance	5 pF
Equivalent series resistance	80 kΩ Max.
Frequency tolerance	±20 ppm (@25°C)

IC

Manufacturer	STMicroelectronics
Model	STM32F411××

Circuit Diagram



Recommended Condition for Stable Oscillation

Negative resistance	240 kΩ Min.
Drive level	0.5 μW Max.

Evaluation Result

R1 [Ω]	R2 [Ω]	C1 [pF]	C2 [pF]	Negative resistance [kΩ]	Drive level [μW]	Frequency deviation [ppm]
0	0	5	5	260	0.1 Max.	-8.0

* Ambient temperature: +25°C / Supply voltage: USB

RIVER

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