

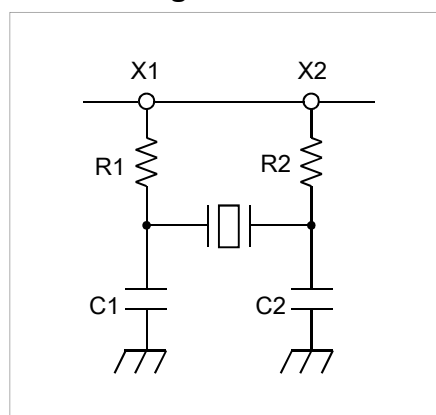
## Crystal Unit

|                              |                       |
|------------------------------|-----------------------|
| 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        | STM32F334××        |

## Circuit Diagram



## Recommended Condition for Stable Oscillation

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

## Evaluation Result

| R1<br>[Ω] | R2<br>[Ω] | C1<br>[pF] | C2<br>[pF] | Negative resistance<br>[kΩ] | Drive level<br>[μW] | Frequency deviation<br>[ppm] |
|-----------|-----------|------------|------------|-----------------------------|---------------------|------------------------------|
| 0         | 0         | 2          | 3          | 910 Min.                    | 0.1 Max.            | -6.6                         |

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

# RIVER

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