

Renesas RA Family

FPB-RA2T1 Fast Prototyping Board

1. Introduction

The FPB-RA2T1 Fast Prototyping Board provides an entry point for evaluation, prototyping and development with the RA2T1 MCU. Moreover, since this board incorporates an emulator circuit, you can use it for designing your own applications without the need to make further investments in tools. This product includes through-holes for pin headers that allow access to all MCU signal pins, allowing easy prototyping with the use of a breadboard.

2. Package Contents

- FPB-RA2T1 Fast Prototyping Board (RTK7FPA2T1S00001BJ)
- Quick Start Guide (this document)
- USB 2.0 Type-C™ cable (Type-C male to Type-C male)
- Information on China RoHS

3. Board Specifications

Item	Specification
Evaluation MCU	Part No: R7FA2T1074CFL; package: 48-pin LQFP
	On-chip memory: 64-KB ROM, 8-KB SRAM, 2-KB data flash memory
Board size	Size: 53 mm × 85 mm; thickness: 11.7 mm
Power-supply voltage	Board supply: 5 V, VCC: 3.3 V, MCU operating-voltage range: 1.6 V to 5.5 V
Power-supply circuit	USB connector: VBUS (5 V input); VBUS is converted to 3.3 V by LDO
	2-pin external power-supply header*1
Push switches	Reset switch x 1, user switch x 1
LEDs	Power indicator: green x 1, user: green x 2, on-board debugger ACT LED: yellow x 1
USB connector	Connector: USB 2.0 Type-C™
Pmod™ connectors	Connectors: angle type, 12 pins x 2
ARDUINO® connectors	Connectors: 6 pins x 1, 8 pins x 2, 10 pins x 1 The interfaces are compatible with Arduino UNO R3.
Breakout Pin Headers*1	Headers: 24 pins x 2
Debugger	J-Link OB, Connector: 10 pins Cortex® Debug connector

*1 This part is not mounted.

4. Board Layout

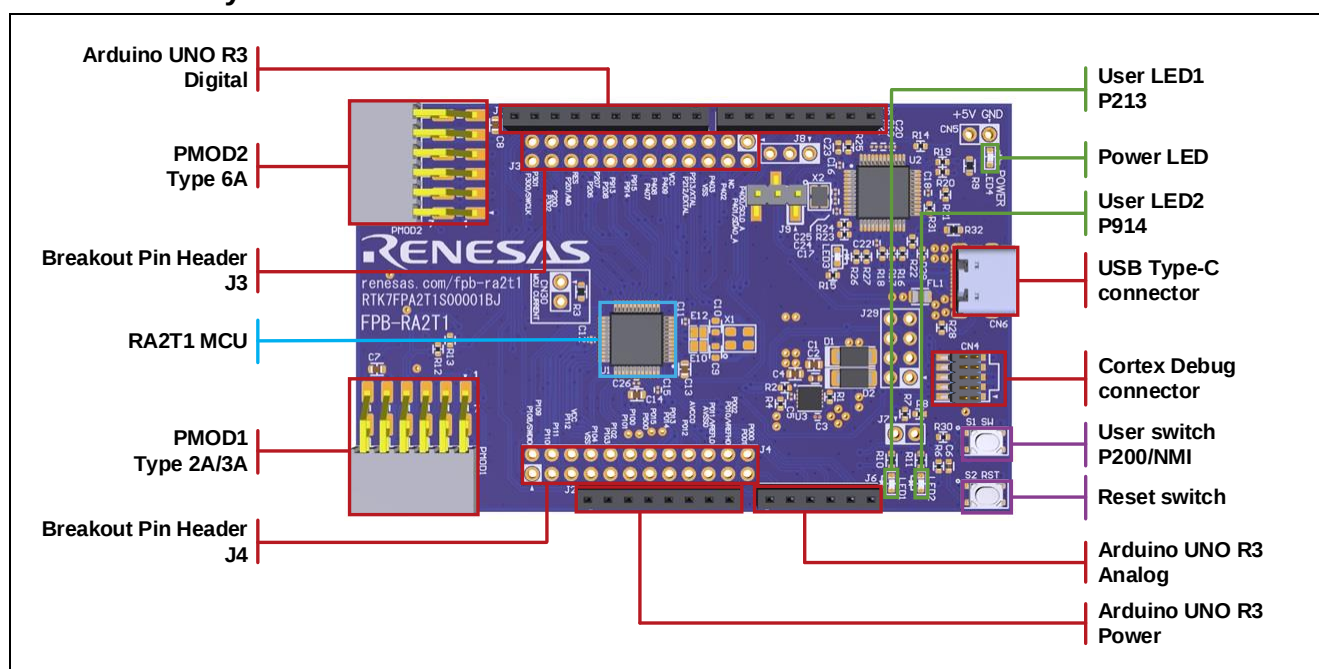


Figure 1. FPB-RA2T1 Board Layout

5. Arduino Interface

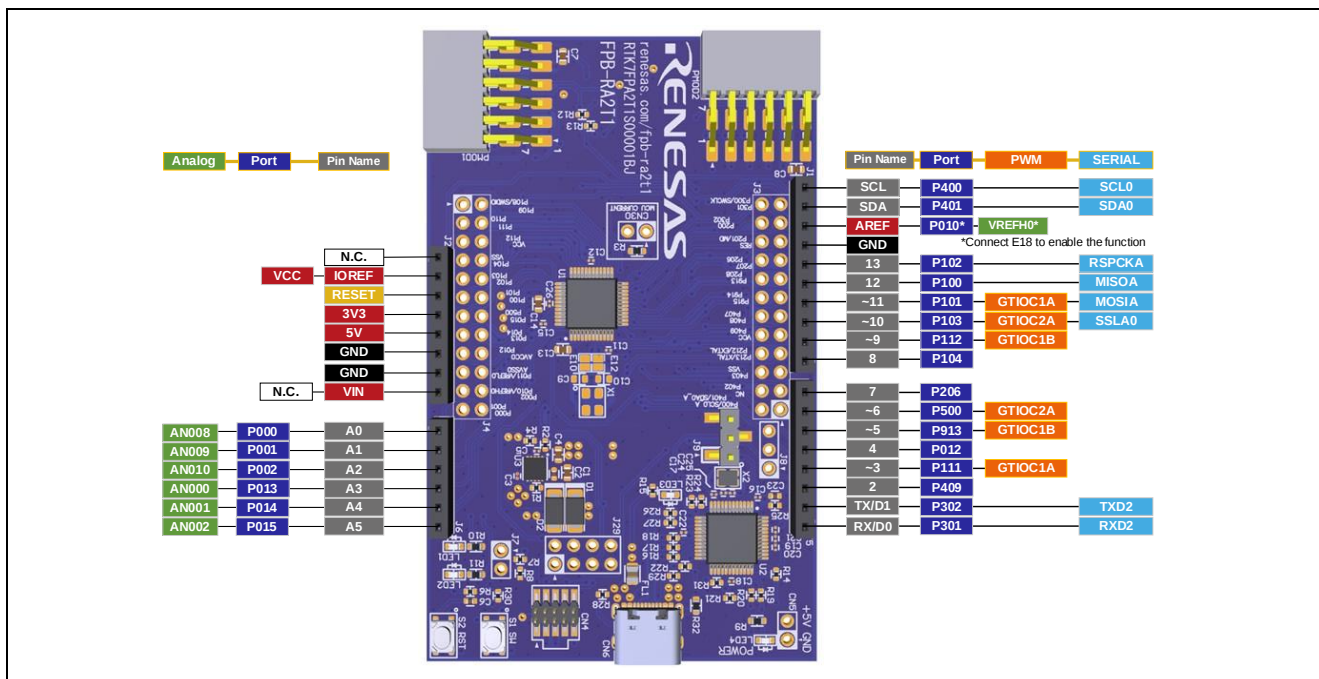


Figure 2. FPB-RA2T1 Arduino Interface

6. Pmod Interface

The FPB-RA2T1 Fast Prototyping Board has two Pmod connectors. PMOD1 supports Type 2A or 3A and can also be configured for Type 6A interfaces. PMOD2 supports Type 6A.

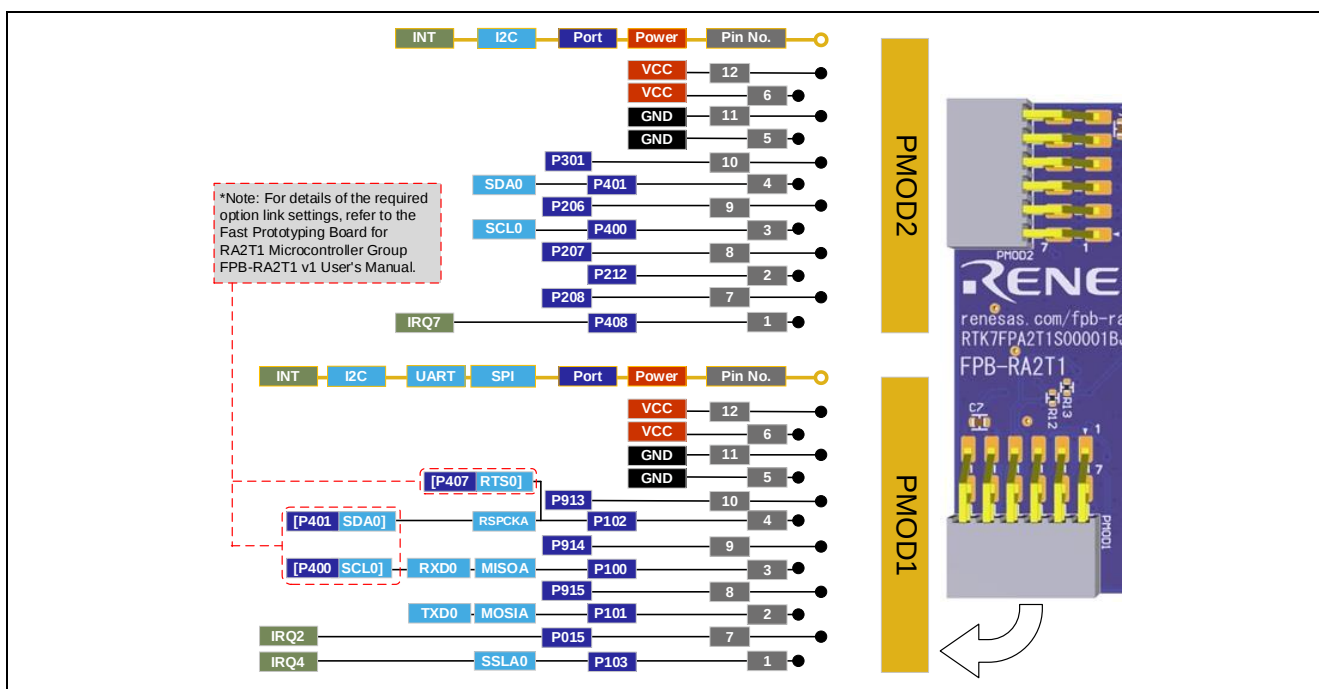


Figure 3. FPB-RA2T1 Pmod Interface

7. Power Up Behavior

LED1 blinks at 1 Hz and LED2 blinks at 0.5 Hz. When the user presses switch S1, LED1 changes to 10 Hz and LED2 changes to 5 Hz. Each time S1 is pressed, the speed alternates.

8. Note on Using the Board

Before using this board, download the user's manual from the website at renesas.com/fpb-ra2t1, and check the full specifications.

Tutorial for Blinky: renesas.com/ra/fsp/getting-started

Getting Started Video: renesas.com/gs-fpb-ra



FPB-RA2T1



Tutorial for Blinky



Getting Started Video