Quick Start Guide

RL78/I1C (512 KB)
Fast Prototyping Board

The RL78/I1C (512 KB) Fast Prototyping Board provides an entry point for evaluation, prototyping and development with the RL78/I1C (512 KB) MCU.

Moreover, since this board incorporates an emulator circuit, you can use it for designing your own applications without needing to make further investments in tools. This product includes through-holes for pin headers that allow access to MCU signal pins, allowing easy prototyping with a breadboard.

(1) Package components
- RL78/I1C (512 KB) Fast Prototyping Board (RTK5RL10N0CPL000BJ)
- Quick Start Guide (this document)
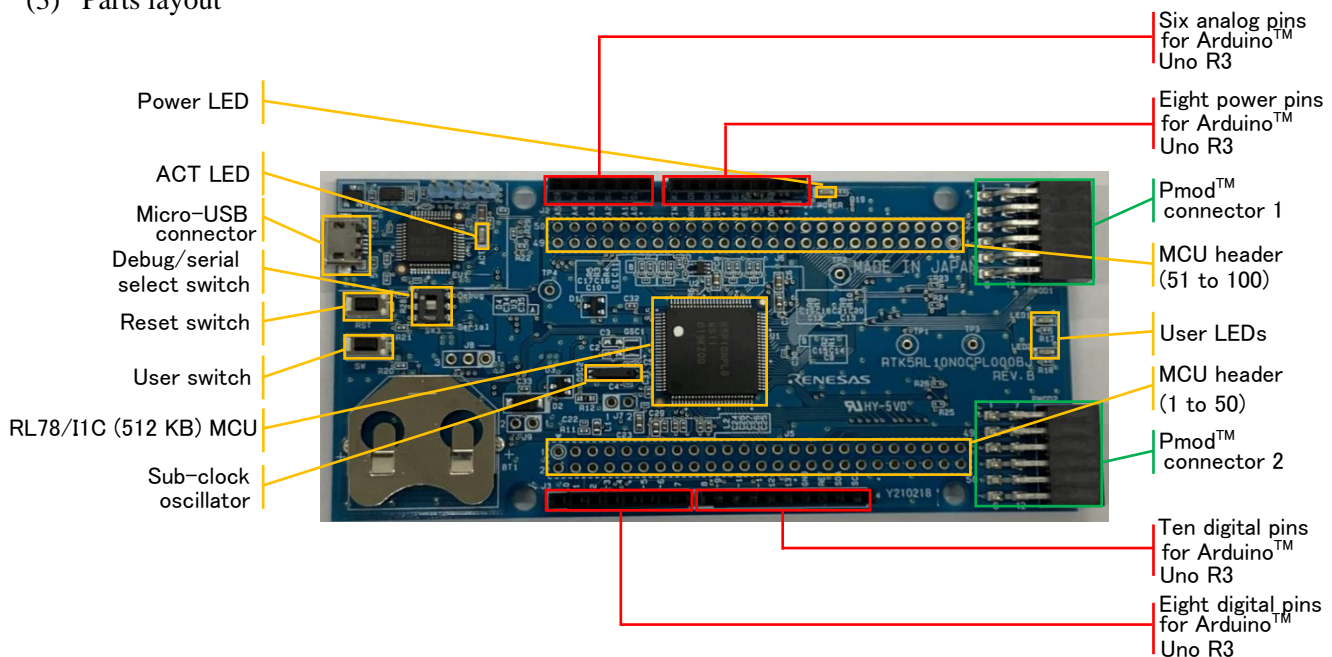
(2) Table of board specifications

Item	Specification
Evaluation MCU	Part No.: R5F10NPLDFB; package: 100-pin LFQFP
	On-chip memory: 512-KB ROM, 32-KB RAM, 2-KB data flash memory
Board size	Size: 53.34 mm × 111.76 mm; thickness: 1.6 mm
Power-supply voltage	VDD: 1.6 V to 5.5 V; EVDD is the same voltage as VDD.
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
Debug/serial select switch	Selects debug mode or serial mode.
LEDs	Power indicator: green x 1, user: green x 2, ACT LED: green x 1
USB connector	Connector: Micro USB Type-B
Pmod™ connectors	Connector: Angle type, 12 pins x 2
Arduino™ UNO connectors	Connector: 6 pins x 1, 8 pins x 2, 10 pins x 1
	The interface is compatible with Arduino™ UNO R3.
MCU header *1, *2	Header: 50 pins x 2
Coin-cell battery circuit	Coin-cell battery: CR2032 (3 V) holder *3

*1: This part is not mounted. Do not fit (DNF).

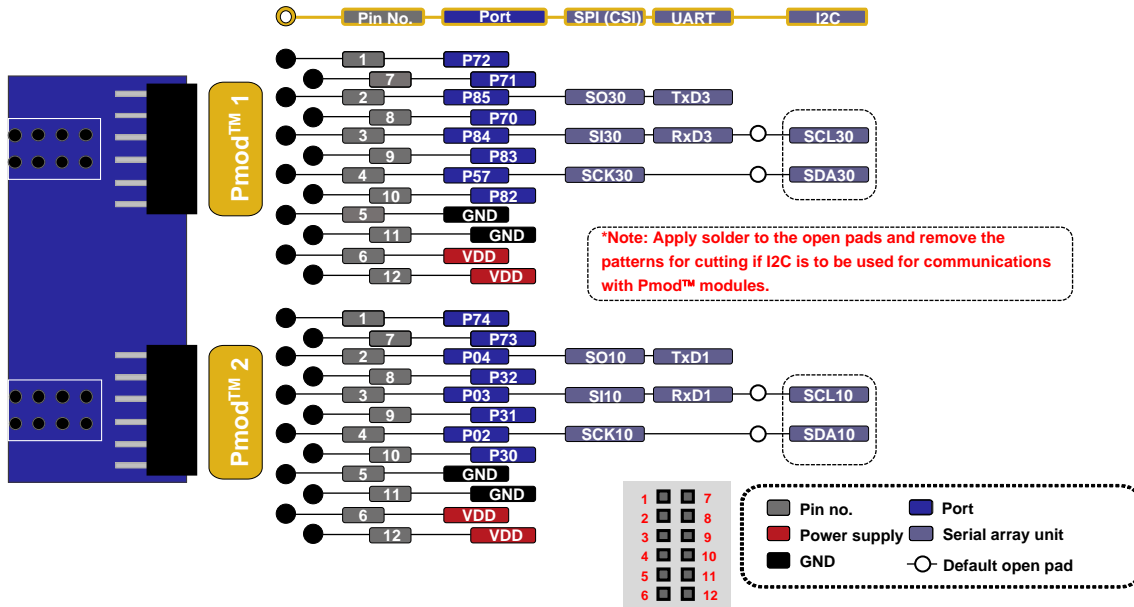*2: Refer to the user's manual for pin assignments.

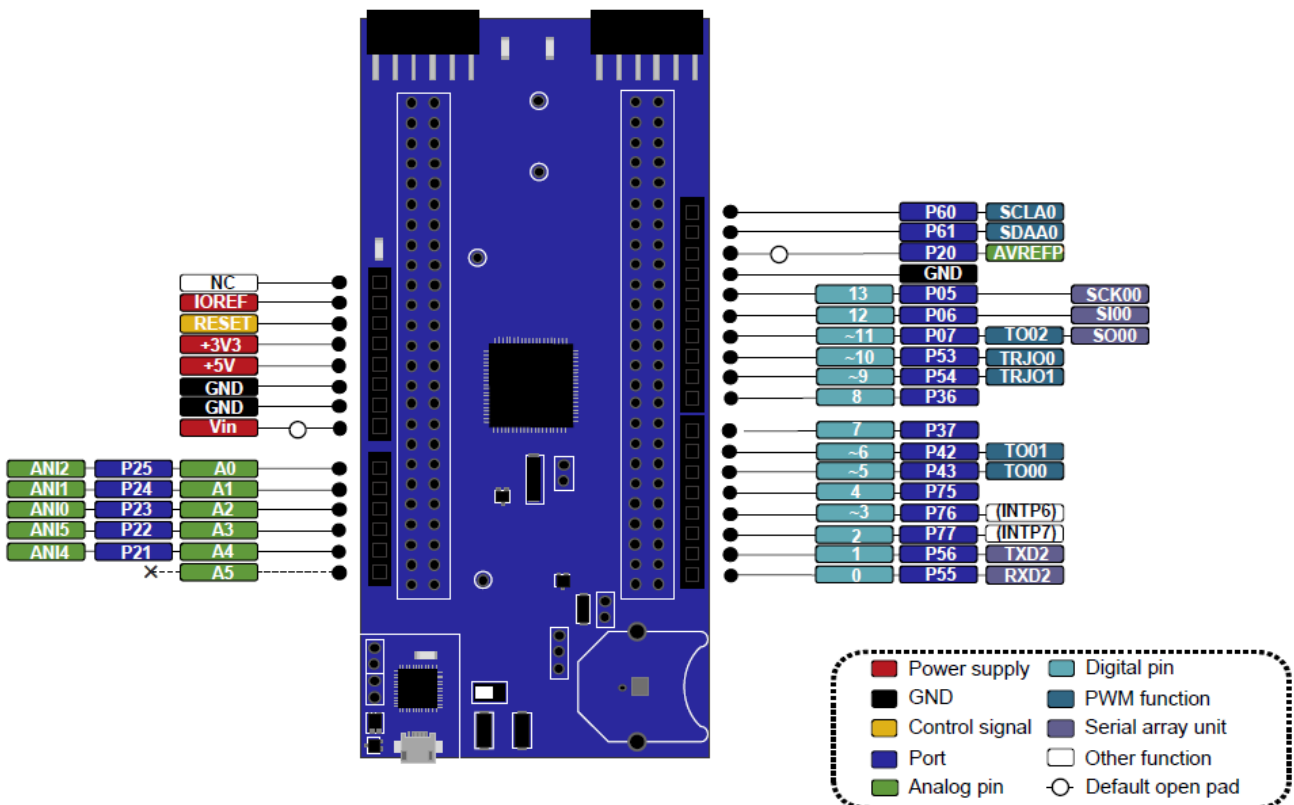*3: A coin-cell battery is not included.

(3) Parts layout

R20UT4946EJ0100

(4) PMOD™ interface

The RL78/I1C (512 KB) Fast Prototyping Board has two Pmod™ connectors for the Type 2A interface.

Pin No.	Port	SPI (CSI)	UART	I2C

Pmod™ 1

Pin No.	Port	SPI (CSI)	UART	I2C
1	P72			
7	P71			
2	P85	SO30	TxD3	
8	P70			
3	P84	SI30	RxD3	SCL30
9	P83			
4	P57	SCK30		SDA30
10	P82			
5	GND			
11	GND			
6	VDD			
12	VDD			

*Note: Apply solder to the open pads and remove the patterns for cutting if I2C is to be used for communications with Pmod™ modules.

Pmod™ 2

Pin No.	Port	SPI (CSI)	UART	I2C
1	P74			
7	P73			
2	P04	SO10	TxD1	
8	P32			
3	P03	SI10	RxD1	SCL10
9	P31			
4	P02	SCK10		SDA10
10	P30			
5	GND			
11	GND			
6	VDD			
12	VDD			

Legend:
- Pin no.
- Power supply
- GND
- Port
- Serial array unit
- Default open pad

(5) Arduino™ interface

NC		
IOREF		
RESET		
+3V3		
+5V		
GND		
GND		
Vin		

ANI2	P25	A0
ANI1	P24	A1
ANI0	P23	A2
ANI5	P22	A3
ANI4	P21	A4
✕		A5

	P60	SCLA0
	P61	SDAA0
	P20	AVREFP
	GND	
13	P05	SCK00
12	P06	SI00
~11	P07	TO02 / SO00
~10	P53	TRJO0
~9	P54	TRJO1
8	P36	
7	P37	
~6	P42	TO01
~5	P43	TO00
4	P75	
~3	P76	(INTP6)
2	P77	(INTP7)
1	P56	TXD2
0	P55	RXD2

Legend:
- Power supply
- GND
- Control signal
- Port
- Analog pin
- Digital pin
- PWM function
- Serial array unit
- Other function
- Default open pad

(6) Note on using the board

Download the user's manual from the Web site below and check the full specifications before using the board.

URL: https://www.renesas.com/rl78i1c-512kb_fpb

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