Capacitive switch controller

BU21078MUV-EVK-001 Manual

BU21078MUV-EVK-001 is an evaluation board for BU21078MUV, which is a ROHM Capacitive switch contoroller. This User's Guide is about how to use BU21078MUV-EVK-001 together with SensorShield that is sold as Shield-EVK-001.

Preparation

- Arduino Uno 1pc
- Personal Computer installed Arduino IDE 1pc
  - Requirement : Arduino 1.6.7 or higher
  - Please use Arduino IDE which can be downloaded from the link below: http://www.arduino.cc/
- USB cable for connecting Arduino and PC 1pc
- SensorShield 1pc
- BU21078MUV-EVK-001 1pc

Setting

1. Connect the Arduino and the SensorShield (Figure 1)

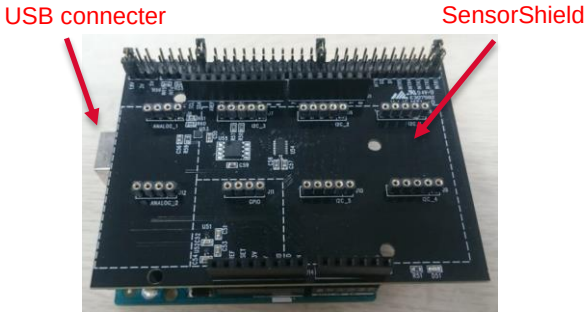


Figure 1. Connection between the Arduino and the SensorShield

2. Connect BU21078MUV-EVK-001 to the socket of I2C area on the SensorShield (Figure 2)
3. Set Voltage of the SensorShield to 5.0V (Figure 2)

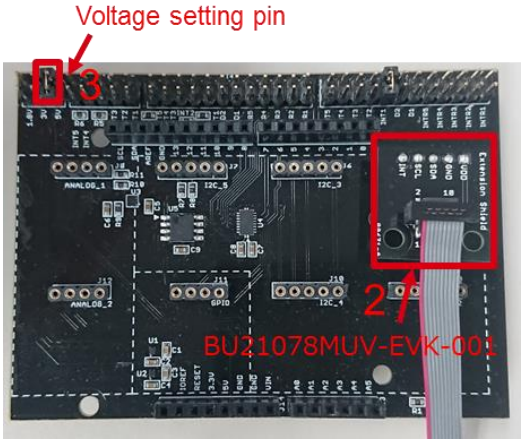


Figure 2. Connection between BU21078MUV-EVK-001 and the SensorShield

4. Connect the Arduino to the PC using a USB cable
5. Download BU21078MUV.zip from the link below: http://www.rohm.com/web/global/sensor-shield-support (Software is subject to change without no notice.)
6. Launch Arduino IDE
7. Select [Sketch]->[Include Library]->[Add.ZIP library...], install BU21078MUV.zip
8. Select [File]->[Examples]->[BU21078MUV]->[example]->[BU21078MUV]

© 2019 ROHM Co., Ltd.

No. 62UG068E Rev.001
DEC.2019

Downloaded from Arrow.com.

Measurement

1. Select [Tools] and check the contents enclosed in the red frame. (Figure 3) Board should be "Arduino/Genuino Uno" and Port should be COMxx (Arduino/Genuino Uno). COM port number is different in each environment.

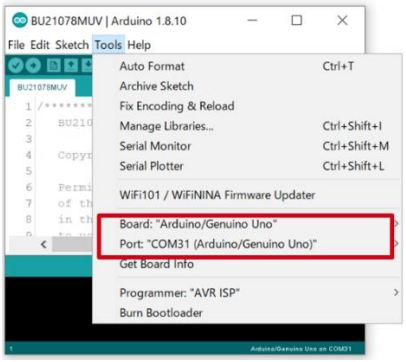


Figure 3. Board and COM Port setting

2. Write the program by pressing right arrow button for upload (Figure 4)
3. Wait for the message "Done uploading" (Figure 4)

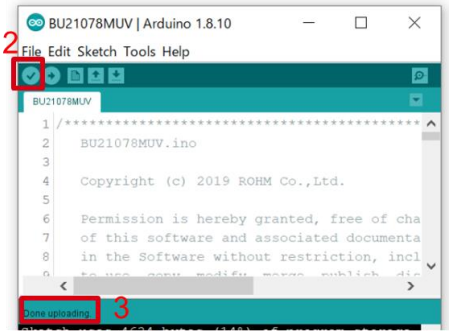


Figure 4. Uploading

4. Select [Tools]->[Serial Monitor] (Figure 5)

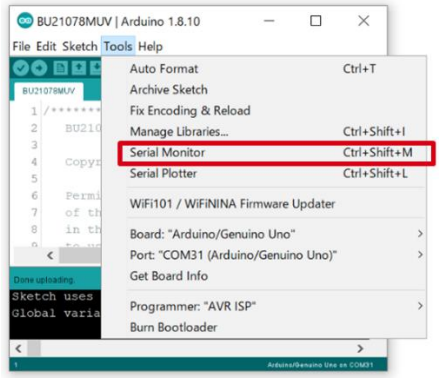


Figure 5. Tools Setting

5. Set baudrate to 115200 and check log of Serial Monitor (Figure 6)

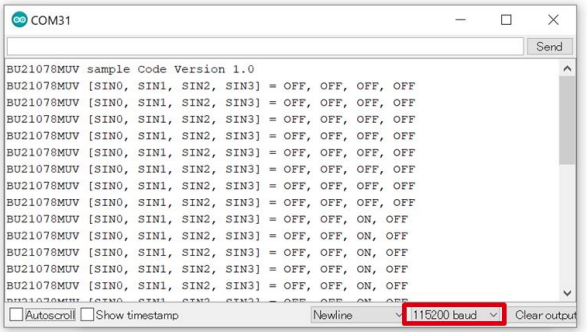
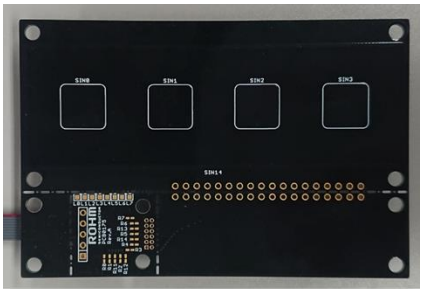
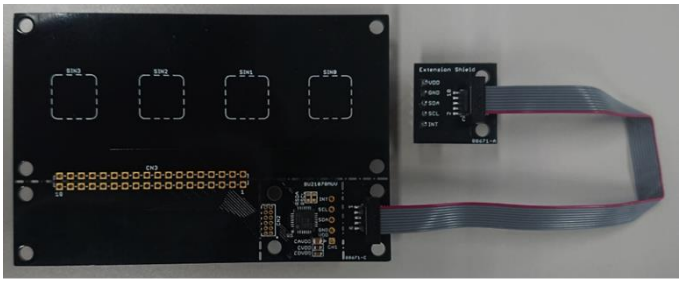


Figure 6. Serial Monitor

Board Information



Top



Bottom

Figure 7. Picture of the board

Parts number	Function
R0-R7, R11-R14	Resistance for ESD protection(N.M.) (Shorted between PADs)
L1-L7	Output PAD for LED control
RSDA	Pull-up register for SDA(N.M.)
RSCL	Pull-up register for SCL(N.M.)
CAVDD	Capacitor for AVDD(2.2uF)
CVDD	Bypass capacitor for VDD(0.1uF)
CDVDD	Capacitor for DVDD(1.0uF)

※N.M. = No Mount

Table 1. Parts information

© 2019 ROHM Co., Ltd.

Downloaded from Arrow.com.

Notes

1) The information contained herein is subject to change without notice.

2) Before you use our Products, please contact our sales representative and verify the latest specifications :

3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.
Therefore, in order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. ROHM shall have no responsibility for any damages arising out of the use of our Poducts beyond the rating specified by ROHM.

4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

5) The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.

6) The Products specified in this document are not designed to be radiation tolerant.

7) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.

8) Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.

9) ROHM shall have no responsibility for any damages or injury arising from non-compliance with the recommended usage conditions and specifications contained herein.

10) ROHM has used reasonable care to ensure the accuracy of the information contained in this document. However, ROHM does not warrants that such information is error-free, and ROHM shall have no responsibility for any damages arising from any inaccuracy or misprint of such information.

11) Please use the Products in accordance with any applicable environmental laws and regulations, such as the RoHS Directive. For more details, including RoHS compatibility, please contact a ROHM sales office. ROHM shall have no responsibility for any damages or losses resulting non-compliance with any applicable laws or regulations.

12) When providing our Products and technologies contained in this document to other countries, you must abide by the procedures and provisions stipulated in all applicable export laws and regulations, including without limitation the US Export Administration Regulations and the Foreign Exchange and Foreign Trade Act.

13) This document, in part or in whole, may not be reprinted or reproduced without prior consent of ROHM.

ROHM SEMICONDUCTOR

Thank you for your accessing to ROHM product informations.
More detail product informations and catalogs are available, please contact us.

ROHM Customer Support System

http://www.rohm.com/contact/

© 2016 ROHM Co., Ltd. All rights reserved.

Downloaded from Arrow.com.