Accelerometer

KXTJ3-1057-EVK-002 Manual

KXTJ3-1057-EVK-002 is an evaluation board for KXTJ3-1057, which is ROHM accelerometer. This User's Guide is about how to use KXTJ3-1057-EVK-002 together with ROHM Shield for Arduino [*1].

*1 ROHM Shield for Arduino is sold separately or as part of ROHM sensor evaluation kit. This User's Guide uses Shield-EVK-001 of Shield for Arduino.

Preparation

·	KXTJ3-1057-EVK-002	1pc
·	Shield for Arduino	1pc
·	Arduino Uno	1pc
·	USB Cable	1pc
·	Computer Installed Arduino IDE	1pc

- Requirement: Arduino IDE 1.8.13 or higher
- Please get Arduino IDE from the link below:
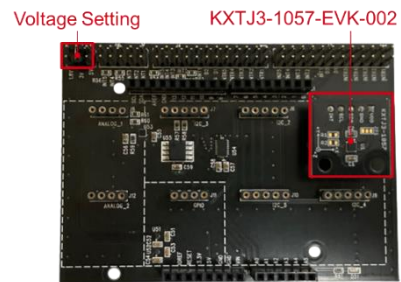 http://www.arduino.cc/

Figure 2. Board Connection and Voltage Setting

Setting

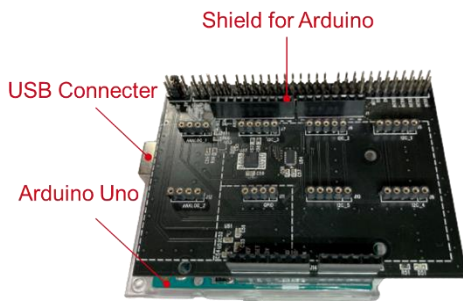1. Connect Arduino Uno and Shield for Arduino. (Figure 1)

Figure 1. Connection of Arduino Uno and Shield for Arduino

2. Connect KXTJ3-1057-EVK-002 to the socket of I2C area on Shield for Arduino. (Figure 2)
3. Set the voltage of Shield for Arduino to 1.8V or 3.0V. (Figure 2)

4. Connect Arduino Uno to Computer using USB cable.
5. Get KXTJ3-1057 Software [*2] from the link below:
   https://www.rohm.com/sensor-shield-support
   *2 The software is subject to change without notice.
6. Launch Arduino IDE.
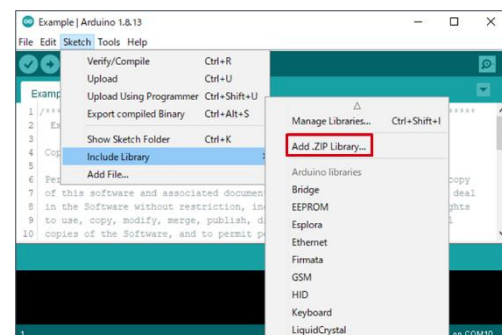7. Select [Sketch] -> [Include Library] -> [Add.ZIP library...], then KXTJ3-1057 Software. (Figure 3)

Figure 3. Software Installation

8. Select [File] -> [Examples] -> [Examples from custom libraries], then KXTJ3-1057 Software.

Measurement

1. Select [Tools]. Set Board to "Arduino Uno" and Port to "COMxx (Arduino Uno)" [3]. (Figure 4)
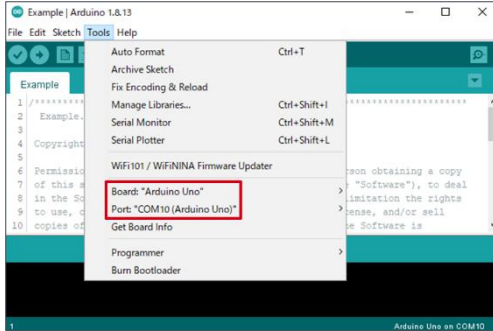
    *3 COM number is different in each environment.
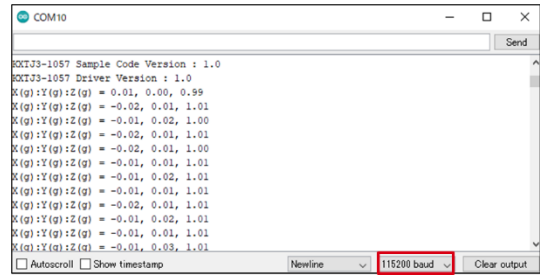

Figure 4. Board and Port Setting

2. Click the write button and wait for the message "Done uploading.". (Figure 5)

Figure 5. Done Uploading

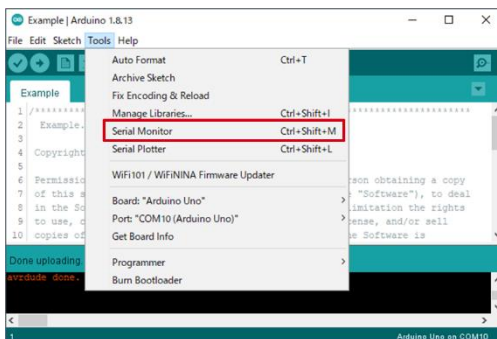3. Select [Tools] -> [Serial Monitor]. (Figure 6)

Figure 6. Selecting Serial Monitor

4. Set the baudrate to 115200 baud and check log of Serial Monitor. (Figure 7)

Figure 7. Example of Serial Monitor

Board Information [*4]

*4 Board Information is subject to change without notice.

· Digital Communication Interface: I2C

· Default Slave Address: 0x0E

· Selectable Voltage of Shield for Arduino: 1.8V, 3V

· Supply Voltage for VDD: 1.71V - 3.6V

· Operating Temperature Range: -40℃ – +85℃
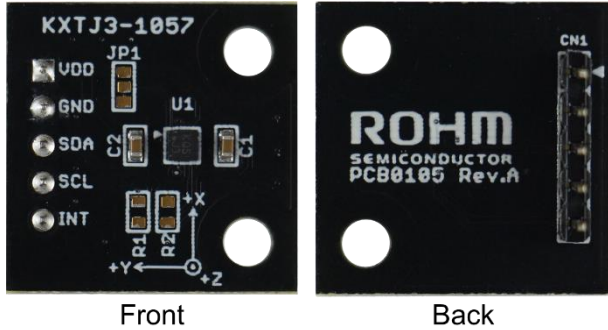
Figure 8. Board Pictures

Table 1. Parts Information

Parts Number	Description
U1	IC: KXTJ3-1057
C1	Bypass capacitor for VDD: 0.1uF
C2	Bypass capacitor for IO_VDD: 0.1uF
R1	Pull-up register for SCL: N.M. [*5]
R2	Pull-up register for SDA: N.M. [*5]
JP1	Pad for changing slave address: L
CN1	Pin header: 2.54 mm pitch, Φ0.8

*5 N.M. = No Mount

Changing Slave Address

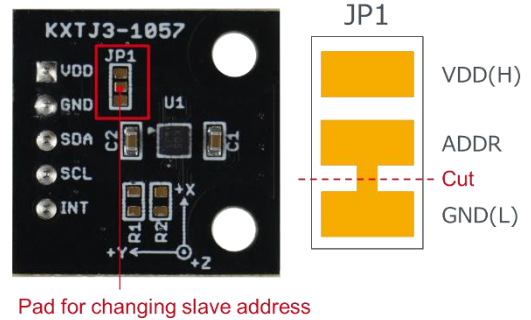1. Cut the pattern on the pad for changing slave address. (Figure 9)

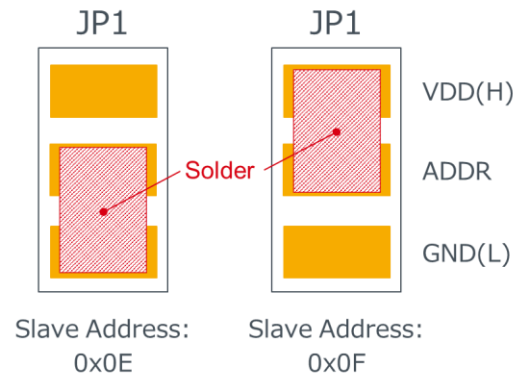Figure 9. Pattern Cut

2. Connect ADDR pad and GND or VDD pad by solder. (Figure 10)

Figure 10. Changing Slave Address