Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

RTC click™

1. Introduction
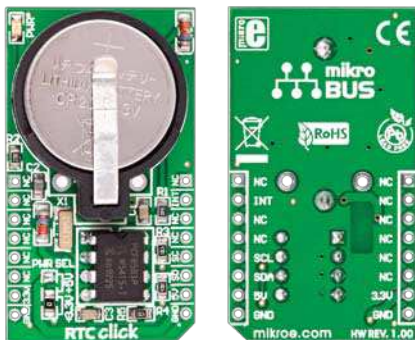
RTC Click is an accessory board in **mikroBus™** form factor. It features the **PCF8583P** serial real-time clock (RTC). It is a low-power, full binary-coded decimal (BCD) clock/calendar. Board uses I²C interface for communication and features a 3V/230mA **lithium battery** as a backup power supply which ensures that timekeeping operation continues even when the main power supply goes OFF. Board is set to use 3.3V power supply by default. Solder **PWR SEL** SMD jumper to 5V position if used with 5V systems.

2. Soldering the headers

Before using your click board, make sure to solder the provided 1x8 male headers to both sides of the board. Two 1x8 male headers are included with the board in the package.
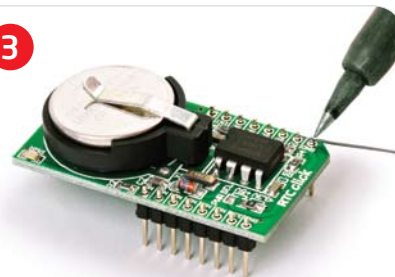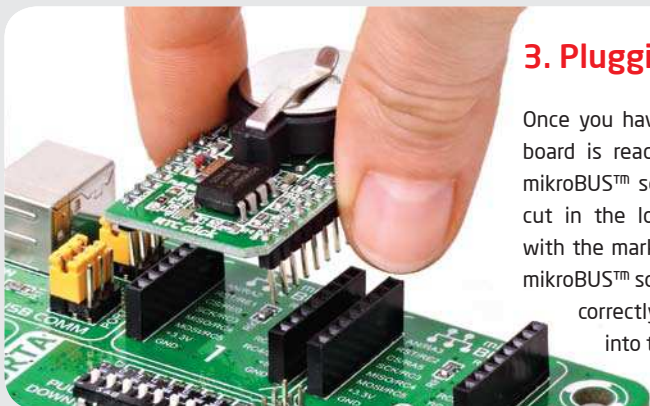
1

2

Turn the board upside down, so that bottom side is facing you upwards. Place shorter parts of the header pins in the both soldering pad locations.

3

Turn the board upward again. Make sure to align the headers so that they are perpendicular to the board, then solder the pins carefully.

3. Plugging the board in

Once you have soldered the headers your board is ready to be placed into desired mikroBUS™ socket. Make sure to align the cut in the lower-right part of the board with the markings on the silkscreen at the mikroBUS™ socket. If all the pins are aligned correctly, push the board all the way into the socket.

4. Board applications

RTC click is ideal for applications which require real-time clocks, calendars and programmed alarms. Communication with the board is done over standard I²C interface. The Real-Time Clock (RTC) has 24 hour or 12 hour format, it has programmable alarm, timer, and interrupt function.

click™
BOARD

5. RTC click Board Schematics

VCC

R2
220

PWR

VCC

C3
100nF

J1

1 2 3

+3V3   +5V

| AN | PWM |
| RST | INT | INT
| CS | RX |
| SCK | TX |
| MISO | SCL | SCL
| MOSI | SDA | SDA
| +3.3V | +5V |
| GND | GND |

mikro
BUS

Vrtc

R1 56   D2 BAT43

D1 BAT43

VCC

C1
100nF

BAT1
3V/230mA

Vrtc   Vrtc   VCC

C2
22pF

R3   R4   R5
4K7   4K7   4K7

U1

| 1 | OSCI | VCC | 8 |
| 2 | OSCO | INT | 7 | INT
| 3 | A0 | SCL | 6 | SCL
| 4 | GND | SDA | 5 | SDA

X1
32.768KHz

PCF8583P

6. Power supply selection

On-board **PWR SEL** zero-ohm resistor (SMD jumper) is used to determine whether 5V or 3.3V power supply is used. This resistor is provided in 3.3V position by default. In order to use RTC click with 5V development system, it is necessary to resolder this jumper to 5V position.

7. Code Examples

Once you have done all the necessary preparations, it's time to get your click board up and running. We have provided the examples for mikroC, mikroBasic and mikroPascal compilers on our **Libstock** website. Just download them and you are ready to start.

LIBSTOCK.com

8. Support

MikroElektronika offers **Free Tech Support (www.mikroe.com/esupport)** until the end of product lifetime, so if something goes wrong, we are ready and willing to help!

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DEVELOPMENT TOOLS | COMPILERS | BOOKS