Cap Extend click

PID: MIKROE-2238

RS Product Code: 136-0809

Cap Extend click is a mikroBUS add-on board with a SEMTECH SX8633 low power, capacitive button touch controller. It has 12 pins for connecting capacitive inputs (either touch-buttons or proximity sensors). Any sort of conductive object can be used as an input. Additional 8 GPIO pins, available on the side-edges of the board, can be used as LED drivers. The SX8633 IC integrates a 10 bit ADC – a resolution high enough to support a wide variety of touch pad sizes and shapes to be used with the click. Cap Extend click communicates with the target MCU through the mikroBUS™ I2C interface, with additional functionality provided by RST and INT pins. Designed to use a 3.3V power supply only.

Specification

Product Type	Capacitive
Applications	Replacement of mechanical buttons with capacitive inputs (both in consumer products or industrial instrumentation)
On-board modules	SEMTECH SX8633
Key Features	12 pins for connecting capacitive inputs, 8 GPIO pins
Key Benefits	Can be used for proximity sensing as well as capacitive buttons, Capable of sensing through overlay materials (up to 5mm thick)
Interface	I2C
Power Supply	3.3V
Compatibility	mikroBUS
Click board size	M (42.9 x 25.4 mm)
Weight	25g

Features and usage notes

The SX8633 IC has a 10 bit ADC and up to 100pF offset capacitance compensation at full sensitivity. This high resolution enables it to support a wide variety of touch pad sizes and shapes to be used with the click. An overlay material up to 5mm thick can also be used, simplifying integration.

The 8 GPIO pins on Cap Extend click can be used as LED drivers. An interesting application that combines capacitive sensing with LED drivers is to have LEDs that slowly fade in as a user's finger approaches.

The LED fading effect can be initiated using the SX8633 auto light mode.

Programming

For an example to show how you can setup Cap Extend click very quickly and easily, and show which surface you are touching through the GPIOs as LEDs clink on link Mikroe.com

Code examples that demonstrate the usage of Cap Extend click with MikroElektronika hardware, written for mikroC for ARM, AVR, dsPIC, FT90x, dsPIC, PIC and PIC32 are available on Libstock

Downloads

Cap Extend click Examples

Cap Extend click Schematic