

# KAMAMI

## STM32Butterfly



Rev. 20200924090429

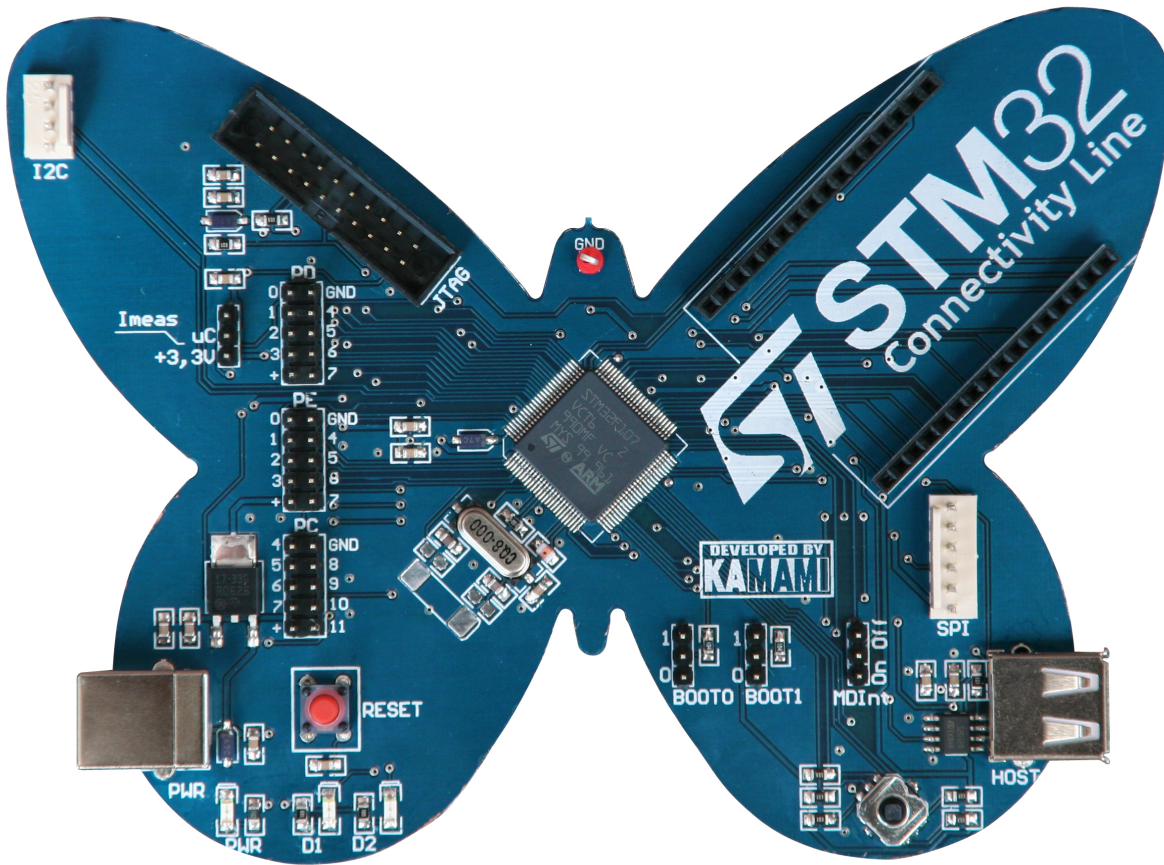
Źródło: <https://wiki.kamamilabs.com/index.php/STM32Butterfly>

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## Description

STM32 Butterfly is simple evaluation board equipped with STM32 Connectivity Line microcontroller.



## Introduction

STM32 Butterfly is versatile evaluation board designed for development of applications with STM32F107 microcontrollers (``Connectivity Line`` family). It can also be used as educational board for learning of ARM Cortex-M3 based microcontrollers programming.

## Features

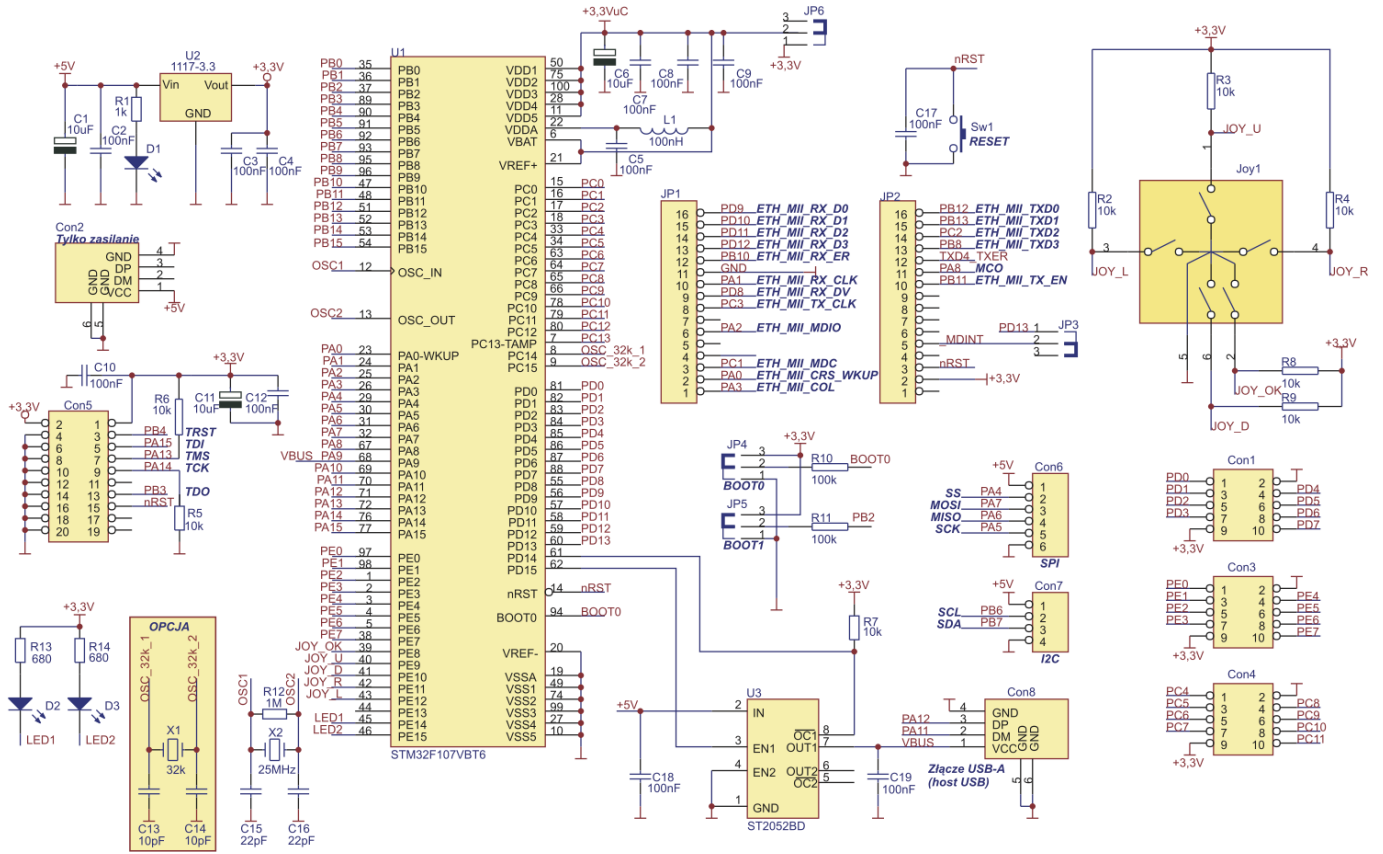
- STM32F107VBT6 (LQFP100) microcontroller (128kB Flash, 48kB SRAM, 2xSPI, 1xI2C, 5xUART, USB-OTG, 2xCAN, MAC Ethernet, ADC, 2xDAC)
- 5-position joystick
- 2 LEDs
- 20-pin JTAG connector for programming/debugging
- USB On-the-go socket
- Built-in USB power switch
- 24 GPIO lines
- Connector for PHY module (ZL2ETH)
- I2C connector
- SPI connector
- Optional 32.768kHz generator
- Jumpers for boot memory selection
- Connector for current consumption measurement
- Powered from USB

## Standard equipment

Code	Description
<b>STM32Butterfly</b>	• Assembled board with STM32F107VBT6 microcontroller

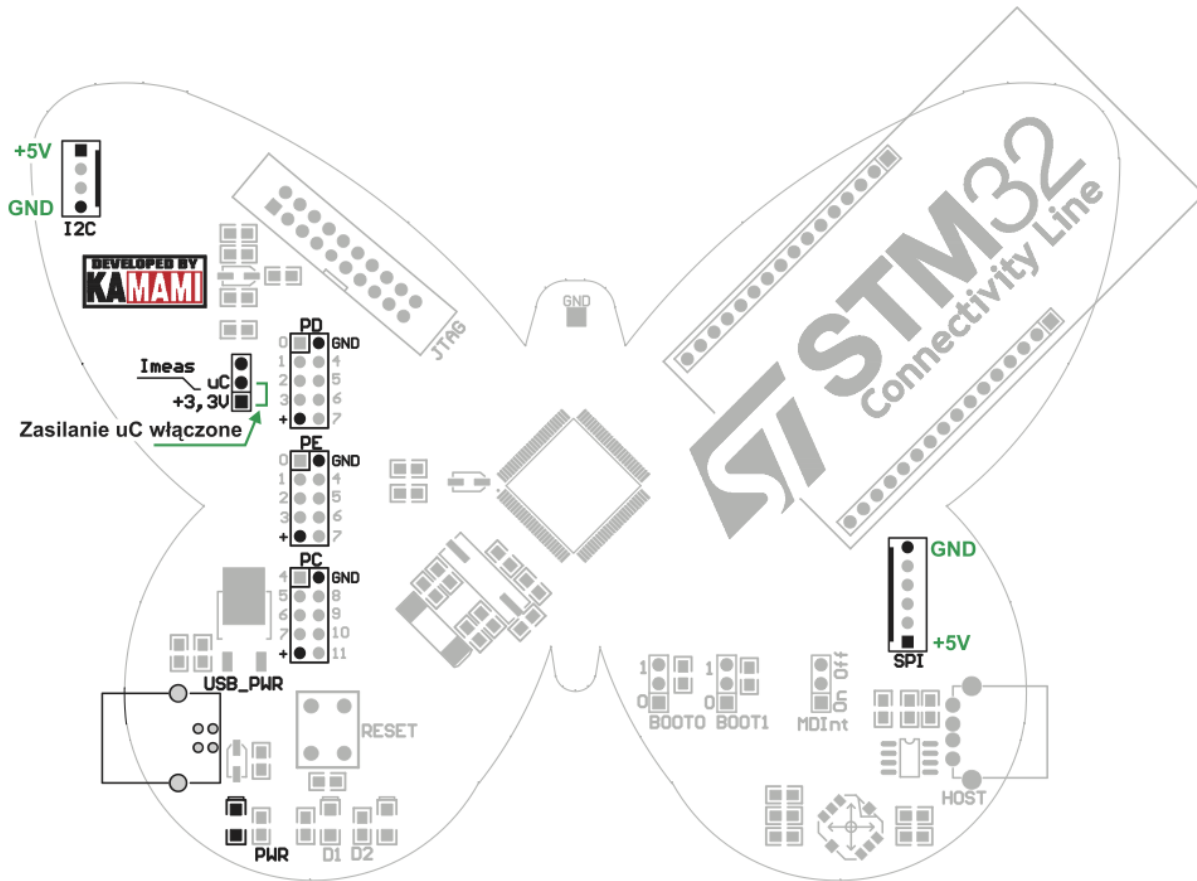


## Schematics



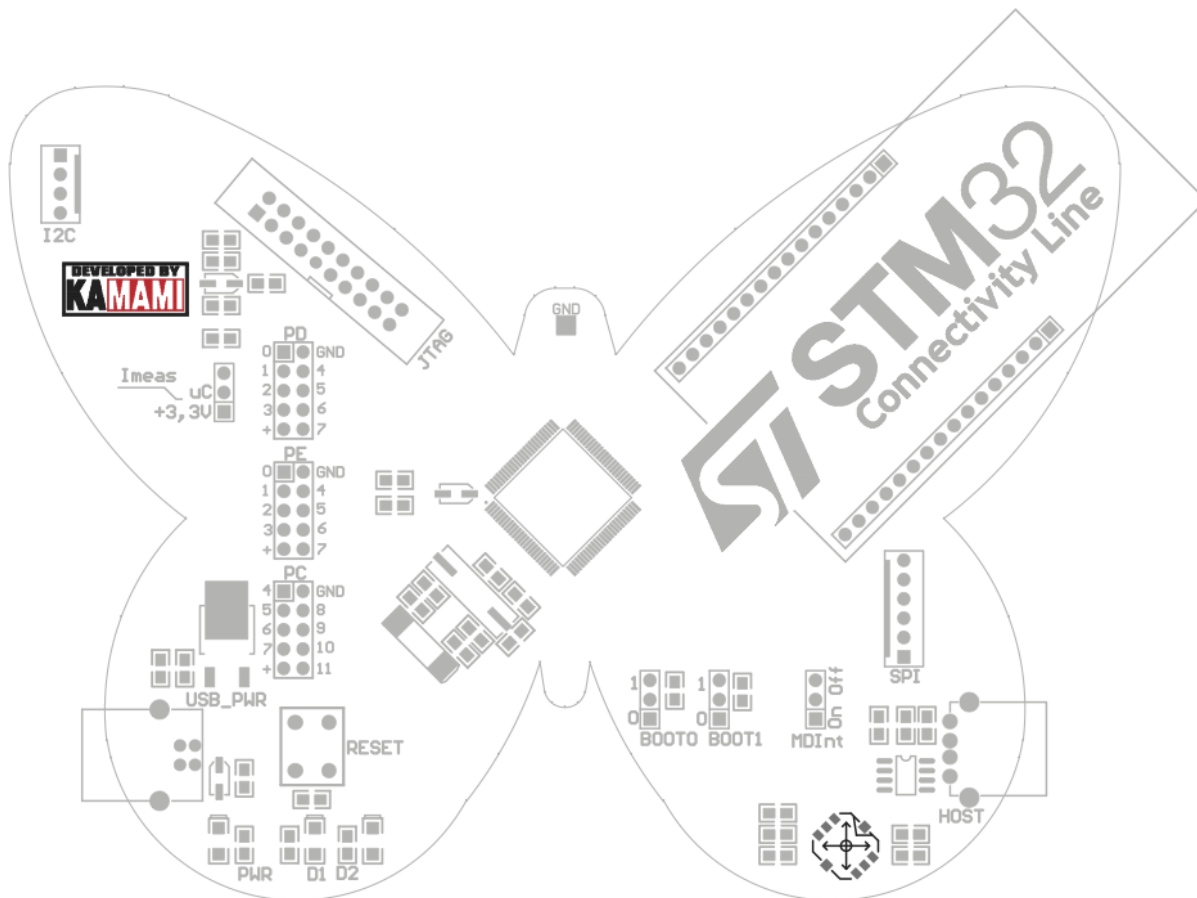
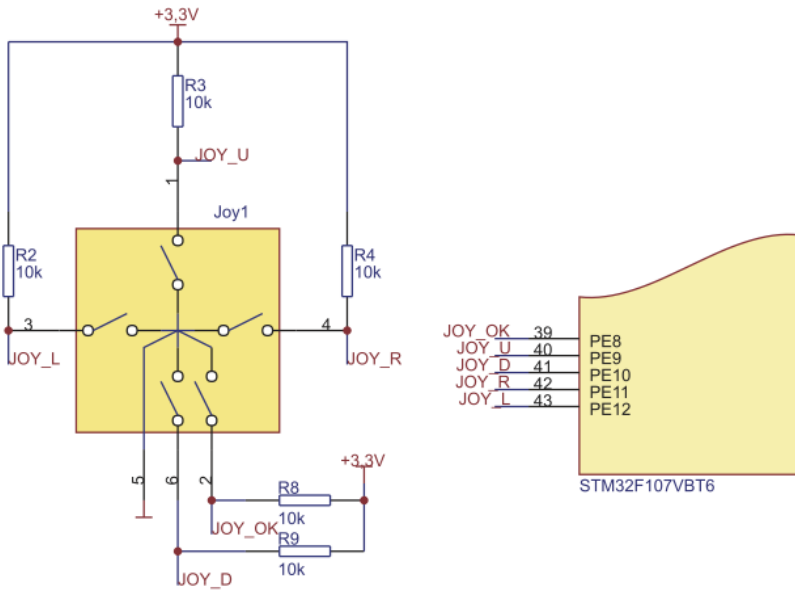






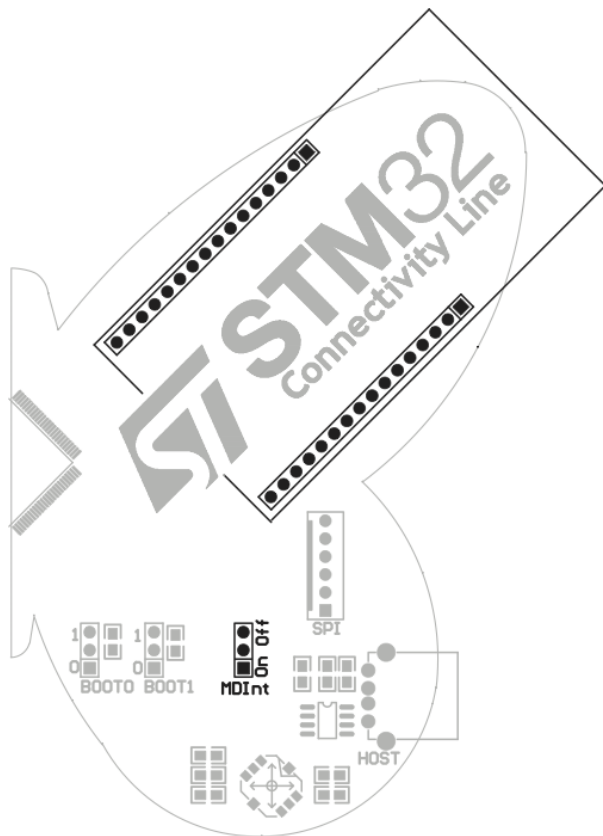
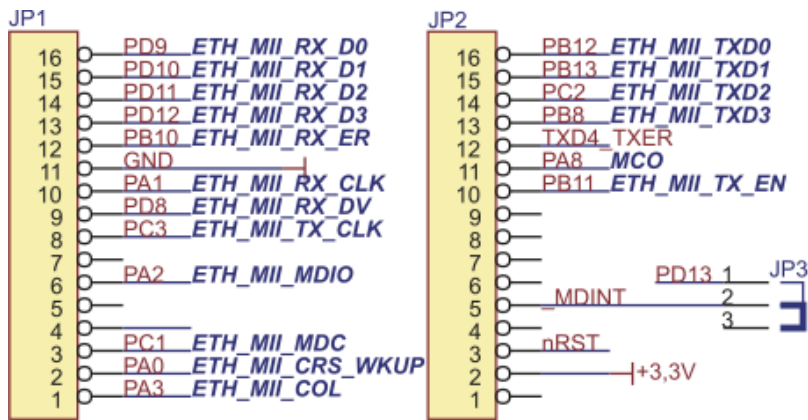
# Joystick

STM32Butterfly is equipped with 5-position joystick. Each position has pull-up resistor. Joystick lines are connected to 8...12 lines of port E.



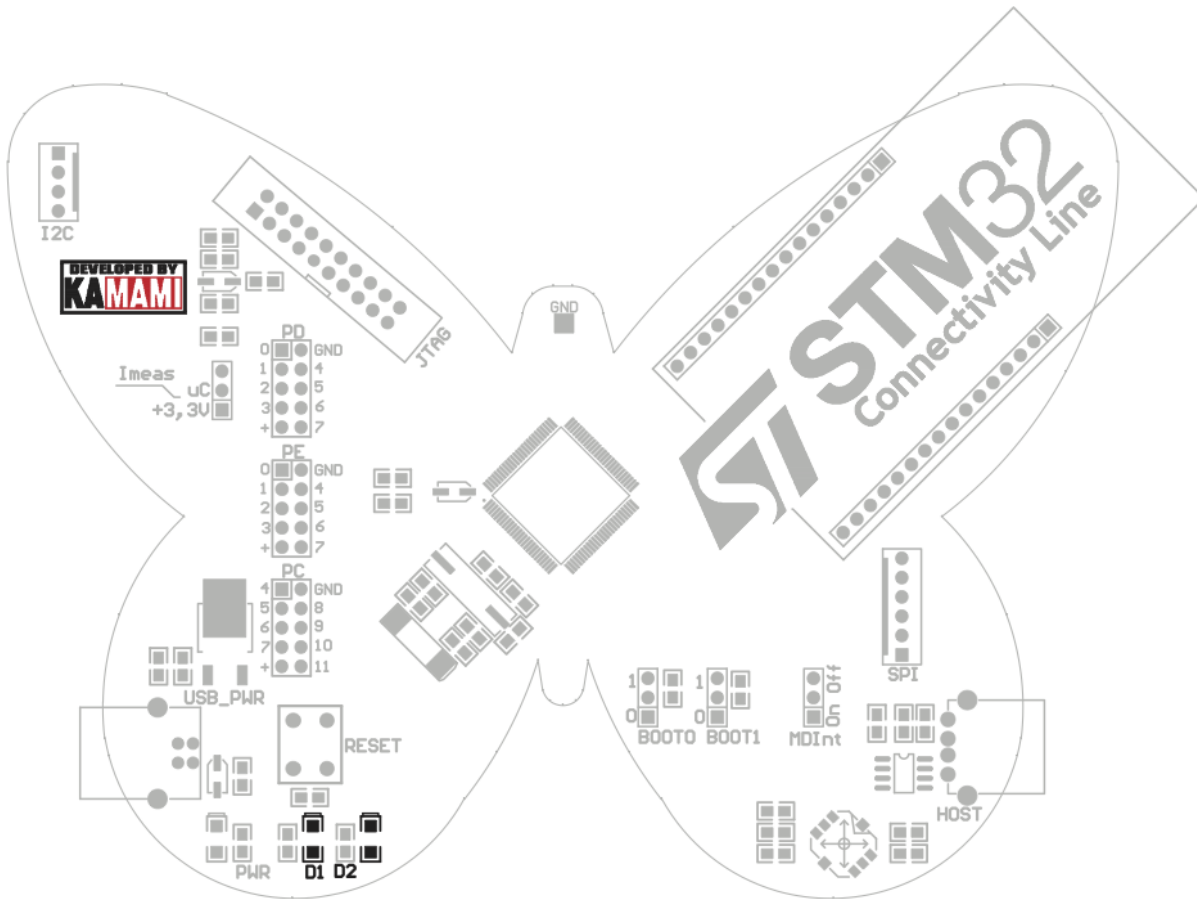
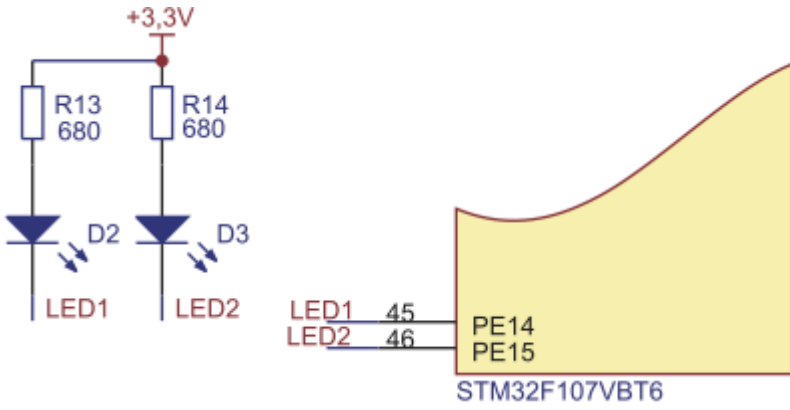
# Ethernet interface

STM32Butterfly has connector for PHY Ethernet module (for example ZL2ETH with STE100P). JP3/MDInt jumper allows connection of PHY module interrupt line to microcontroller 13 line of port D.



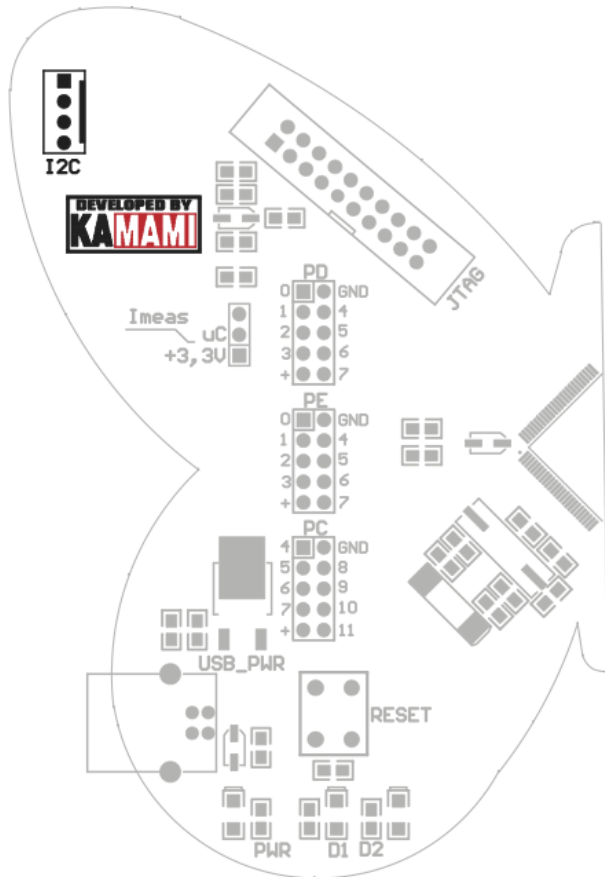
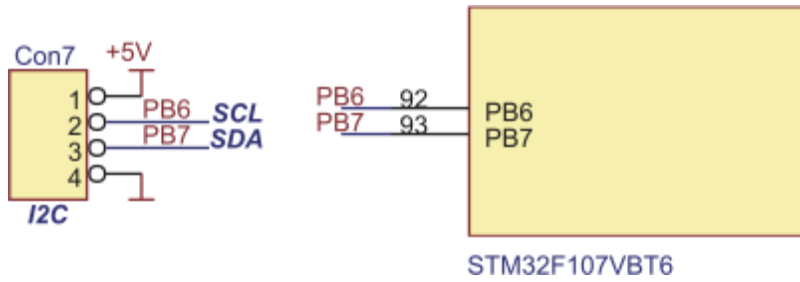
# LEDs

STM32Butterfly is equipped with two LEDs (D2 and D3). They can be lit on with low logic level on GPIO 14 and 15 lines of port of port E.



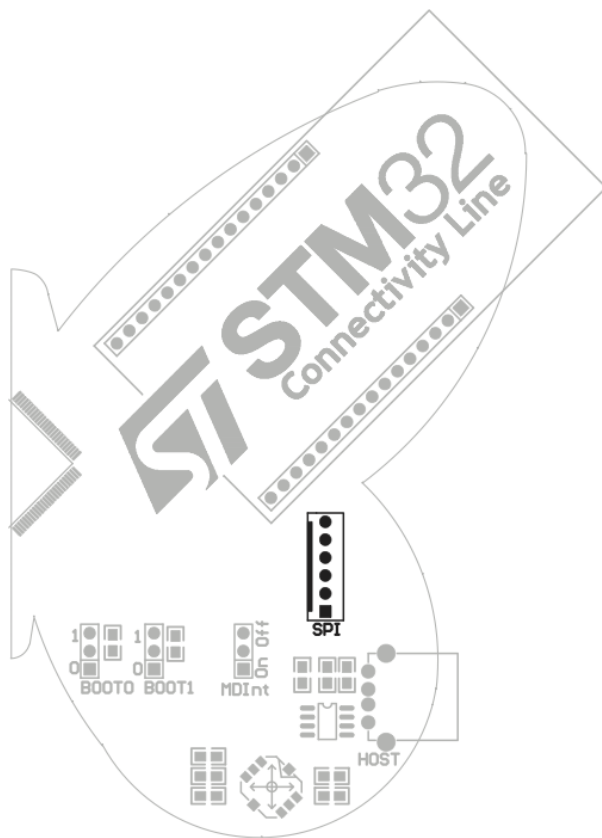
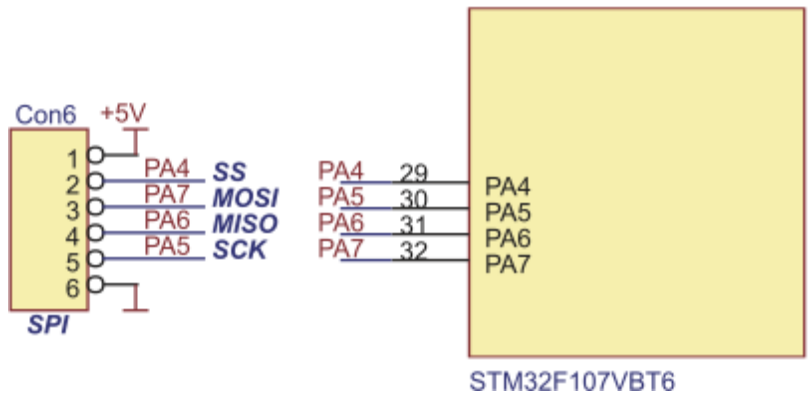
## I2C connector

STM32Butterfly is equipped with Con7/I2C connector for external devices with I2C interface. SCL and SDA lines do not have pull-up resistors.



## SPI connector

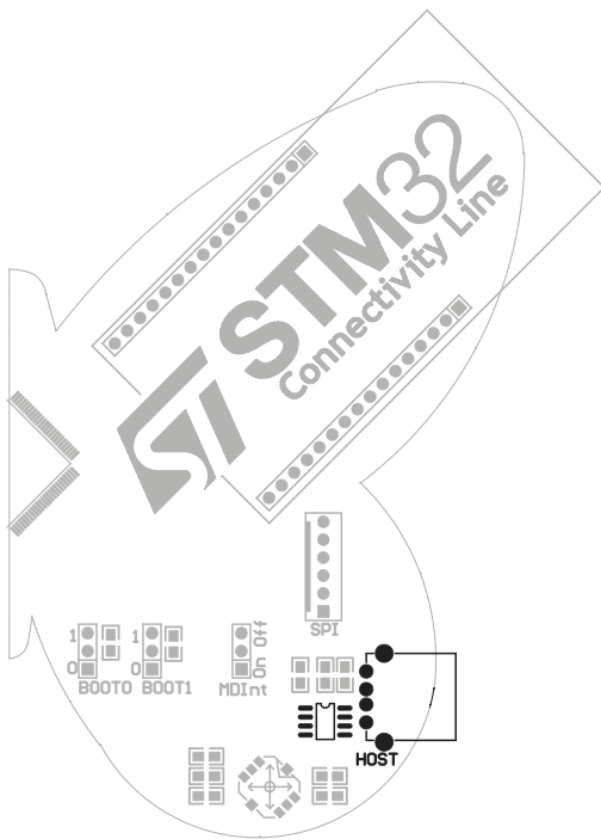
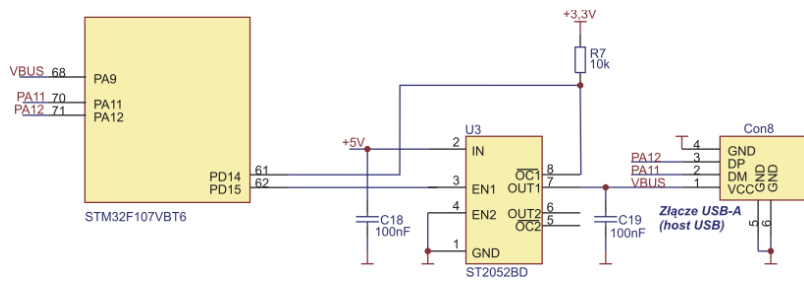
STM32Butterfly is equipped with Con6/SPI connector for external devices with SPI interface. SPI lines do not have pull-up resistors.





# USB On-the-go connector

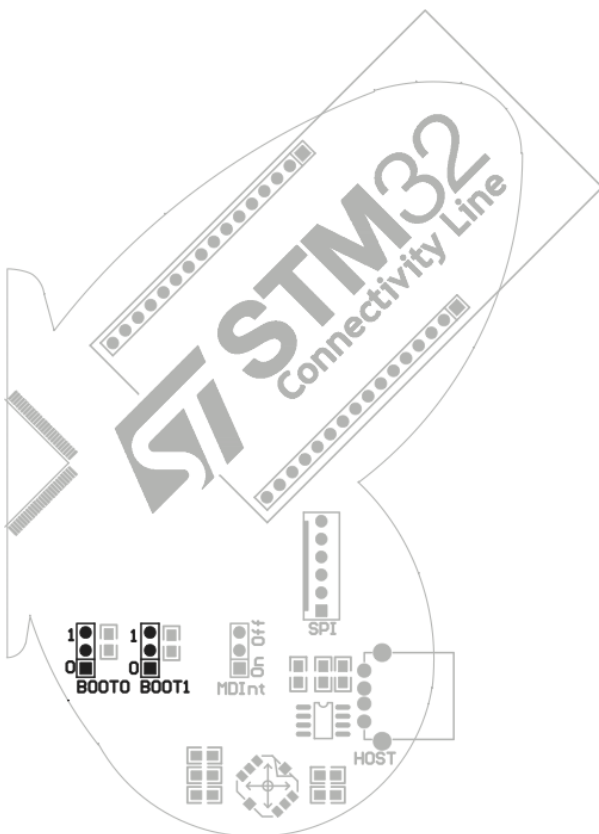
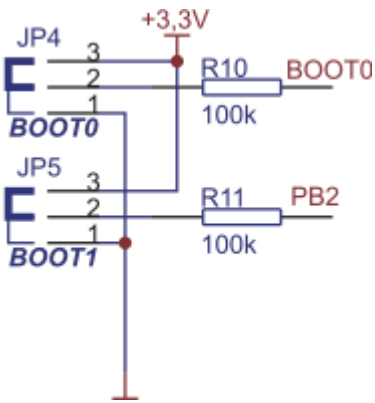
STM32Butterfly is equipped with USB On-the-go port with USB-A socket. Current consumption of USB device connected to board cannot exceed 500 mA.



# ZBOOT jumpers

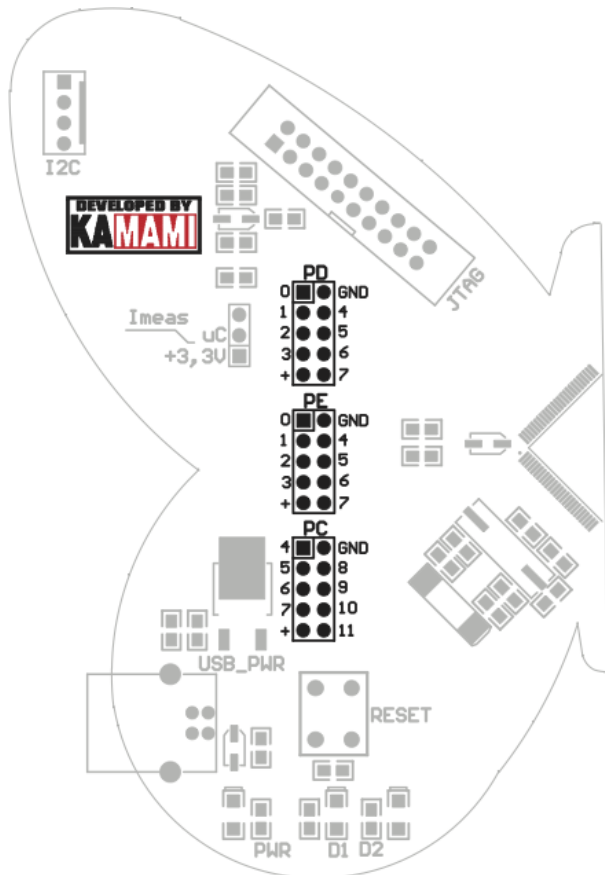
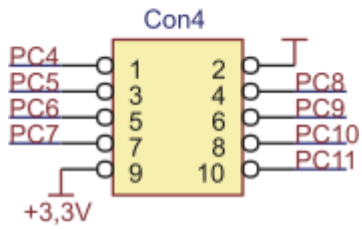
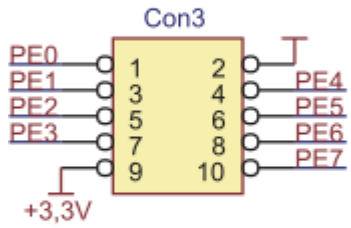
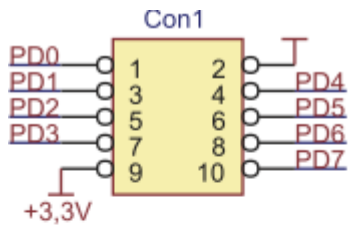
STM32Butterfly is equipped with BOOT0 and BOOT1 jumpers that allow selection of boot memory.

BOOT0	BOOT1	Boot mode
0	x	Boot from Flash
1	0	Boot from system memory (bootloader)
1	1	Boot from embedded RAM



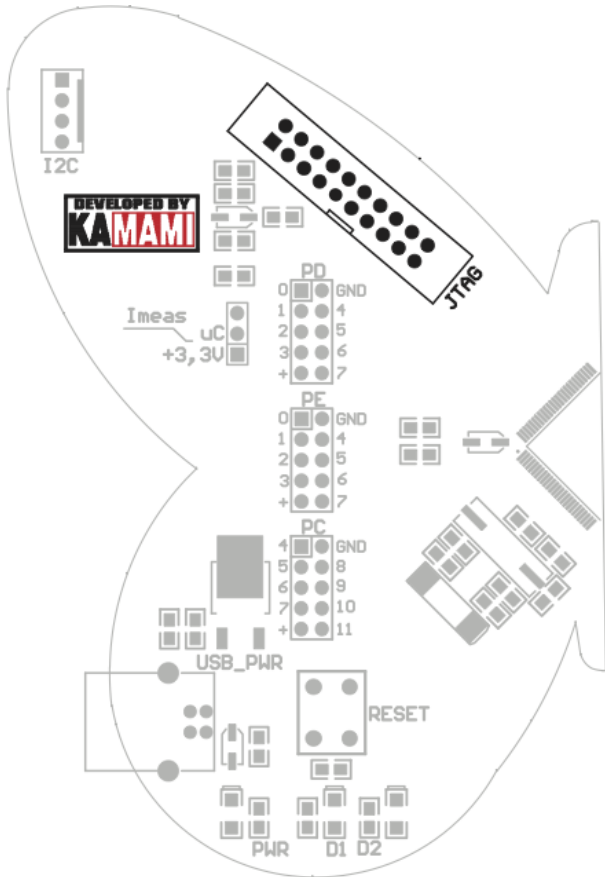
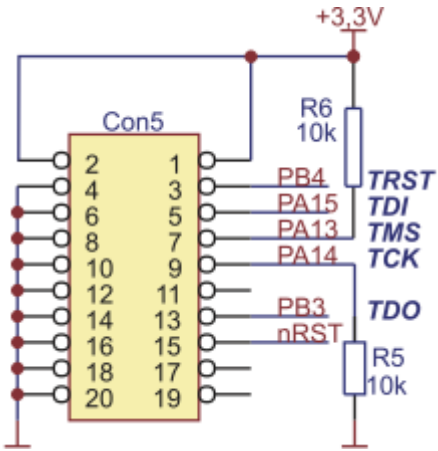
# I/O pin headers

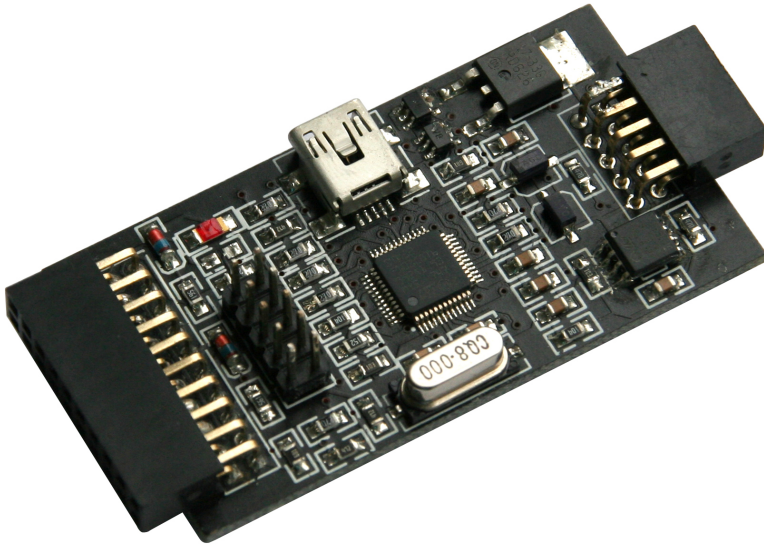
STM32Butterfly is equipped with three 10-pin IDC headers with microcontroller GPIO lines (PC4...11, PD0...7 and PE0...7).



# JTAG connector

STM32Butterfly is equipped with Con5/JTAG connector for Flash programming/debugging with JTAG interface (for example ZL30PRG).

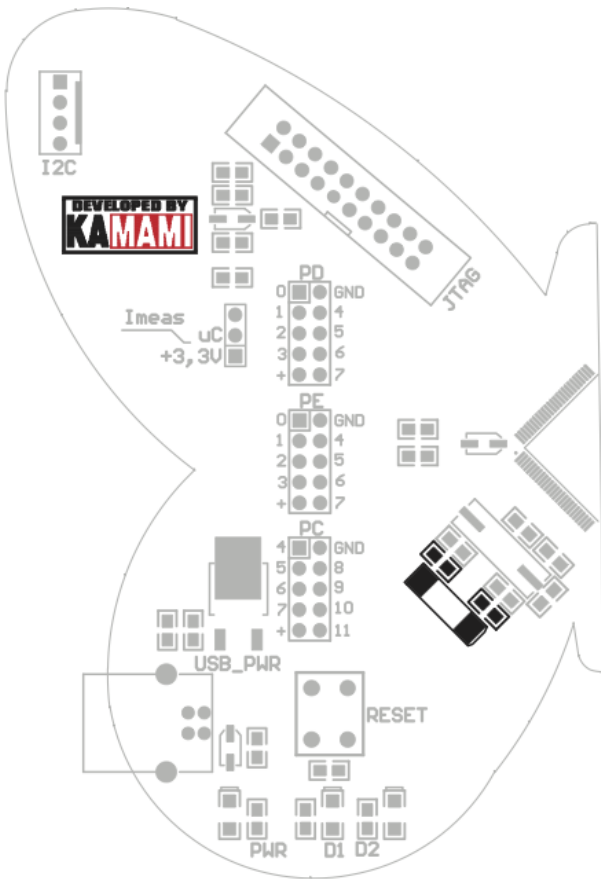
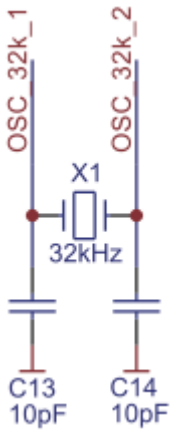




ZL30PRG JTAG interface

## Optional 32.768kHz generator

STM32Butterfly can be optionally equipped with 32.768 kHz generator and two 10pF capacitors.







Zastrzegamy prawo do wprowadzania zmian bez uprzedzenia.

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