1 Introduction

OB90A64M1U48VP-C8

The OB90A64M1-C8 is ARM Cortex-M0 based microcontrollers for embedded applications featuring a high level of integration and low power consumption. The ARM Cortex-M0 is a next generation core that offers a simplified instruction set with deterministic behavior.

The OB90A64M1-C8 can run up to 50 MHz, and operate at a wide voltage range of 1.8V ~ 5.5V. Up to 64K bytes flash , 8K bytes ram, four general purpose timers, two UARTs interfaces, one SPI interface, an 12-channel 12-bit ADC, Watchdog Timer , PWM generators providing eight channels, four Analog Comparators, four operational amplifier and two I2C Interface.

2 Feature

- System:
  - ARM Cortex-M0 processor, running at frequencies of up to 50 MHz.
  - ARM Cortex-M0 built-in Nested Vectored Interrupt Controller (NVIC)
  - Built-in LDO for wide operating voltage: 1.8V to 5.5V.

- Memory:
  - On-chip flash programming memory 64KB.
  - 8 KB SRAM.
  - In-System Programming (ISP) via on-chip bootloader software.

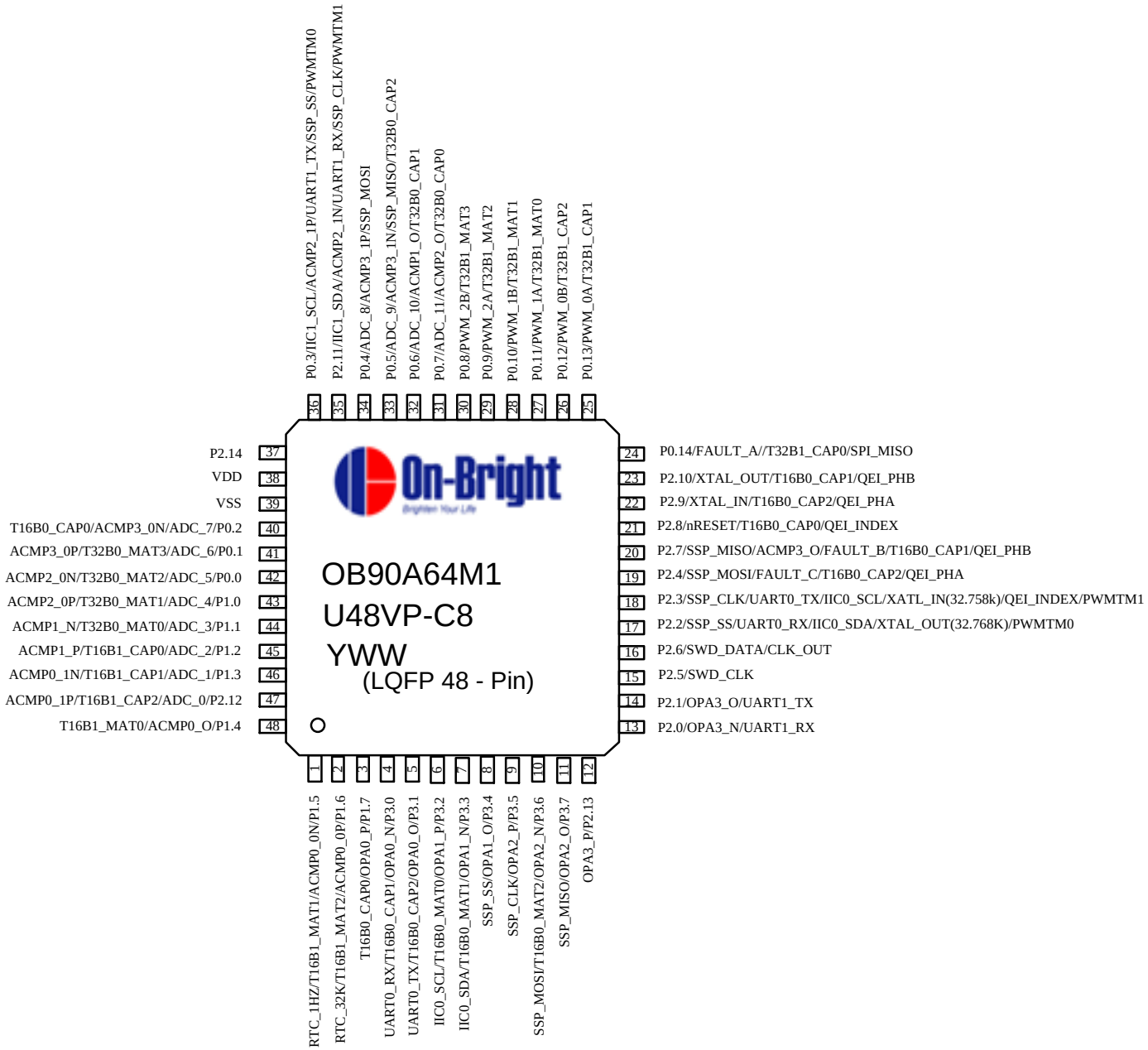
- Serial interfaces:
  - UART with fractional baud rate generation, internal FIFO, and RS-485 support.
  - SPI controllers with SSP features and with FIFO and multi-protocol capabilities.
  - I2C-bus interface supporting full I2C-bus specification and Fast-mode Plus with a data rate of 1 Mbit/s with multiple address recognition.
  - Counter/Timer

- Other interfaces:
  - 12bit ADC with input multiplexing among 12 pins.
  - Analog Comparator
  - Quadrature Encoder Interface (QEI).
  - Direct Memory Access Controller (DMA)
  - Coordinate Rotation Digital Computer (CORDIC)
  - Real Time Clock (RTC)
  - Pulse width Modulation (PWM)
  - Watchdog Timer(WDT)
  - Multiplication Division Unit (MDU)
  - Cyclic Redundancy Check(CRC)

- Serial Wire Debug

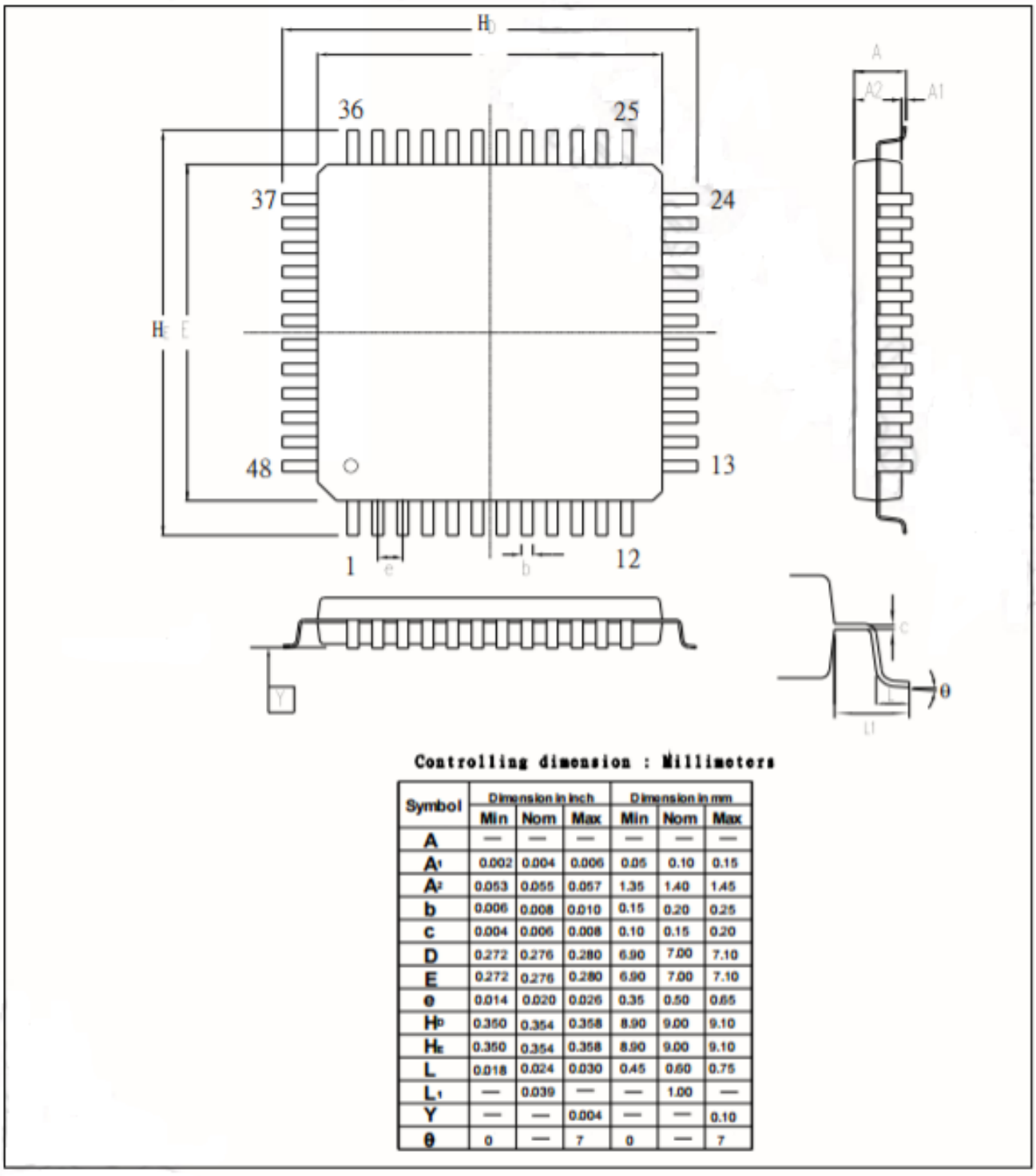
3 Pin Assignment

LQFP 48 - pin



27 Package Dimensions

27.1 48-pin LQFP(7 * 7 * 1.4 mm)



Controlling dimension : Millimeters

Symbol	Dimension in inch			Dimension in mm		
	Min	Nom	Max	Min	Nom	Max
A	—	—	—	—	—	—
A_1	0.002	0.004	0.006	0.05	0.10	0.15
A_2	0.053	0.055	0.057	1.35	1.40	1.45
b	0.006	0.008	0.010	0.15	0.20	0.25
c	0.004	0.006	0.008	0.10	0.15	0.20
D	0.272	0.276	0.280	6.90	7.00	7.10
E	0.272	0.276	0.280	6.90	7.00	7.10
e	0.014	0.020	0.026	0.35	0.50	0.65
H_D	0.350	0.354	0.358	8.90	9.00	9.10
H_E	0.350	0.354	0.358	8.90	9.00	9.10
L	0.018	0.024	0.030	0.45	0.60	0.75
L_1	—	0.039	—	—	1.00	—
Y	—	—	0.004	—	—	0.10
θ	0	—	7	0	—	7