

## 1 Introduction

OB90A128A1U64VP

OB90A128A1U48VP

The OB90A128A1 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.

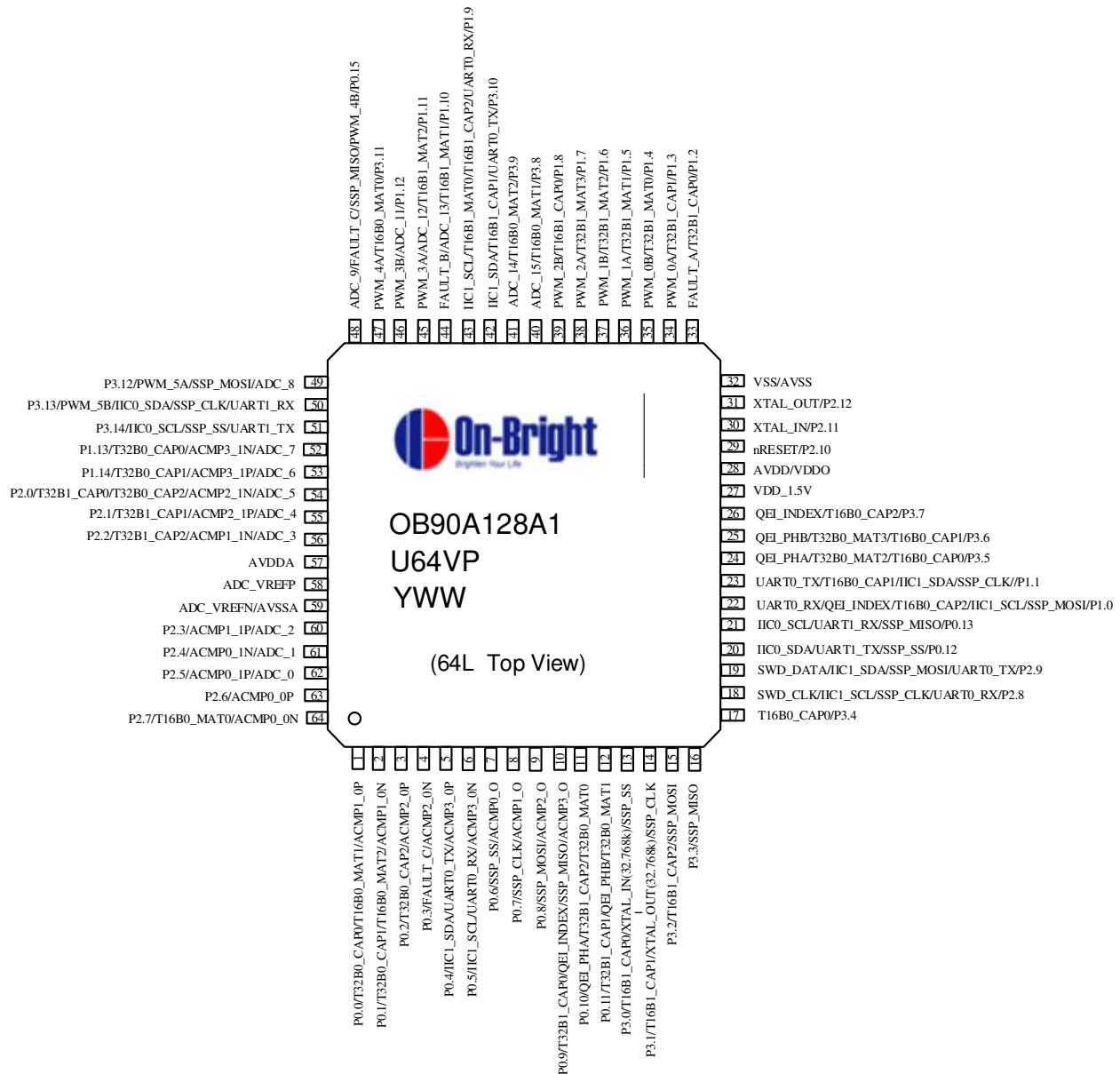
The OB90A128A1 can run up to 50 MHz, and operate at a wide voltage range of 1.8V ~ 5.5V. Up to 128K bytes flash , 16K bytes RAM, four general purpose timers, two UARTs interfaces, one SPI interface, an 16-channel 12-bit ADC, Watchdog Timer , PWM generators providing eight channels, four Analog Comparators and two I2C Interfaces.

## 2 Feature

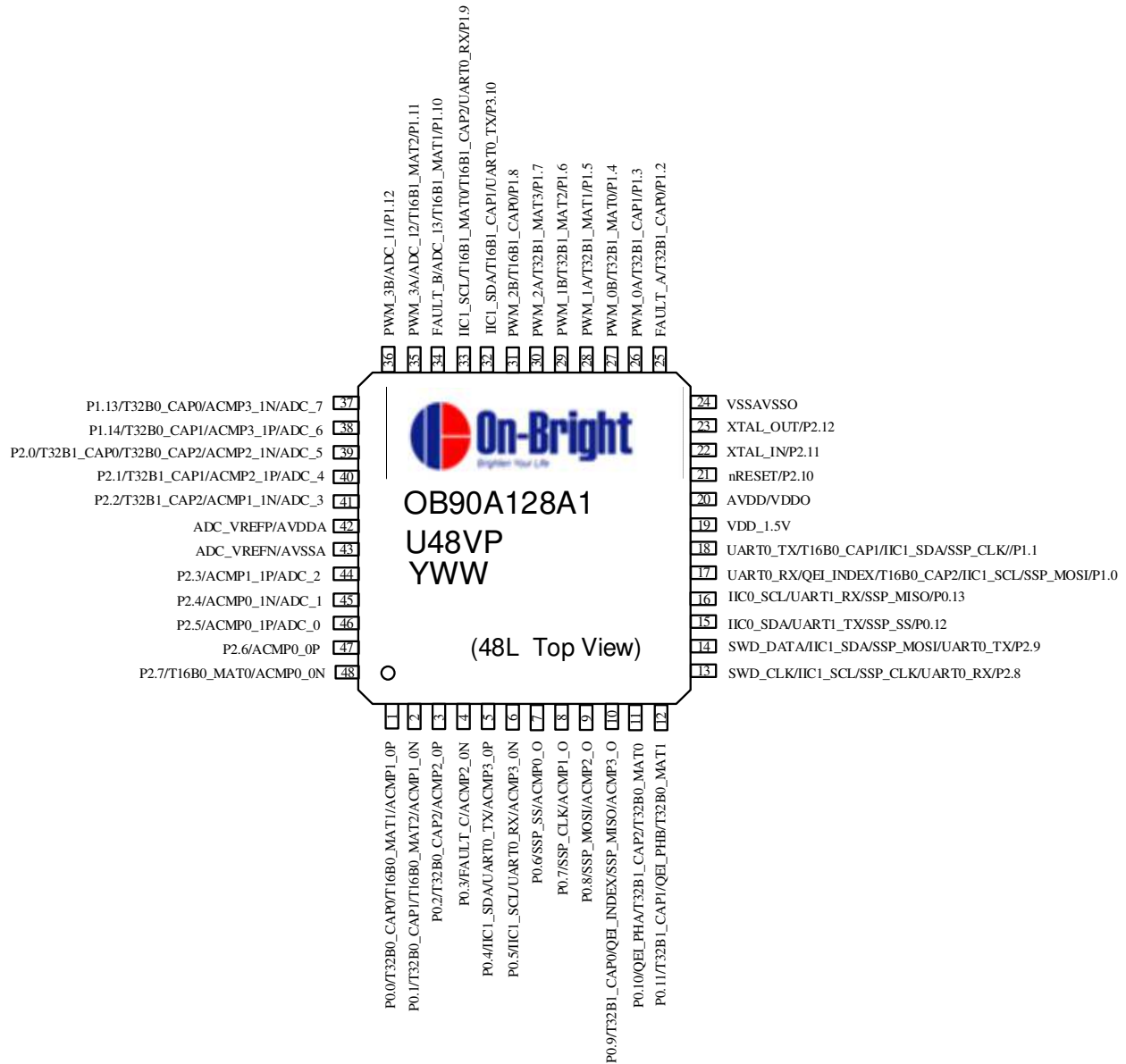
- System:
  - ARM Cortex-M0 processor, running at frequencies of up to 50 MHz.
  - ARM Cortex-M0 built-in Nested Vectored Interrupt Controller (NVIC)
  - Built-in LDO for wide operating voltage: 1.8V to 5.5V.
- Memory:
  - On-chip flash programming memory 128KB.
  - 16KB SRAM.
  - In-System Programming (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 16 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 64 - pin



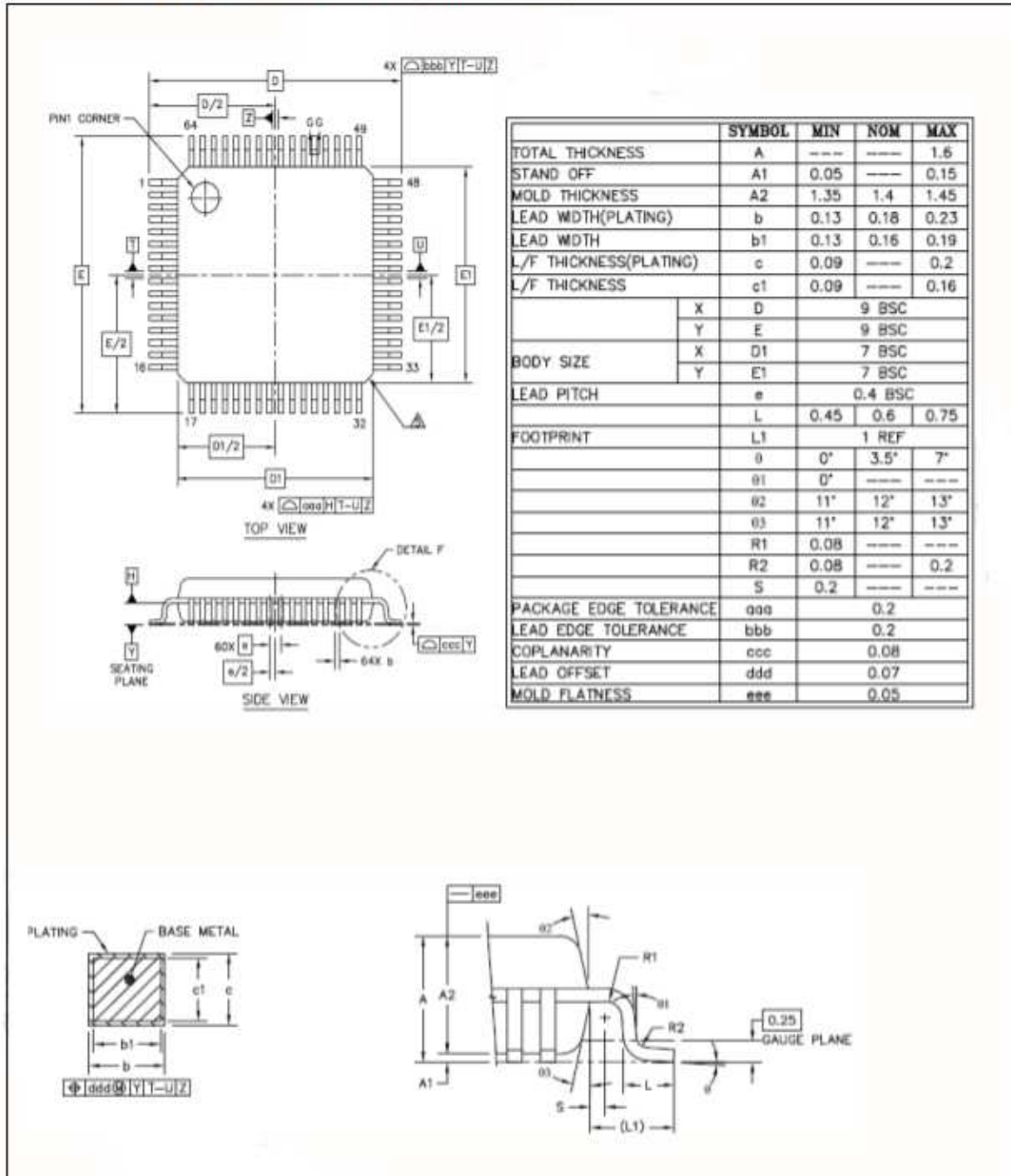
LQFP 48 - pin



## 26 Package Dimensions

26.1 64-pin LQFP (7 \* 7 \* 1.4 mm)

**LQFP-64 (7x7x1.4mm<sup>2</sup> Footprint 2.0mm)**



26.2 48-pin LQFP (7 \* 7 \* 1.4 mm)

