

## 1 Introduction

OB90A32M3U32VP

The OB90A32M3 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.

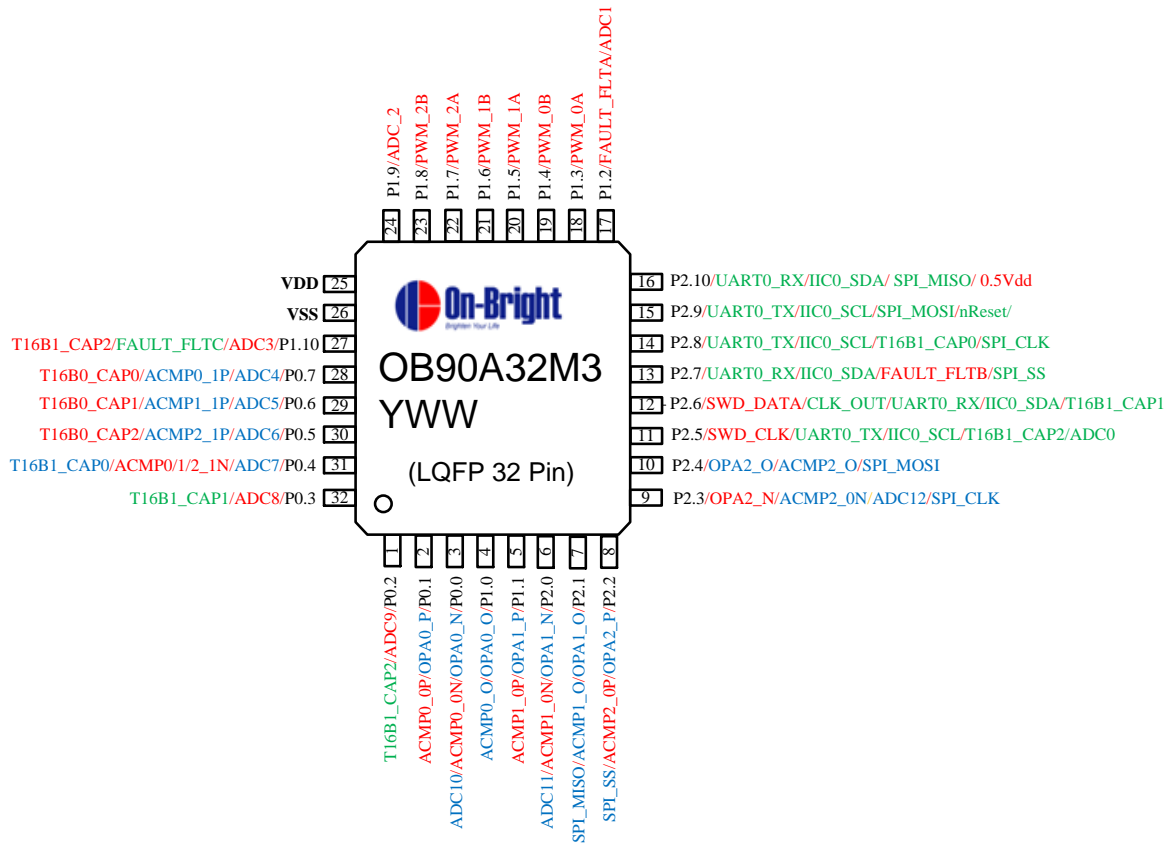
The OB90A32M3 can run up to 72 MHz, and operate at a wide voltage range of 1.8V ~ 5.5V. Up to 32K bytes flash, 4K bytes ram, three general purpose timers, one UARTs interfaces, one SPI interface, an 13-channel 12-bit ADC, Watchdog Timer , PWM generators providing six channels, three Analog Comparators, three operational amplifier and one I2C Interface.

## 2 Feature

- System:
  - ARM Cortex-M0 processor, running at frequencies of up to 72 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 32KB.
  - 4KB 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 13 pins.
  - Analog Comparator
  - Coordinate Rotation Digital Computer (CORDIC)
  - Pulse width Modulation (PWM)
  - Watchdog Timer(WDT)
  - Multiplication Division Unit (MDU)
  - Cyclic Redundancy Check(CRC)
  - Operational Amplifier(OPA)
- Serial Wire Debug

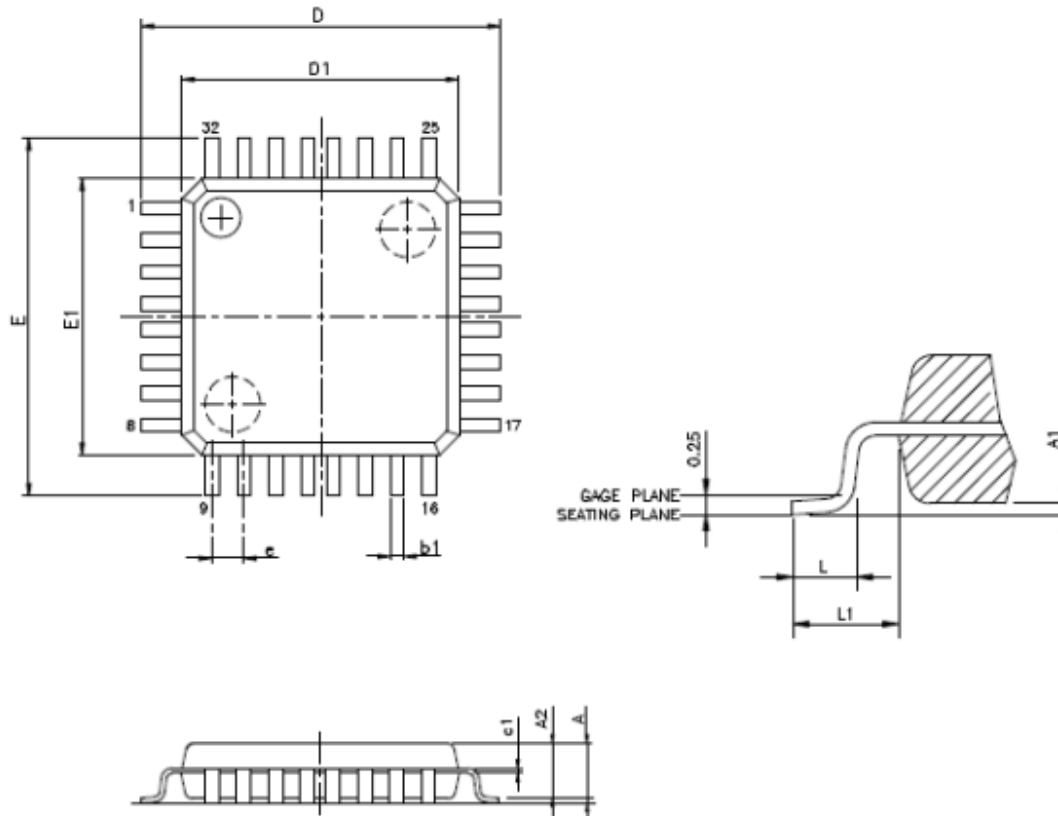
### 3 Pin Assignment

LQFP 32 – pin



## 25 Package Dimensions

### 32L LQFP (7x7x1.4mm) Package Outline :



Symbol	Dimension in mm			Dimension in inch		
	Min	Nom	Max	Min	Nom	Max
A	—	—	1.60	—	—	0.063
A1	0.05	—	0.20	0.002	—	0.008
A2	1.35	—	1.45	0.053	—	0.057
b1	0.30	—	0.45	0.012	—	0.018
c	0.09	—	0.18	0.004	—	0.007
D	—	9.00	—	—	0.35	—
D1	—	7.00	—	—	0.28	—
E	—	9.00	—	—	0.35	—
E1	—	7.00	—	—	0.28	—
e	—	0.80	—	—	0.03	—
L	0.40	—	0.75	0.016	—	0.030
L1	—	1.00	—	—	0.039	—

Note :

1. Dimension D1 & E1 do not include mold protrusion.
2. Dimension b1 does not include dambar protrusion.