Single-chip 32-bit microcontrollers; 128 kB ISP/IAP flash with 16/32/64 kB RAM

LPC2104FBD48

Not Recommended for New Designs
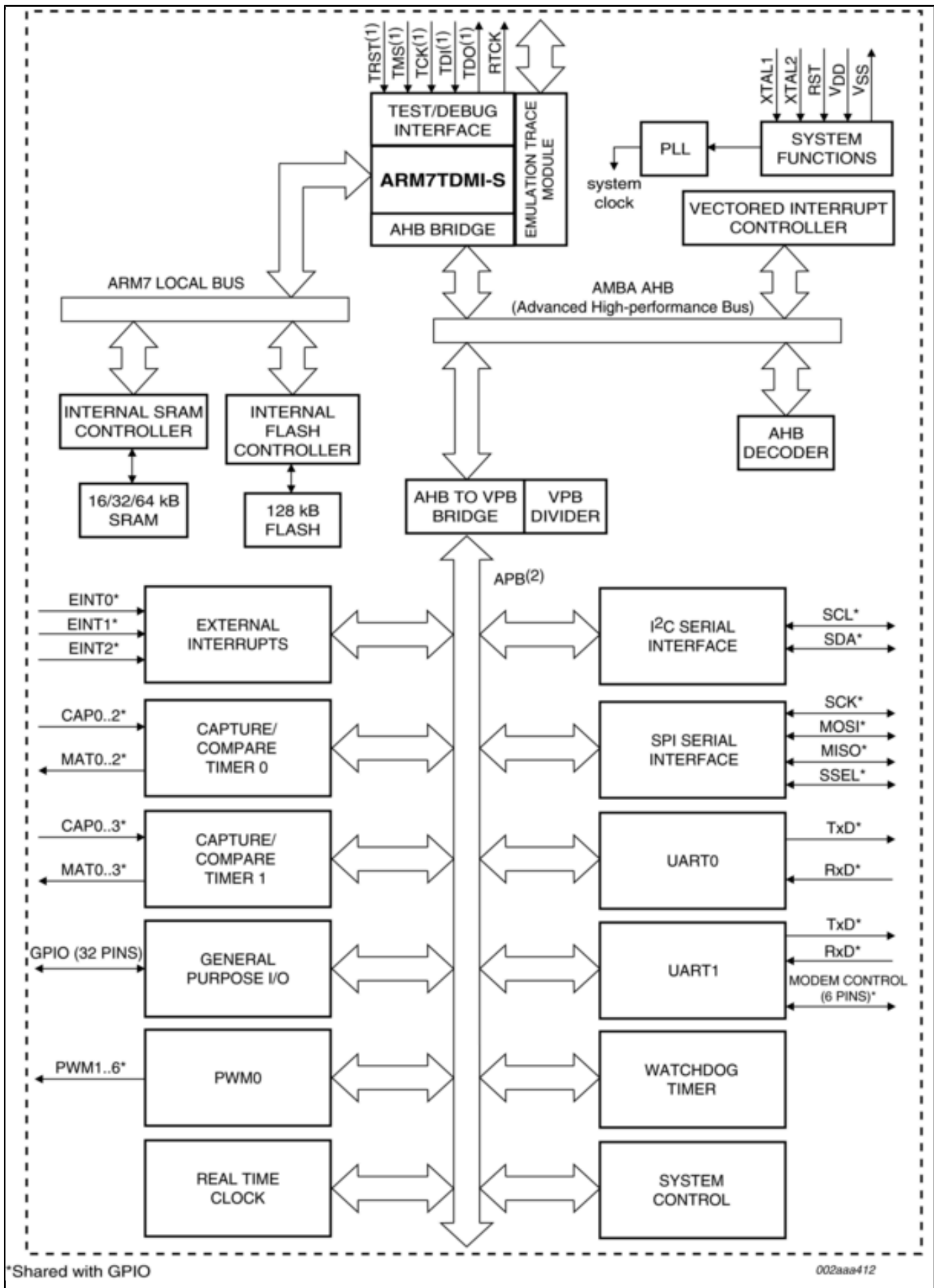
このページでは、新規設計を推奨しない製品に関する情報を掲載しています。

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The UART are based on a 16/32-bit Arm7TDMI-S™ CPU with real-time emulation and embedded trace support, together with 128 kB of embedded high speed flash memory. A 128-bit wide memory interface and a unique accelerator architecture enable 32-bit code execution at maximum clock rate. For critical code size applications, the alternative 16-bit Thumb mode reduces code by more than 30 pct with minimal performance penalty.

Due to their tiny size and low power consumption, these microcontrollers are ideal for applications where miniaturization is a key requirement, such as access control and point-of-sale. With a wide range of serial communications interfaces and on-chip SRAM options up to 64 kB, they are very well suited for communication gateways and protocol converters, soft modems, voice recognition and low end imaging, providing both large buffer size and high processing power. Various 32-bit timers, PWM channels, and 32 GPIO lines make these microcontrollers particularly suitable for industrial control and medical systems.

Remark:Throughout the data sheet, the term LPC2104/2105/2106 will apply to devices with and without /00 and /01 suffixes. Suffixes will be used to differentiate devices whenever they include new features.

Block diagram: LPC2104FBD48, LPC2105FBD48, LPC2106FBD48, LPC2106FHN48 Block Diagram

```
                                    TRST(1)
                                     TMS(1)
                                      TCK(1)
                                       TDI(1)
                                        TDO(1)
                                          RTCK

                                                                    XTAL1
                                                                     XTAL2
                                                                      RST
                                                                       VDD
                                                                        VSS

                        TEST/DEBUG
                        INTERFACE          E          PLL        SYSTEM
                                           M                     FUNCTIONS
                                           U
                        ARM7TDMI-S         L
                                           A
                                           T   system clock
                                           I
                        AHB BRIDGE         O          VECTORED INTERRUPT
                                           N          CONTROLLER
                                           T
                                           R
                                           A
       ARM7 LOCAL BUS                      C   AMBA AHB
                                           E   (Advanced High-performance Bus)

   INTERNAL SRAM    INTERNAL                                      AHB
   CONTROLLER       FLASH                                         DECODER
                    CONTROLLER

   16/32/64 kB      128 kB           AHB TO VPB   VPB
   SRAM             FLASH            BRIDGE       DIVIDER

                                          APB(2)

   EINT0*                                                 SCL*
   EINT1*   EXTERNAL                          I2C SERIAL  SDA*
   EINT2*   INTERRUPTS                        INTERFACE

   CAP0..2*                                                SCK*
            CAPTURE/                          SPI SERIAL   MOSI*
   MAT0..2* COMPARE                           INTERFACE    MISO*
            TIMER 0                                         SSEL*

   CAP0..3*
            CAPTURE/                                        TxD*
   MAT0..3* COMPARE                           UART0         RxD*
            TIMER 1

   GPIO (32 PINS)                                           TxD*
            GENERAL                           UART1         RxD*
            PURPOSE I/O                                     MODEM CONTROL
                                                            (6 PINS)*

   PWM1..6* PWM0                              WATCHDOG
                                              TIMER

            REAL TIME                         SYSTEM
            CLOCK                             CONTROL
```

*Shared with GPIO

002aaa412

View additional information for Single-chip 32-bit microcontrollers; 128 kB ISP/IAP flash with 16/32/64 kB RAM.

Note: The information on this document is subject to change without notice.

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