CY7C63722/23
CY7C63742/43
enCoRe™ USB
Combination Low-Speed USB & PS/2 Peripheral Controller

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1.0 Features

- enCoRe™ USB - enhanced Component Reduction
  - Internal oscillator eliminates the need for an external crystal or resonator
  - Interface can auto-configure to operate as PS/2 or USB without the need for external components to switch between modes (no GPIO pins needed to manage dual mode capability)
  - Internal 3.3V regulator for USB pull-up resistor
  - Configurable GPIO for real-world interface without external components
- Flexible, cost-effective solution for applications that combine PS/2 and low-speed USB, such as mice, gamepads, joysticks, and many others.
- USB Specification Compliance
  - Conforms to USB Specification, Version 1.1
  - Conforms to USB HID Specification, Version 1.1
  - Supports 1 Low-Speed USB device address and 3 data endpoints
  - Integrated USB transceiver
  - 3.3V regulated output for USB pull-up resistor
- 8-bit RISC microcontroller
  - Harvard architecture
  - 6-MHz external ceramic resonator or internal clock mode
  - 12-MHz internal CPU clock
  - Internal memory
  - 256 bytes of RAM
  - 6 Kbytes of EPROM (CY7C63722, CY7C63742)
  - 8 Kbytes of EPROM (CY7C63723, CY7C63743)
  - Interface can auto-configure to operate as PS/2 or USB
  - No external components for switching between PS/2 and USB modes
  - No GPIO pins needed to manage dual mode capability
- I/O ports
  - Up to 16 versatile General Purpose I/O (GPIO) pins, individually configurable
  - High current drive on any GPIO pin: 50 mA/pin current sink
  - Each GPIO pin supports high-impedance inputs, internal pull-ups, open drain outputs or traditional CMOS outputs
  - Maskable interrupts on all I/O pins
- SPI serial communication block
  - Master or slave operation
  - 2 Mbit/s transfers
- Four 8-bit Input Capture registers
  - Two registers each for two input pins
  - Capture timer setting with 5 pre-scaler settings
  - Separate registers for rising and falling edge capture
  - Simplifies interface to RF inputs for wireless applications
- Internal low-power wake-up timer during suspend mode
  - Periodic wake-up with no external components
- Optional 6-MHz internal oscillator mode
  - Allows fast start-up from suspend mode
- Watch dog timer (WDT)
- Low Voltage Reset at 3.75V
- Internal brown-out reset for suspend mode
- Improved output drivers to reduce EMI
- Operating voltage from 4.0V to 5.5VDC

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