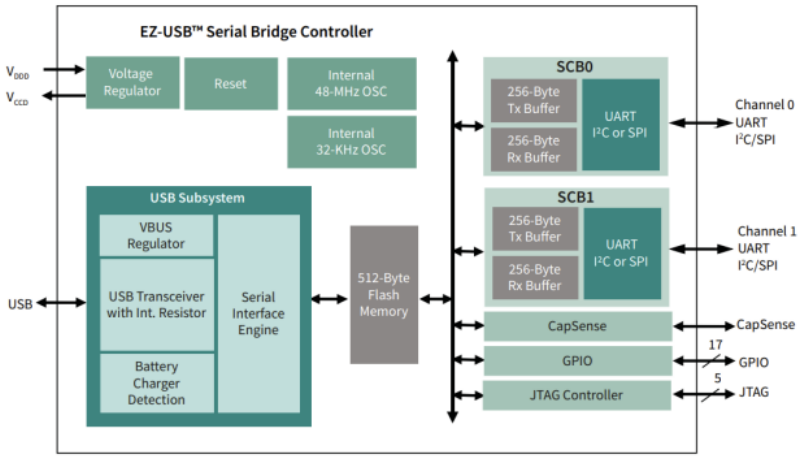
PRODUCT BRIEF

EZ-USB™ serial bridge controller

Wide portfolio with configurable and fixed-function options for industrial and consumer applications

Infineon's EZ-USB™ Serial Bridge Controller is an easy-to-use full speed bridge controller family that supports single and dual channel UART, I²C and SPI-to-USB bridge and vice versa. It offers both configurable and fixed-function options with a complete set of driver options for major operating systems. The EZ-USB™ Serial Bridge Controllers integrates the industry-leading CAPSENSE™ technology (for touch-sensitive key switches) and supports battery charger detection (BCD), which is compliant with the USB-IF battery charging specification ver1.2 (to detect the source of power on the USB port).



Key features

Integrated full speed USB 2.0 controller

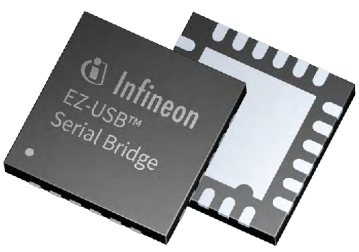
- Certified by USB-IF (TID–40860041)
- Battery charger detection (BC 1.2)
- Integrated CAPSENSE™
- Supports multiple USB-device classes such as CDC, PHDC, and other vendor-specific solutions

Single & dual channel support

- UART up to 3 Mbps, SPI up to 3 MHz, I²C up to 400 KHz
- Easy to use configuration utility
- Integrated regulators
- Bus powered/ Self powered operation
- 5uA standby
- 1.8 to 5.5 V serial I/P interface

Benefits

- Both channels can be configured for UART, SPI or I²C protocols
- CAPSENSE™ provides a better user interface and sleeker design capability, while supporting water shield functionality
- Battery charger detection based on rechargeable batteries, enabling faster battery charging
- Industry's lowest standby current.
- User-friendly GUI to configure features like: Serial channels, GPIOs, CAPSENSE™, BCD, LEDs, VID, PID, other string descriptors





www.infineon.com/ez-usb-serialbridge

EZ-USB™ portfolio overview

Features	USB-UART bridge controller		USB-I²C bridge controller	USB-SPI bridge controller	USB-Serial configurable bridge controller		USB-billboard controller	
	CY7C65213/213A1	CY7C65223/D	CY7C65216/D	CY7C652144/148/14D	CY7C65211/211A1	CY7C65215/215A1	CY7C65210/210A1	CY7C65217/ 217A1
Function served	USB-UART	USB-UART	USB-I²C	USB-SPI	USB-UART, USB-SPI, USB-I²C	USB-UART, USB-SPI, USB-I²C	USB Billboard	USB Billboard
UART channels	1	2	-	-	1	2	-	2
UART protocols	RS232/RS422/RS4852	RS232/RS422/ RS485	-	-	RS232/RS422/ RS4852	RS232/RS422/ RS4852	-	RS232/RS422
UART pins	8	4	-	-	2/4/6	2/4/6 (8)	-	2
Speed /baud rate	3 Mbps	3 Mbps	-	-	3 Mbps	3 Mbps	-	3 Mbps
SPI channels	-	-	-	1/2	1	2	-	-
SPI width	-	-	-	4Bit/8Bit/4Bit	4-16 bit	4-16 bit	-	-
SPI main/replica	-	-	-	Main	Main or replica	Main or replica	-	-
I²C main/replica	-	-	Replica/main	-	Main or replica	Main or replica	Main	Main
Battery charge detection (BCD)	Yes	Yes	Yes	Yes	Yes	Yes	No	No
CAPSENSE™ buttons	-	-	-	-	8	5	-	-
GPIOs	8	7	6	8	17	10	9/11	7/9
JTAGs	-	No	No	No	No	Yes/No	-	-
Software flow control	No	Yes	-	-	No	No	No	No
USB suspend supply current (typical)	5 µA	5 µA	5 µA	5 uA	5 µA	5 µA	5 µA	5 µA
Packages	32-QFN/28-SSOP	24-QFN/32-QFN	24-QFN/32-QFN	24-QFN/24-QFN/ 32-QFN	24-QFN/32-QFN	24-QFN/32-QFN	24-QFN	24-QFN
Footprint	5x5 mm/ 10x7.5x1.65 mm	4x4 mm/5x5 mm	4x4 mm/5x5 mm	4x4 mm/4x4 mm/ 5x5 mm	4x4 mm/5x5 mm	4x4 mm/5x5 mm	4x4 mm	4x4 mm

Getting started with EZ-USB™ development kits

Board	Description
Kit based on USB-Serial bridge - CY7C65211-24LTXI CYUSBS234	CYUSBS234 development kit (DVK) helps evaluate the features of the single-channel EZ-USB™ Serial Bridge Controller CY7C65211. The DVK provides a copper pad on PCB to test CAPSENSE™ feature, a set of EEPROMs to test I²C and SPI interfaces, a RS232 line driver to test UART interfaces.
Kit based on USB-Serial bridge - CY7C65215-32LTXI CYUSBS236	CYUSBS236 development kit (DVK) helps evaluate the features of the dual-channel EZ-USB™ Serial Bridge Controller CY7C65215. The DVK provides two copper pads on the PCB to test CAPSENSE™ feature, two pairs of EEPROMs to test I²C and SPI interfaces, two RS232 line drivers to test UART interfaces.
Kit based on USB-Serial bridge - CY7C65213-32LTXI CYUSBS232	CYUSBS232 reference design kit (RDK) is a low cost kit to evaluate EZ-USB™ Serial Bridge Controller CY7C65213. The kit along with its hardware documentation serves as a reference design for applications like USB-to-UART cables.

Published by
Infineon Technologies AG
Am Campeon 1-15, 85579 Neubiberg
Germany

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Public

Document number:
B191-I1487-V1-7600-EU-EC
Date: 04/2024

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