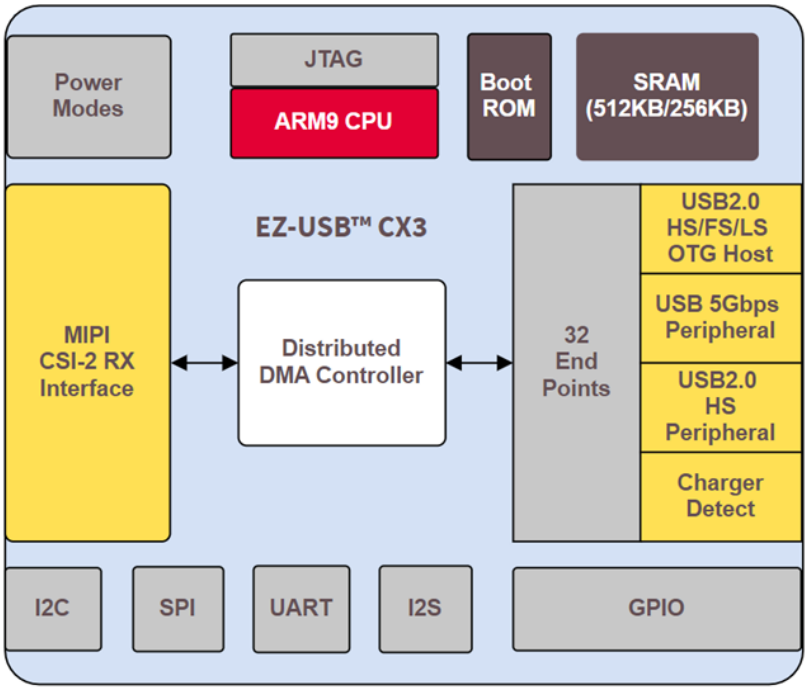
PRODUCT BRIEF

EZ-USB™ CX3 MIPI CSI-2 to USB 5Gbps camera controller

Enabling USB 5Gbps connectivity in image sensors with MIPI CSI-2 interface

EZ-USB™ CX3 is a USB 3.1 controller able to add USB 5Gbps connectivity to any image sensor compliant with the mobile industry processor interface (MIPI) camera serial interface type 2 (CSI-2) standard. It is based on the proven EZ-USB™ FX3 platform and comes with a 200 MIPS fully-accessible ARM9 CPU and 512 KB SRAM. For configuring image sensors, EZ-USB™ CX3 also supports camera control interface (CCI). Pan, tilt, and zoom functions, as well as other camera control functions, can be supported by programming the device's numerous peripheral interfaces, including I2C, SPI, and UART.

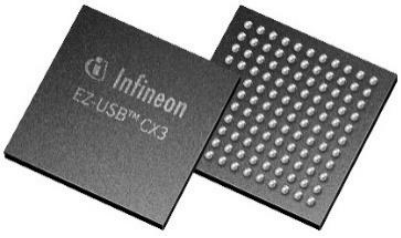


Key features

- Capable of streaming uncompressed video such as 4K UHD video at 15 fps, 1080p video at 30 fps or 720p video at 60 fps
- Connectivity: MIPI CSI-2 to USB 5Gbps bridge controller with an integrated USB 5Gbps PHY
- Bandwidth: 4x CSI-2 lanes, 1 Gbps per lane
- Color format support: RAW8/10/12/141, YUV422/4442, RGB888/666/5653
- Camera protocol: UVC or proprietary
- Programmability: fully accessible ARM9 CPU with 200-MHz operation and 512 KB SRAM

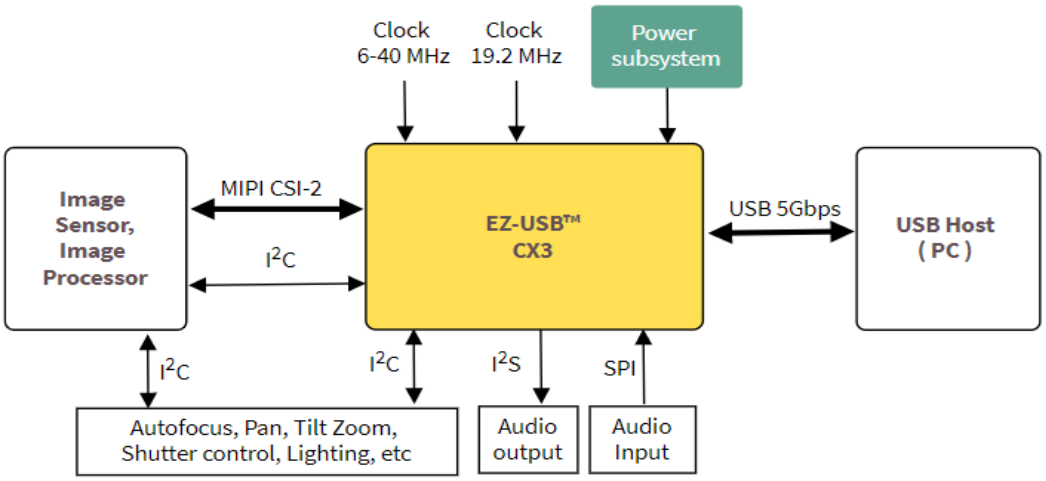
Key benefits

- Turn-key solutions on industrial standards
- Quick time-to-market with low development costs
- Adds USB 5Gbps connectivity to any MIPI CSI-2 based camera



www.infineon.com/ez-usb-cx3

In the block diagram a typical EZ-USB™ CX3-based camera is depicted. The EZ-USB™ CX3 is connected to an image sensor with a MIPI CSI-2 (up to four lanes) interface. A standard USB cable is then used by the peripheral controller to transfer uncompressed video in compliance with the USB Video Class standard to a PC or an embedded system



EZ-USB™ CX3 Example Application

Product table

Product	USB standard	USB speed [Gbit/s]	I/O type	Operating temperature range [°C]	Operating voltage min [V]	Operating voltage max [V]
CYUSB3065-BZXI	USB 3.0	5	8/16/24/32-bit GPIF, DMA, GPIO, I2C, SPI	-40 to 85	1,15	3,6
CYUSB3064-BZXI	USB 3.0	5	8/16/24/32-bit GPIF, DMA, GPIO, I2C, SPI	-40 to 85	1,15	3,6
CYUSB3064-BZXC	USB 3.0	5	8/16/24/32-bit GPIF, DMA, GPIO, I2C, SPI	0 to 70	1,15	3,6
CYUSB3065-BZXC	USB 3.0	5	8/16/24/32-bit GPIF, DMA, GPIO, I2C, SPI	0 to 70	1,15	3,6

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