Cypress Semiconductor’s new EZUSB (Universal Serial Bus) FX3 for USB 3.0 applications combines a flexible peripheral controller with a USB 3.0 PHY (physical)-layer interface that provides a data pipeline as fast as 5 Gbps. Designers can use the 32-bit, 100-MHz parallel GPIF (general programmable interface) II to program the controller through a state machine for master or slave; synchronous or asynchronous; and 8-, 16-, 24-, or 32-bit configurations.

You can customize the FX3 with an embedded 32-bit, 200-MHz ARM926EJS processor core for the needs of end markets. The ARM9 core is fully accessible for use as an independent microcontroller and includes 512 kbytes of memory. You can program the device with Cypress tools or standard ARM tools.

The FX3 provides a variety of serial interfaces, including I²C (inter-integrated circuit) for the boot EEPROM, SPI (serial-peripheral interface), UART (universal asynchronous receiver/transmitter), and I²S (inter-IC sound). According to the company, you can configure most unused I/Os as general-purpose I/Os.

The controller is now available for sampling. An alpha development kit, beta SDK (software-development kit), and associated programmers’ manual are also available. Cypress plans to release full production quantities in September for less than $10. The company is packaging the FX3 in a 121-ball, 10×10-mm BGA package and is specifying the device for industrial-temperature-grade operation.