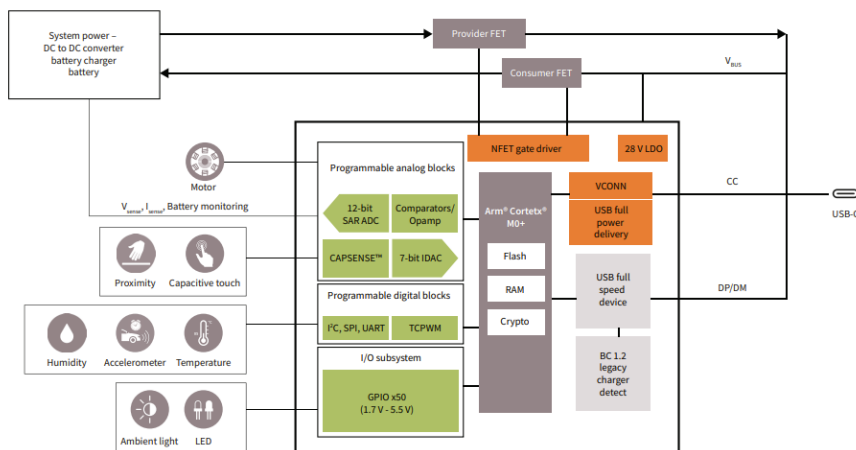# EZ-PD™ Power Delivery Microcontroller Gen 1

Industry's first high-voltage USB-C PD solution with an onboard MCU

Power delivery microcontroller gen 1 (EZ-PD™ PMG1) is a high-voltage USB-C power delivery microcontroller (PD MCU) targeting market segments, such as consumer, industrial, and communications, that powers from the USB-C connector and needs a MCU to implement the product features.

The EZ-PD™ PMG1 family of devices has a market-proven USB power delivery stack, ensuring spec compliance and interoperability. It's the only high-voltage, programmable USB power delivery solution on the market today, complete with an integrated ARM® Cortex®-M0/M0+, up to 256 KB Flash and 32 KB RAM, a USB full speed device, with analog and digital peripherals. The EZ-PD™ PMG1 family offers customers a unified firmware view with an SDK supported in ModusToolbox™, enabling seamless migration between all EZ-PD™ PMG1 devices.

Key features

USB power delivery 3.1
– Supports up to 28 V on VBUS EPR
– VBUS FET gate drivers
– VBUS fault protections: OVP, OCP

32-Bit MCU subsystem
– 48-MHz ARM® Cortex®-M0/M0+ MCU with DMA controller and RTC
– Up to 256 KB flash and 32 KB RAM

USB full speed device with BC v1.2

Analog peripherals
– One 12-bit, 1 MS/second ADC
– Buck-boost controller
– 2x low-power comparators, OpAmps
– CAPSENSE™ with SMARTSENSE™ auto-tuning
– 2x 7-bit current output IDACs confugurable as a single 8-bit IDAC

Digital peripherals
– Up to 8x 16-bit TCPWM blocks
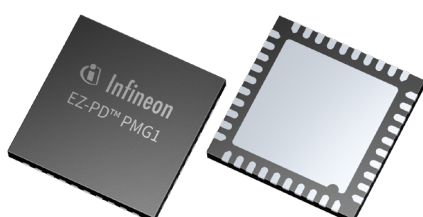– Up to 8x serial communication blocks (SCBs): I²C, SPI, UART

Hardware crypto block
– AES[1], SHA[2], CRC[3], TRNG[4] and vector unit
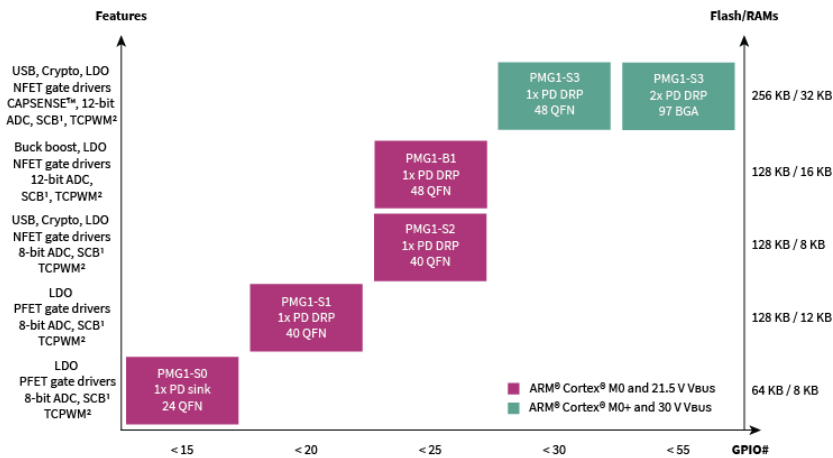
Packages
– 24-, 40-, 48-QFN, 42-CSP and 97-BGA

1) Advanced encryption standard
2) Secure hash algorithm
3) Cyclic redundancy check
4) Pseudo random number generation

EZ-PD™ PMG1 portfolio overview

¹SCB: Serial Communication Block, ²TCPWM: Timer Counter Pulse Width Modulator

Getting started with EZ-PD™ PMG1

1   Download **ModusToolbox™ suite**

2   Purchase the **EZ-PD™ PMG1 kits**

3   Download the **Getting Started EZ-PD™ PMG1 app note** to learn more

Public

Additional information
For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

Warnings
Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life-endangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.

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