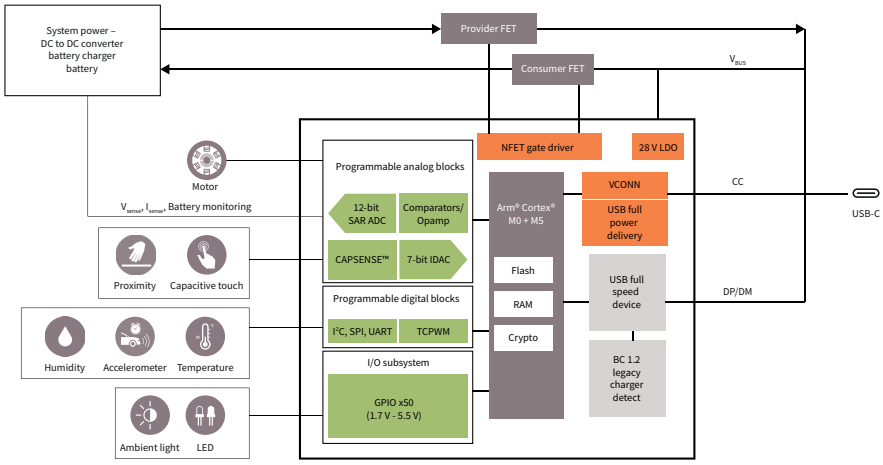
Product brief

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 (PDMCU) 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.



Applications

- Power tools
- E-Bike
- Small home appliances
- Wireless speaker
- Sensor hub
- Secure boot engine

www.infineon.com/pmg1

Key features

USB Power Delivery 3.1

- Supports up to 28 V on V_{BUS} 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 configurable as a single 8-bit IDAC

Digital peripherals

- Up to 8x 16-bit TCPWM blocks
- Up to 8x serial communication blocks (SCBs): I2C master or slave, SPI master or slave, UART

Hardware crypto block

- › AES[1)], SHA[2)], CRC[3)], TRNG[4)] and vector unit

Packages

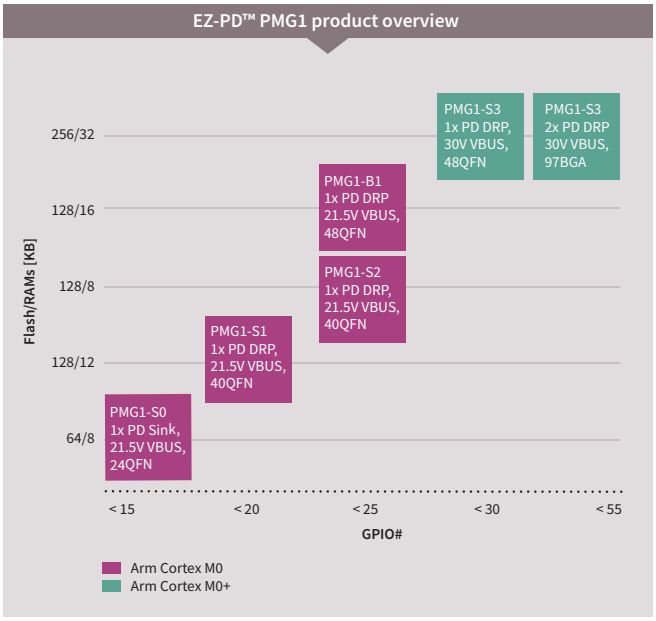
- 24-, 40-, 48- QFN, 42-CSP and 97-BGA

1) Advanced Encryption Standard
2) Secure Hash Algorithm
3) Cyclic Redundancy Check
4) Pseudo Random Number Generation

EZ-PD™ Power Delivery Microcontroller Gen 1

Industry's first high-voltage MCU with integrated USB-C PD

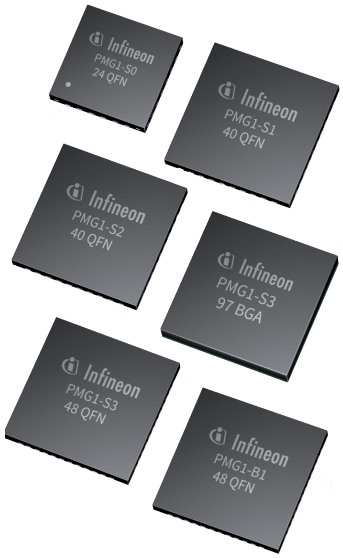
EZ-PD™ PMG1 Family Portfolio



Features

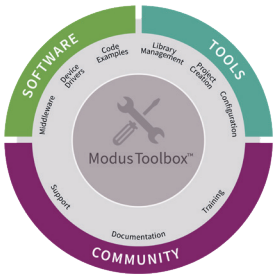
- USB, Crypto, LDO NFET Gate Drivers, CAPSENSE™, 12-bit ADC, SCB, TCPWM
- Buck Boost, LDO, NFET Gate Drivers, 12-bit ADC, SCB, TCPWM
- USB, Crypto, LDO NFET Gate Drivers, 8-bit ADC, SCB, TCPWM
- LDO, PFET Gate Drivers, 8-bit ADC, SCB, TCPWM
- LDO, PFET Gate Drivers, 8-bit ADC, SCB1, TCPWM2

[1] SCB stands for Serial Communication Block
[2] TCPWM stands for Timer Counter Pulse Width Modulator

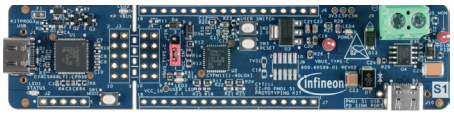


Getting Started with EZ-PD™ PMG1

1. Download ModusToolbox™



2. Purchase the EZ-PD™ PMG1 kit



3. Download the Getting Started EZ-PD™ PMG1 app note

Learn more at www.infineon.com/pmg1

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