

GigaDevice Introduces the new GD32F450 – ARM Cortex-M4F MCU



The GD32F450 belongs to the high performance line of GD32 MCU Family.

It is a new 32-bit general-purpose microcontroller based on the ARM® Cortex®-M4 RISC core with best cost-performance ratio in terms of enhanced processing capacity, reduced power consumption and peripheral set.

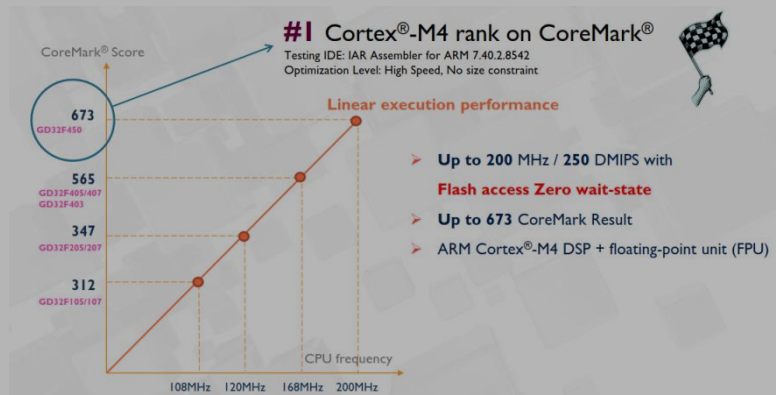
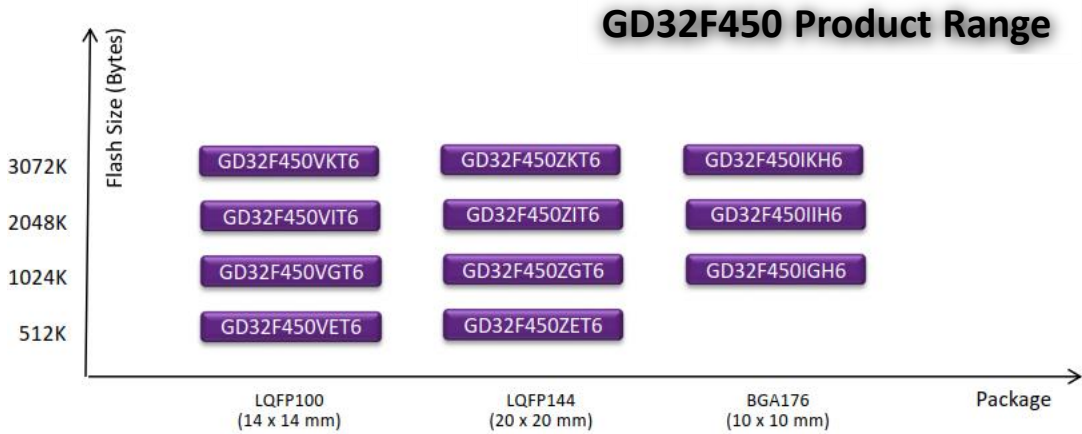
The Cortex®-M4 core features a Floating Point Unit (FPU) that accelerates single precision floating point math operations and supports all ARM® single precision instructions and data types.

The GD32F450 incorporates the ARM® Cortex®-M4 32-bit processor core operating at up to 200 MHz frequency with Flash accesses zero wait states to obtain maximum efficiency. It provides up to 3072 KB on-chip Flash memory and 512 KB SRAM memory. An extensive range of enhanced I/Os and peripherals connected to two APB buses.

The devices offer up to three 12-bit 2.6MSPS ADCs, two 12-bit DACs, up to eight general-purpose 16-bit timers, two 16-bit PWM advanced-control timers, two 32-bit general-purpose timers, and two 16-bit basic timers, as well as standard and advanced communication interfaces: up to six SPIs, three I2Cs, four USARTs and four UARTs, two I2Ss, two CANs, a SDIO, USB device/host/OTG FS and HS, and an Ethernet MAC. Additional peripherals as Digital camera interface (DCI), EXMC interface with SDRAM extension support, TFT-LCD Interface (TLI) and Image Processing Accelerator (IPA) are included.

The device operates from a 2.6 to 3.6V power supply and available in -40 to +85 °C temperature range. Three power saving modes provide the flexibility for maximum optimization of power consumption, an especially important consideration in low power applications.

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High Performance of GD32F450

- Cortex[®]-M4 Core @ 200 MHz
- Support H/W DSP instructions + FPU
- Zero-wait state execution from Flash memory
- Flash from 512 KB to 3072 KB
- SRAM from 192KB to 512KB
- EXMC interface support external SDRAM & SRAM
- Up to 8 x UART (9Mbit/s)
- Up to 6 x SPI (30Mbit/s)
- Up to 3 x I2C (400Kbit/s)
- Up to 2 x CAN2.0B
- Up to 2 x I2S
- Support SDIO, Ethernet MAC
- Support USB OTG FS + HS
- 8-14bit Camera Interface
- LCD-TFT controller up to XGA resolution + IPA
- Up to 3 x 12bit, 2.6M SPS ADCs (up to 24 chs)
- Up to 2 DACs
- Standby Current @ 2uA

