GigaDevice

GD32F303/F305/F307 Mainstream Cortex®-M4 MCUs

Power Industrial Control, Consumer, and IoT Applications

Based on the 120MHz Cortex®-M4 core and supporting fast DSP functionality, the GD32F303/F305/F307 32-bit general-purpose MCUs continue to power mainstream applications with enhanced processing performance and rich system resources.

Compatibility Across Products

The GD32F30x MCUs are software and hardware compatible with other GigaDevice MCUs. For example, users can easily upgrade their designs from the GD32F103/E103/C103 to the GD32F303, making their products scalable. The application notes, "Migration from GD32F10x Series to GD32F30x Series" and "Migration from GD32E103/C103 Series to GD32F30x Series" are provided to engineers to support rapid design and migration between products.

The GD32F30x Series Provides 40 Part Numbers in Three Series and Four Package Options, Including LQFP144, LQFP100, LQFP64 and LQFP48

GD32F303	Mainstream 120MHz Flash 128-3072KB SRAM 32-96KB	GD32F305	Connectivity 120MHz Flash 128-1024KB SRAM 96KB
GD32F307	Connectivity 120MHz Flash 256-1024KB SRAM 96KB		

GD32F303 Block Diagram

Available on GD32F303 only | Available on GD32F305 / F307 | Available on GD32F307 only

System

- 8/48MHz HIRC
- 40KHz LIRC
- EXT:4-32MHz/ 32.768KHz
- PLL
- POR/PDR/LVD
- CCU/RCU/PMU

Arm® Cortex®-M4 core 120 MHz

- DSP instruction extension
- Floating Point Unit (FPU)
- Memory Protection Unit (MPU)
- NVIC
- SWJ-DP

Memory

- 3072 KB Flash
- 96 KB SRAM

Connectivity

- 5x U(S)ART
- 2x I²C
- 3x SPI
- 2x I²S
- 1x FS USB
- 1x USB OTG
- 2x CAN 2.0B
- 1x SDIO
- Ethernet MAC

Timers

- 10x 16bit GP Timer
- 2x 16bit AD Timer
- 2x 16bit Basic Timer
- IWDG
- WWDG
- RTC
- SysTick

Up to 12-CH DMA

Peripherals

- Max 112 GPIOs
- EXMC

Analog

- 3x 12bit ADC
- 2x 12bit DAC

◆ GD32F303 provides 1x CAN 2.0B and 3x 12bit ADCs

◆ GD32F305 and GD32F307 provide 2x CAN 2.0B and 2x 12bit ADCs

GD32F303/F305/F307 Mainstream Portfolio

Flash / SRAM Size (Bytes)

	LQFP48 (7 x 7 mm)	LQFP64 (10 x 10 mm)	LQFP100 (14 x 14 mm)	LQFP144 (20 x 20 mm)
3072K / 96K		GD32F303RKT6	GD32F303VKT6	GD32F303ZKT6
2048K / 96K		GD32F303RIT6	GD32F303VIT6	GD32F303ZIT6
1024K / 96K	GD32F303CGT6	GD32F307RGT6 GD32F305RGT6 GD32F303RGT6	GD32F307VGT6 GD32F305VGT6 GD32F303VGT6	GD32F307ZGT6 GD32F305ZGT6 GD32F303ZGT6
512K / 96K		GD32F307RET6 GD32F305RET6	GD32F307VET6 GD32F305VET6	GD32F307ZET6 GD32F305ZET6
512K / 64K	GD32F303CET6	GD32F303RET6	GD32F303VET6	GD32F303ZET6
256K / 96K		GD32F307RCT6 GD32F305RCT6	GD32F307VCT6 GD32F305VCT6	GD32F307ZCT6 GD32F305ZCT6
256K / 48K	GD32F303CCT6	GD32F303RCT6	GD32F303VCT6	GD32F303ZCT6
128K / 64K		GD32F305RBT6		
128K / 32K	GD32F303CBT6	GD32F303RBT6	GD32F303VBT6	

Package

Development tools

Board Type	Order Code	Onboard Part Number
Evaluation Board	GD32303E-EVAL	GD32F303ZET6
Evaluation Board	GD32303C-EVAL	GD32F303VCT6
Evaluation Board	GD32F303B-EVAL	GD32F303VBT6
Starter Kit	GD32F303R-START	GD32F303RGT6
Starter Kit	GD32303C-START	GD32F303CGT6
Starter Kit	GD32F303B-START	GD32F303CBT6
Solution	GD32303R-FOC V2.0	GD32F303RCT6
Starter Kit	GD32305R-START	GD32F305RCT6
Evaluation Board	GD32307C-EVAL	GD32F307VCT6
ARM-MBED	GD32F307V-MBED	GD32F307VGT6

The full-featured **Evaluation Boards** support application development and debugging, demonstrating the complete functional capabilities of the device.

The entry-level **Starter Kits** correspond to different package types. They support simpler application development and debugging.

For more information on GD32 MCU products and solutions, visit **GD32MCU.com/en**