Geehy 32-bit MCU–Arm® Cortex®-M Cores

Rich portfolio meets diversified customer needs

Released   **Coming Soon**   **In Development**

	Arm® Cortex®-M0+		Arm® Cortex®-M3		Arm® Cortex®-M4		ASIC
High Performance					APM32F411	APM32F417/F415	
					APM32F407	APM32F405	
Mainstream			APM32E103	APM32F107/F105			
			APM32F103	APM32S103			
Basic		APM32F051					
	APM32F091	APM32F030					
	APM32F072	APM32F003					
Ultra-low-power	APM32L0732/L083						
Motor Dedicated	APM32F035	APMSPIN32F020					
Automotive	APM32A091RCT7		APM32A103RET7	APM32A103CBT7	APM32A407ZGT7		Ultrasonic Radar V1
	APM32F072RBT7	APM32F072CBT7	APM32A103VET7	APM32F103RCT7	APM32A407VGT7	G32A144	

Cortex™
Intelligent Processors by Arm®

Arm® POWERED®

Geehy

High Performance & Security MCU—APM32F4xx Series

Based on Arm® Cortex®-M4 Core

Equipped with a 55nm process technology platform, this series integrates processing, control, and networking, considering the characteristics of high computing, high real-time, large storage, and ease of use.

APM32F417	APM32F415	APM32F407	APM32F405

- **Specification**
  - **Operating frequency: 168MHz, CoreMark＞437.6**
  - Flash 1024KB, SRAM 192+4KB
  - Support FPU and DSP
  - Power supply: 1.8~3.6V
  - Operating temperature: -40℃~+105℃
- **Package**
  - LQFP64/100/144/176
- **Application**

Servo Driver, PLC, Encoder, Inverter, Charging Pile, 3D Printer, Industrial Controller, Ventilator, Inverter, Vehicle Multimedia and Balance Car.

- **Features**
  - Enhanced storage: Built-in 2MB SDRAM (optional), supports various external memories such as PSRAM, NORFlash, NANDFlash, etc.
  - Expanded interfaces: U(S)ART*6, I2C*3, SPI*3, I2S*2, SDIO, CAN*2, DCI, Ethernet, high-speed OTG HS2 with integrated PHY
  - Analog peripherals:
  - 12-bit ADC: 3, external channels:24
  - 12-bit DAC: 2
  - High Security:
    - International Cryptographic Algorithms: AES, DES, TDES—APM32F415/F417
    - Secure Hash Algorithms: RNG, SHA-224/256, MD5

Enhanced MCU—APM32E103 Series

Based on Arm® Cortex®-M3 Core

Adopting the 55nm advanced process platform, the first E-series enhanced MCU based on the performance of APM32F103×E, optimizing the characteristics of high frequency, large capacity, and multiple interfaces. It supports pin-pin compatibility to replace the APM32F103xE series MCU.

APM32E103xE   **APM32E103xC**

- **Specification**
  - Operating frequency: 120MHz
  - Flash 256KB/512KB, SRAM up to 128KB
  - Support single-precision FPU
  - Built-in RTC, 5/7 DMA channels
  - Power supply: 2.0~3.6V
  - Operating temperature: -40℃~+105℃
- **Package**
  - LQFP48/64/100/144, QFN48
- **Application**

Security Equipment, Solar Energy Storage, Industrial Motors, Convenient Medical Care, Elevator Control and Automotive Instrumentation.

- **Features**
  - Built-in 2MB SDRAM
  - Interfaces: U(S)ART*5, I2C*2, SPI*3, I2S*2, USBD, SDIO; built-in "dual CAN" interface, support USB and CAN to work independently
  - Analog peripherals:
  - 12-bit ADC: 3 (support independent sampling), external channels: 21
  - 12-bit DAC: 2 (dual channel)
  - Tsensor: 1
  - Up to 112 I/Os, all mappable to external interrupt vectors
  - Certified IEC 60730 software safety certification

Geehy

Entry Level MCU—APM32F0xx Series

Based on Arm® Cortex®-M0+ Core

With low power consumption, wide temperature range, high performance, and high stability, this series can provide more flexible options for cost-sensitive applications, helping customers to obtain more complex and innovative product features at a more economical cost.

| APM32F091 | APM32F072 | APM32F051 | APM32F030xC | APM32F030x8 | APM32F003 |

■ **Specification**
- Operating frequency: 48MHz
- Flash 16~256KB, SRAM 2~32KB
- Power supply: 2.0~5.5V
- Operating temperature: -40℃~+105℃

■ **Package**
- LQFP32/48/64/100, QFN20/28/32/48, TSSOP20, SOP20

■ **Application**

Vehicle GPS, BMS, Industrial Handheld Terminal, VR Glasses, Fingerprint Lock, Home Appliance Control Panel, POS Machine, Vehicle T-box, Driving Recorder, Handheld Vacuum Cleaner, Smoke Alarm, Forehead Thermometer, Electric Toys, Charger, EDR and Computer Peripherals.

■ **Features**
- Built-in HDMI CEC (APM32F091/F072)
- Support TSC capacitive touch function (APM32F091/F072/F051)
- Programmable analog comparator: 2 (APM32F091/F072/F051)
- Interfaces:
  ➤ Up to U(S)ART, I2C, SPI, I2S, CAN
  ➤ Full-speed USB2.0*1 (external-free, support BCD and LPM)-APM32F072
- ESD>8KV, with strong anti-interference & anti-static capability (APM32F003)
- Integrated high-speed internal oscillator with full range accuracy within ±3% and up to ±1% with user calibration (APM32F003)
- Certified IEC 60730 (APM32F072/F030)
- Certified USB-IF (APM32F072)