# Product Selection Guide

# Content

# Geehy 32-bit MCU—Arm® Cortex®-M Cores

A diverse portfolio catering to varied customer needs.

Automotive & Industrial — Functional Safety & Security — Motor Control — Connectivity — Touch

## Arm® Cortex®-M0+/M3/M4F/M52...

| Real-Time MCU | High-Performance MCU | Mainstream MCU | Basic MCU | Motor-Dedicated MCU | Wireless MCU | Automotive MCU |
|---|---|---|---|---|---|---|
| G32R501 | APM32F417 | APM32E103 | APM32F091 | APM32M3514 | GW8811 (BLE4.2) | G32A1465 |
| | APM32F407/405 | APM32F107/105 | APM32F072 | APM32F035 | GW3323 (BLE5.2) | G32A1445 |
| | APM32F411 | APM32F103 | APM32F051 | | | APM32A407 |
| | APM32F402 | | APM32E030 | | | APM32A103 |
| | | | APM32F030 | | | APM32A091 |
| | | | APM32F003 | | | APM32F103RCT7 |
| | | | | | | APM32F072RBT7 |
| | | | | | | APM32F072CBT7 |
| | | | | | | APM32F003F6U7 |
| Cortex-M52 | Cortex-M4F | Cortex-M3 | Cortex-M0+ | Cortex-M0+ | Cortex-M0<br>RISC-V | Cortex-M4F/M3/M0+ |


Cortex Intelligent Processors by Arm®

Arm POWERED®

# Product Selection Guide

| APM/G | 32 | F | 103 | (Blank) | T | 4 | T | 6 | S |
|---|---|---|---|---|---|---|---|---|---|
| Brand | Family | Product type | Specific features | Core type | Pin count (pins) | Flash(KB) | Packaging | Temp range | Additional |

**Brand**

**Family**
32:32-bit MCU
W33:BLE MCU
W88:BLE MCU

**Product type**
A Auto grade
E Enhanced
F Foundation
R Real-time
S Standard
11 BLE4.2
23 BLE5.2

**Specific features**
0xx Entry-level(Cortex-M0+)
10x Mainstream(Cortex-M3)
4xx High-performance(Cortex-M4F)
5xx Excellent efficiency (Cortex-M52)

**Core type**
D:
Double Core
Blank:
Single Core

**Pin count (pins)**

| | |
|---|---|
| D | 14 |
| F | 20 |
| E | 24 |
| G | 28 |
| K | 32 |
| T | 36 |
| H | 40 |
| S | 44 |
| C | 48 |
| N | 56 |
| U | 63 |
| R | 64 |
| J | 72 |
| M | 80 |
| O | 90 |
| V | 100 |
| Q | 132 |
| Z | 144 |
| A | 169 |
| I | 176 |

**Flash(KB)**

| | |
|---|---|
| 4 | 16 |
| 6 | 32 |
| 7 | 48 |
| 8 | 64 |
| 9 | 72 |
| A | 96 |
| B | 128 |
| Z | 192 |
| C | 256 |
| D | 384 |
| E | 512 |
| Y | 640 |
| F | 768 |
| G | 1024 |

**Packaging**

| | |
|---|---|
| H | LFBGA/TFBGA |
| I | UFBGA Pitch 0.5 |
| J | UFBGA Pitch 0.8 |
| K | UFBGA Pitch 0.65 |
| M | SOP |
| P | TSSOP |
| T | LQFP/QFP |
| U | QFN |
| Y | WLCSP |

**Temp range**
6 and A:-40~85 °C
7 and B:-40~105°C
8 and C:-40~125°C
D:-40~150°C

**Additional**
S:SiP 2MB SDRAM
Q: AEC-Q100

## Packages

- LQFP176/144/100/64/48/32
- QFN56/48/36/32/20
- TSSOP20
- SOP20
- BGA176

32-pin LQFP 7x7mm | 48-pin LQFP 7x7mm | 64-pin LQFP 10x10mm | 176-pin BGA 10x10mm | 100-pin LQFP 14x14mm | 144-pin LQFP 20x20mm | 176-pin LQFP 24x24mm

20-pin TSSOP 6.5x4.4mm | 20-pin SOP 12.8x7.5mm | 20-pin QFN 3x3mm | 32-pin QFN 5x5mm | 36-pin QFN 6x6mm | 48-pin QFN 6x6mm | 48-pin QFN 7x7mm | 56-pin QFN 7x7mm

# G32R5 Real-time MCUs - Arm® Cortex®-M52

| Part No. | Core | Math Instruction Extension | Frequency(MHz) | DMA Channels | FLASH(KB) | SRAM(KB) | FPU | I/O | Voltage(V) | Operating Temperature(°C) | Timer | | | Analog | | | | | Control | | | | Communication | | | | | | | | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | GPTMR(32-bit) | NMIWD | WWDT | ADC 12-bit Cell | ADC 12-bit Channels | DAC 12-bit Cell | T-sensor | COMP (DAC 12-bit Cell Embedded) | CAP(HRCAP) | PWM (HRPWM Channels) | QEP | SDF Channels | SPI | QSPI | I2C | UART | CAN | LIN | PMBus | USB Device | |
| G32R501DNYU7 | Dual Core | Zidian | 250 | 6 | 640 | 128 | ✓ | 25 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 14 | 2 | 1 | 5(10) | 7(2) | 16(16) | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | QFN56 |
| G32R501DRYT7 | Dual Core | Zidian | 250 | 6 | 640 | 128 | ✓ | 26 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 16 | 2 | 1 | 6(12) | 7(2) | 16(16) | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP64 |
| G32R501DMYT7 | Dual Core | Zidian | 250 | 6 | 640 | 128 | ✓ | 44 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 16 | 2 | 1 | 4(8) | 7(2) | 16(16) | 2 | 4 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP80 |
| G32R501DVYT7 | Dual Core | Zidian | 250 | 6 | 640 | 128 | ✓ | 42 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 31 | 2 | 1 | 7(14) | 7(2) | 16(16) | 2 | 4 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP100 |
| G32R501NYU7 | Single Core | Zidian | 250 | 6 | 640 | 128 | ✓ | 25 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 14 | 2 | 1 | 5(10) | 7(2) | 16(16) | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | QFN56 |
| G32R501RYT7 | Single Core | Zidian | 250 | 6 | 640 | 128 | ✓ | 26 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 16 | 2 | 1 | 6(12) | 7(2) | 16(16) | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP64 |
| G32R501MYT7 | Single Core | Zidian | 250 | 6 | 640 | 128 | ✓ | 44 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 16 | 2 | 1 | 4(8) | 7(2) | 16(16) | 2 | 4 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP80 |
| G32R501VYT7 | Single Core | Zidian | 250 | 6 | 640 | 128 | ✓ | 42 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 31 | 2 | 1 | 7(14) | 7(2) | 16(16) | 2 | 4 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP100 |
| G32R501NCU7 | Single Core | Zidian | 250 | 6 | 256 | 64 | ✓ | 25 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 14 | 2 | 1 | 5(10) | 7(2) | 16(16) | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | QFN56 |
| G32R501RCT7 | Single Core | Zidian | 250 | 6 | 256 | 64 | ✓ | 26 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 16 | 2 | 1 | 6(12) | 7(2) | 16(16) | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP64 |
| G32R501MCT7 | Single Core | Zidian | 250 | 6 | 256 | 64 | ✓ | 44 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 16 | 2 | 1 | 4(8) | 7(2) | 16(16) | 2 | 4 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP80 |
| G32R501VCT7 | Single Core | Zidian | 250 | 6 | 256 | 64 | ✓ | 42 | 3.1~3.6 | -40~105 | 3 | ✓ | ✓ | 3 | 31 | 2 | 1 | 7(14) | 7(2) | 16(16) | 2 | 4 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP100 |
| G32R501DNYU8Q | Dual Core | Zidian | 200 | 6 | 640 | 128 | ✓ | 25 | 3.1~3.6 | -40~125 | 3 | ✓ | ✓ | 3 | 14 | 2 | 1 | 5(10) | 7(2) | 16(16) | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | QFN56 |
| G32R501DRYT8Q | Dual Core | Zidian | 200 | 6 | 640 | 128 | ✓ | 26 | 3.1~3.6 | -40~125 | 3 | ✓ | ✓ | 3 | 16 | 2 | 1 | 6(12) | 7(2) | 16(16) | 2 | 2 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP64 |
| G32R501DMYT8Q | Dual Core | Zidian | 200 | 6 | 640 | 128 | ✓ | 44 | 3.1~3.6 | -40~125 | 3 | ✓ | ✓ | 3 | 16 | 2 | 1 | 4(8) | 7(2) | 16(16) | 2 | 4 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP80 |
| G32R501DVYT8Q | Dual Core | Zidian | 200 | 6 | 640 | 128 | ✓ | 42 | 3.1~3.6 | -40~125 | 3 | ✓ | ✓ | 3 | 31 | 2 | 1 | 7(14) | 7(2) | 16(16) | 2 | 4 | 2 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | LQFP100 |

# APM32F4 High-Performance MCUs – Arm® Cortex®-M4F

| Part No. | Frequency(MHz) | FLASH(KB) | SRAM(KB) | FPU | I/O | Voltage(V) | Timer | | | | | | | Analog Interface | | | | Connectivity | | | | | | | | | | | | | Security | | | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | GPTMR(16bit) | GPTMR(32bit) | Advanced | Basic TMR | IWDT | WWDT | RTC | ADC 12-bit Cell | ADC 12-bit | DAC 12-bit | Analog Compara | SPI | QSPI | I2S | I2C | U(S)ART | CAN | SDIO | USB OTG_FS | USB OTG_HS | DCI | SMC | DMC | Ethernet | RNG | AES/DES | BN/SM3/SM4 | |
| APM32F403TBU7 | 120 | 128 | 32 | ✓ | 26 | 2.0~3.6 | 3 | 1 | 2 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 0 | 1 | 0 | 1 | 1 | 2+0 | 2 | 0 | 1 | 0 | - | - | - | 0 | - | - | - | QFN36 |
| APM32F403CBU7 | 120 | 128 | 32 | ✓ | 40 | 2.0~3.6 | 3 | 1 | 2 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 0 | 2 | 0 | 1 | 1 | 3+0 | 2 | 0 | 1 | 0 | - | - | - | 0 | - | - | - | QFN48 |
| APM32F403CBT7 | 120 | 128 | 32 | ✓ | 40 | 2.0~3.6 | 3 | 1 | 2 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 0 | 2 | 0 | 1 | 1 | 3+0 | 2 | 0 | 1 | 0 | - | - | - | 0 | - | - | - | LQFP48 |
| APM32F403RBT7 | 120 | 128 | 32 | ✓ | 51 | 2.0~3.6 | 3 | 1 | 2 | 0 | ✓ | ✓ | ✓ | 2 | 16 | 0 | 0 | 2 | 0 | 1 | 1 | 3+1 | 2 | 0 | 1 | 0 | - | - | - | 0 | - | - | - | LQFP64 |
| APM32F405RGT6 | 168 | 1024 | 192+4 | ✓ | 51 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | - | - | - | 0 | ✓ | - | - | LQFP64 |
| APM32F405VGT6 | 168 | 1024 | 192+4 | ✓ | 82 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | - | ✓ | - | 0 | ✓ | - | - | LQFP100 |
| APM32F405ZGT6 | 168 | 1024 | 192+4 | ✓ | 114 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 24 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | - | ✓ | - | 0 | ✓ | - | - | LQFP144 |
| APM32F407RET6 | 168 | 512 | 192+4 | ✓ | 51 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | - | - | - | 0 | ✓ | - | ✓ | LQFP64 |
| APM32F407RGT6 | 168 | 1024 | 192+4 | ✓ | 51 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | - | - | - | 0 | ✓ | - | ✓ | LQFP64 |
| APM32F407VET6 | 168 | 512 | 192+4 | ✓ | 82 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | ✓ | ✓ | - | 1 | ✓ | - | ✓ | LQFP100 |
| APM32F407VGT6 | 168 | 1024 | 192+4 | ✓ | 82 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | ✓ | ✓ | - | 1 | ✓ | - | ✓ | LQFP100 |
| APM32F407ZET6 | 168 | 512 | 192+4 | ✓ | 114 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 24 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | ✓ | ✓ | - | 1 | ✓ | - | ✓ | LQFP144 |
| APM32F407ZGT6 | 168 | 1024 | 192+4 | ✓ | 114 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 24 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | ✓ | ✓ | - | 1 | ✓ | - | ✓ | LQFP144 |
| APM32F407IGT6 | 168 | 1024 | 192+4 | ✓ | 140 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 24 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | ✓ | ✓ | ✓ | 1 | ✓ | - | ✓ | LQFP176 |
| APM32F407IGH6 | 168 | 1024 | 192+4 | ✓ | 140 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 24 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | ✓ | ✓ | ✓ | 1 | ✓ | - | ✓ | BGA176 |
| APM32F411CEU6 | 120 | 512 | 128 | ✓ | 36 | 1.8~3.6 | 8 | 2 | 2 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 2 | 3 | 0 | 3 | 3 | 3+1 | 2 | 1 | 1 | 0 | - | - | - | 0 | ✓ | - | - | QFN48 |
| APM32F411CET6 | 120 | 512 | 128 | ✓ | 36 | 1.8~3.6 | 8 | 2 | 2 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 2 | 3 | 0 | 3 | 3 | 3+1 | 2 | 1 | 1 | 0 | - | - | - | 0 | ✓ | - | - | LQFP48 |
| APM32F411RET6 | 120 | 512 | 128 | ✓ | 50 | 1.8~3.6 | 8 | 2 | 2 | 0 | ✓ | ✓ | ✓ | 2 | 16 | 0 | 2 | 5 | 1 | 5 | 3 | 4+2 | 2 | 1 | 1 | 0 | - | - | - | 0 | ✓ | - | - | LQFP64 |
| APM32F411VET6 | 120 | 512 | 128 | ✓ | 81 | 1.8~3.6 | 8 | 2 | 2 | 0 | ✓ | ✓ | ✓ | 2 | 16 | 0 | 2 | 5 | 1 | 5 | 3 | 4+2 | 2 | 1 | 1 | 0 | - | ✓ | - | 0 | ✓ | - | - | LQFP100 |
| APM32F417VGT6 | 168 | 1024 | 192+4 | ✓ | 82 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | ✓ | ✓ | - | 1 | ✓ | ✓ | ✓ | LQFP100 |
| APM32F417ZGT6 | 168 | 1024 | 192+4 | ✓ | 114 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 24 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | ✓ | ✓ | - | 1 | ✓ | ✓ | ✓ | LQFP144 |
| APM32F417IGT6 | 168 | 1024 | 192+4 | ✓ | 140 | 1.8~3.6 | 8 | 2 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 24 | 2 | 0 | 3 | 0 | 2 | 3 | 4+2 | 2 | 1 | 1 | 1+1 | ✓ | ✓ | ✓ | 1 | ✓ | ✓ | ✓ | LQFP176 |

# APM32E1/F1 Mainstream MCUs - Arm® Cortex®-M3

| Part No. | Frequency(MHz) | FLASH(KB) | SRAM(KB) | FPU | I/Os | Voltage(V) | Timer | | | | | | | Analog Interface | | | | Connectivity | | | | | | | | | | | | | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | GPTMR(16bit) | GPTMR(32bit) | Advanced TMR(16bit) | Basic TMR | IWDT | WWDT | RTC | ADC 12-bit Cell | ADC 12-bit Channels | DAC 12-bit Channels | Analog Comparator | SPI | QSPI | I2S | I2C | U(S)ART | CAN | SDIO | USB Device | CEC | USB OTG_FS | SMC | DMC | Ethernet | |
| APM32F103T8U6 | 96 | 64 | 20 | - | 26 | 2~3.6 | 3 | 0 | 1 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | - | - | 0 | QFN36 |
| APM32F103TBU6 | 96 | 128 | 20/36 | ✓ | 26 | 2~3.6 | 3 | 0 | 1 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1/2 | 0 | 1 | 0 | 0 | - | - | 0 | QFN36 |
| APM32F103TBU7 | 96 | 128 | 20/36 | ✓ | 26 | 2~3.6 | 3 | 0 | 1 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1/2 | 0 | 1 | 0 | 0 | - | - | 0 | QFN36 |
| APM32F103C8T6 | 96 | 64 | 20 | - | 37 | 2~3.6 | 3 | 0 | 1 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 0 | 2 | 0 | 0 | 2 | 3 | 1 | 0 | 1 | 0 | 0 | - | - | 0 | LQFP48 |
| APM32F103CBT6 | 96 | 128 | 20/36 | ✓ | 37 | 2~3.6 | 3 | 0 | 1 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 0 | 2 | 0 | 0 | 2 | 3 | 1/2 | 0 | 1 | 0 | 0 | - | - | 0 | LQFP48 |
| APM32F103CBT7 | 96 | 128 | 20/36 | ✓ | 37 | 2~3.6 | 3 | 0 | 1 | 0 | ✓ | ✓ | ✓ | 2 | 10 | 0 | 0 | 2 | 0 | 0 | 2 | 3 | 1/2 | 0 | 1 | 0 | 0 | - | - | 0 | LQFP48 |
| APM32F103R8T6 | 96 | 64 | 20 | - | 51 | 2~3.6 | 3 | 0 | 1 | 0 | ✓ | ✓ | ✓ | 2 | 16 | 0 | 0 | 2 | 0 | 0 | 2 | 3 | 1 | 0 | 1 | 0 | 0 | - | - | 0 | LQFP64 |
| APM32F103RBT6 | 96 | 128 | 20/36 | ✓ | 51 | 2~3.6 | 3 | 0 | 1 | 0 | ✓ | ✓ | ✓ | 2 | 16 | 0 | 0 | 2 | 0 | 0 | 2 | 3 | 1/2 | 0 | 1 | 0 | 0 | - | - | 0 | LQFP64 |
| APM32F103RBT7 | 96 | 128 | 20/36 | ✓ | 51 | 2~3.6 | 3 | 0 | 1 | 0 | ✓ | ✓ | ✓ | 2 | 16 | 0 | 0 | 2 | 0 | 0 | 2 | 3 | 1/2 | 0 | 1 | 0 | 0 | - | - | 0 | LQFP64 |
| APM32F103VBT6 | 96 | 128 | 20/36 | ✓ | 80 | 2~3.6 | 3 | 0 | 1 | 0 | ✓ | ✓ | ✓ | 2 | 16 | 0 | 0 | 2 | 1 | 0 | 2 | 3 | 1/2 | 0 | 1 | 0 | 0 | - | - | 0 | LQFP100 |
| APM32F103CCT6 | 96 | 256 | 64 | - | 37 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 10 | 2 | 0 | 3 | 0 | 2 | 2 | 3 | 2 | 0 | 1 | 0 | 0 | - | - | 0 | LQFP48 |
| APM32F103RCT6 | 96 | 256 | 64 | - | 51 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 1 | 1 | 0 | 0 | - | - | 0 | LQFP64 |
| APM32F103RCT7 | 96 | 256 | 64 | - | 51 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 1 | 1 | 0 | 0 | - | - | 0 | LQFP64 |
| APM32F103VCT6 | 96 | 256 | 64 | - | 80 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 1 | 1 | 0 | 0 | ✓ | ✓ | 0 | LQFP100 |
| APM32F103RET6 | 96 | 512 | 128 | ✓ | 51 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 1 | 1 | 1 | 0 | 0 | - | - | 0 | LQFP64 |
| APM32F103VET6 | 96 | 512 | 128 | ✓ | 80 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 1 | 1 | 1 | 0 | 0 | ✓ | - | 0 | LQFP100 |
| APM32F103VET7 | 96 | 512 | 128 | ✓ | 80 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 1 | 1 | 1 | 0 | 0 | ✓ | - | 0 | LQFP100 |
| APM32F103ZET6 | 96 | 512 | 128 | ✓ | 112 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 21 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 1 | 1 | 1 | 0 | 0 | ✓ | ✓ | 0 | LQFP144 |
| APM32E103CCU6 | 120 | 256 | 64 | ✓ | 37 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 10 | 2 | 0 | 3 | 0 | 2 | 2 | 3 | 2 | 0 | 1 | 0 | 0 | - | - | 0 | QFN48 |
| APM32E103CEU6 | 120 | 512 | 128 | ✓ | 37 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 10 | 2 | 0 | 3 | 0 | 2 | 2 | 3 | 2 | 0 | 1 | 0 | 0 | - | - | 0 | QFN48 |
| APM32E103CCT6 | 120 | 256 | 64 | ✓ | 37 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 10 | 2 | 0 | 3 | 0 | 2 | 2 | 3 | 2 | 0 | 1 | 0 | 0 | - | - | 0 | LQFP48 |

# APM32E1/F1 Mainstream MCUs - Arm® Cortex®-M3

| Part No. | Frequency(MHz) | FLASH(KB) | SRAM(KB) | FPU | I/Os | Voltage(V) | Timer | | | | | | | Analog Interface | | | | Connectivity | | | | | | | | | | | | | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | GPTMR(16bit) | GPTMR(32bit) | Advanced TMR(16bit) | Basic TMR | IWDT | WWDT | RTC | ADC 12-bit Cell | ADC 12-bit Channels | DAC 12-bit Channels | Analog Comparator | SPI | QSPI | I2S | I2C | U(S)ART | CAN | SDIO | USB Device | CEC | USB OTG_FS | SMC | DMC | Ethernet | |
| APM32E103CET6 | 120 | 512 | 128 | ✓ | 37 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 10 | 2 | 0 | 3 | 0 | 2 | 2 | 3 | 2 | 0 | 1 | 0 | 0 | - | - | 0 | LQFP48 |
| APM32E103RCT6 | 120 | 256 | 64 | ✓ | 51 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 1 | 1 | 0 | 0 | - | - | 0 | LQFP64 |
| APM32E103RET6 | 120 | 512 | 128 | ✓ | 51 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 1 | 1 | 0 | 0 | - | - | 0 | LQFP64 |
| APM32E103VCT6 | 120 | 256 | 64 | ✓ | 80 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 1 | 1 | 0 | 0 | ✓ | - | 0 | LQFP100 |
| APM32E103VET6 | 120 | 512 | 128 | ✓ | 80 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 1 | 1 | 0 | 0 | ✓ | - | 0 | LQFP100 |
| APM32E103ZET6 | 120 | 512 | 128 | ✓ | 112 | 2~3.6 | 4 | 0 | 2 | 2 | ✓ | ✓ | ✓ | 3 | 21 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 1 | 1 | 0 | 0 | ✓ | ✓ | 0 | LQFP144 |
| APM32F105RBT6 | 96 | 128 | 64 | - | 51 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 0 | 0 | 0 | 1 | - | - | 0 | LQFP64 |
| APM32F105RCT6 | 96 | 256 | 64 | - | 51 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 0 | 0 | 0 | 1 | - | - | 0 | LQFP64 |
| APM32F105VBT6 | 96 | 128 | 64 | - | 80 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 0 | 0 | 0 | 1 | - | - | 0 | LQFP100 |
| APM32F105VCT6 | 96 | 256 | 64 | - | 80 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 16 | 2 | 0 | 3 | 0 | 2 | 2 | 3+2 | 2 | 0 | 0 | 0 | 1 | - | - | 0 | LQFP100 |
| APM32F107RBT6 | 96 | 128 | 64 | - | 51 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 16 | 2 | 0 | 3 | 0 | 2 | 1 | 3+2 | 2 | 0 | 0 | 0 | 1 | - | - | 1 | LQFP64 |
| APM32F107RCT6 | 96 | 256 | 64 | - | 51 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 16 | 2 | 0 | 3 | 0 | 2 | 1 | 3+2 | 2 | 0 | 0 | 0 | 1 | - | - | 1 | LQFP64 |
| APM32F107VBT6 | 96 | 128 | 64 | - | 80 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 16 | 2 | 0 | 3 | 0 | 2 | 1 | 3+2 | 2 | 0 | 0 | 0 | 1 | - | - | 1 | LQFP100 |
| APM32F107VCT6 | 96 | 256 | 64 | - | 80 | 2~3.6 | 4 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 2 | 16 | 2 | 0 | 3 | 0 | 2 | 1 | 3+2 | 2 | 0 | 0 | 0 | 1 | - | - | 1 | LQFP100 |

# APM32E0/F0 Basic MCUs – Arm® Cortex®-M0+

| Part No. | Frequency(MHz) | FLASH(KB) | SRAM(KB) | FPU | I/Os | Voltage(V) | Timer | | | | | | | Analog Interface | | | | | | Connectivity | | | | | | | | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | GPTMR(16bit) | GPTMR(32bit) | Advanced TMR(16bit) | Basic TMR | IWDT | WWDT | RTC | ADC 12-bit Cell | ADC 12-bit Channels | DAC 12-bit Cell | DAC 12-bit Channels | Analog Comparator | TSC (Channels) | SPI | I2S | I2C | U(S)ART | CAN | SDIO | USB Device | CEC | |
| APM32F003F4P6 | 48 | 16 | 2 | - | 16 | 2.4~5.5 | 1 | 0 | 2 | 1 | ✓ | ✓ | - | 1 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | TSSOP20 |
| APM32F003F6P6 | 48 | 32 | 4 | - | 16 | 2.4~5.5 | 1 | 0 | 2 | 1 | ✓ | ✓ | - | 1 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | TSSOP20 |
| APM32F003F6P7 | 48 | 32 | 4 | - | 16 | 2.4~5.5 | 1 | 0 | 2 | 1 | ✓ | ✓ | - | 1 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | TSSOP20 |
| APM32F003F4M6 | 48 | 16 | 2 | - | 16 | 2.4~5.5 | 1 | 0 | 2 | 1 | ✓ | ✓ | - | 1 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | SOP20 |
| APM32F003F6M6 | 48 | 32 | 4 | - | 16 | 2.4~5.5 | 1 | 0 | 2 | 1 | ✓ | ✓ | - | 1 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | SOP20 |
| APM32F003F4U6 | 48 | 16 | 2 | - | 16 | 2.4~5.5 | 1 | 0 | 2 | 1 | ✓ | ✓ | - | 1 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | QFN20 |
| APM32F003F6U6 | 48 | 32 | 4 | - | 16 | 2.4~5.5 | 1 | 0 | 2 | 1 | ✓ | ✓ | - | 1 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | QFN20 |
| APM32F003F6U7 | 48 | 32 | 4 | - | 16 | 2.4~5.5 | 1 | 0 | 2 | 1 | ✓ | ✓ | - | 1 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | QFN20 |
| APM32F030K6U6 | 48 | 32 | 4 | - | 27 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | QFN32 |
| APM32F030K6T6 | 48 | 32 | 4 | - | 25 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | LQFP32 |
| APM32F030K6T7 | 48 | 32 | 4 | - | 25 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | LQFP32 |
| APM32F030K8T6 | 48 | 64 | 8 | - | 25 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | LQFP32 |
| APM32F030C6T6 | 48 | 32 | 4 | - | 39 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | LQFP48 |
| APM32F030C8T6 | 48 | 64 | 8 | - | 39 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | LQFP48 |
| APM32F030R8T6 | 48 | 64 | 8 | - | 55 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 16 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | LQFP64 |
| APM32F030CCT6 | 48 | 256 | 32 | - | 37 | 2~3.6 | 5 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 6 | 0 | 0 | 0 | 0 | LQFP48 |
| APM32F030RCT6 | 48 | 256 | 32 | - | 51 | 2~3.6 | 5 | 0 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 16 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 6 | 0 | 0 | 0 | 0 | LQFP64 |
| APM32E030F8P6 | 72 | 64 | 8 | - | 15 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | TSSOP20 |

# APM32E0/F0 Basic MCUs – Arm® Cortex®-M0+

| Part No. | Frequency(MHz) | FLASH(KB) | SRAM(KB) | FPU | I/Os | Voltage(V) | Timer | | | | | | | Analog Interface | | | | | | Connectivity | | | | | | | | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | GPTMR(16bit) | GPTMR(32bit) | Advanced TMR(16bit) | Basic TMR | IWDT | WWDT | RTC | ADC 12-bit Cell | ADC 12-bit Channels | DAC 12-bit Cell | DAC 12-bit Channels | Analog Comparator | TSC (Channels) | SPI | I2S | I2C | U(S)ART | CAN | SDIO | USB Device | CEC | |
| APM32E030G8U6 | 72 | 64 | 8 | - | 23 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | QFN28 |
| APM32E030K8U6 | 72 | 64 | 8 | - | 27 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | QFN32 |
| APM32E030K8T6 | 72 | 64 | 8 | - | 25 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | LQFP32 |
| APM32E030C8U6 | 72 | 64 | 8 | - | 39 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | QFN48 |
| APM32E030C8T6 | 72 | 64 | 8 | - | 39 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | LQFP48 |
| APM32E030C8T7 | 72 | 64 | 8 | - | 39 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | LQFP48 |
| APM32E030R8T6 | 72 | 64 | 8 | - | 55 | 2~3.6 | 5 | 0 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 16 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | LQFP64 |
| APM32F051K6U6 | 48 | 32 | 8 | - | 27 | 2~3.6 | 5 | 1 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 1 | 2 | 14 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | QFN32 |
| APM32F051K8U6 | 48 | 64 | 8 | - | 27 | 2~3.6 | 5 | 1 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 1 | 2 | 14 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | QFN32 |
| APM32F051C6U6 | 48 | 32 | 8 | - | 39 | 2~3.6 | 5 | 1 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 1 | 2 | 17 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | QFN48 |
| APM32F051C8U6 | 48 | 64 | 8 | - | 39 | 2~3.6 | 5 | 1 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 1 | 2 | 17 | 2 | 1 | 2 | 2 | 0 | 0 | 0 | 1 | QFN48 |
| APM32F051K6T6 | 48 | 32 | 8 | - | 25 | 2~3.6 | 5 | 1 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 1 | 2 | 13 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | LQFP32 |
| APM32F051K8T6 | 48 | 64 | 8 | - | 25 | 2~3.6 | 5 | 1 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 1 | 2 | 13 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | LQFP32 |
| APM32F051C6T6 | 48 | 32 | 8 | - | 39 | 2~3.6 | 5 | 1 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 1 | 2 | 17 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | LQFP48 |
| APM32F051C8T6 | 48 | 64 | 8 | - | 39 | 2~3.6 | 5 | 1 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 1 | 2 | 17 | 2 | 1 | 2 | 2 | 0 | 0 | 0 | 1 | LQFP48 |
| APM32F051R6T6 | 48 | 32 | 8 | - | 55 | 2~3.6 | 5 | 1 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 16 | 1 | 1 | 2 | 18 | 2 | 1 | 2 | 2 | 0 | 0 | 0 | 1 | LQFP64 |
| APM32F051R8T6 | 48 | 64 | 8 | - | 55 | 2~3.6 | 5 | 1 | 1 | 1 | ✓ | ✓ | ✓ | 1 | 16 | 1 | 1 | 2 | 18 | 2 | 1 | 2 | 2 | 0 | 0 | 0 | 1 | LQFP64 |
| APM32F072C8U6 | 48 | 64 | 16 | - | 37 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 2 | 2 | 17 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | QFN48 |

# APM32E0/F0 Basic MCUs – Arm® Cortex®-M0+

| Part No. | Frequency(MHz) | FLASH(KB) | SRAM(KB) | FPU | I/Os | Voltage(V) | Timer | | | | | | | Analog Interface | | | | | | Connectivity | | | | | | | | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | GPTMR(16bit) | GPTMR(32bit) | Advanced TMR(16bit) | Basic TMR | IWDT | WWDT | RTC | ADC 12-bit Cell | ADC 12-bit Channels | DAC 12-bit Cell | DAC 12-bit Channels | Analog Comparator | TSC (Channels) | SPI | I2S | I2C | U(S)ART | CAN | SDIO | USB Device | CEC | |
| APM32F072CBU6 | 48 | 128 | 16 | - | 37 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 2 | 2 | 17 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | QFN48 |
| APM32F072C8T6 | 48 | 64 | 16 | - | 37 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 2 | 2 | 17 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | LQFP48 |
| APM32F072CBT6 | 48 | 128 | 16 | - | 37 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 2 | 2 | 17 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | LQFP48 |
| APM32F072CBT7 | 48 | 128 | 16 | - | 37 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 2 | 2 | 17 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | LQFP48 |
| APM32F072R8T6 | 48 | 64 | 16 | - | 51 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 16 | 1 | 2 | 2 | 18 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | LQFP64 |
| APM32F072RBT6 | 48 | 128 | 16 | - | 51 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 16 | 1 | 2 | 2 | 18 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | LQFP64 |
| APM32F072V8T6 | 48 | 64 | 16 | - | 87 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 16 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | LQFP100 |
| APM32F072VBT6 | 48 | 128 | 16 | - | 87 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 16 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | LQFP100 |
| APM32F091CBU6 | 48 | 128 | 32 | - | 38 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 6 | 1 | 0 | 0 | 1 | QFN48 |
| APM32F091CCU6 | 48 | 256 | 32 | - | 38 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 6 | 1 | 0 | 0 | 1 | QFN48 |
| APM32F091CBT6 | 48 | 128 | 32 | - | 38 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 6 | 1 | 0 | 0 | 1 | LQFP48 |
| APM32F091CCT6 | 48 | 256 | 32 | - | 38 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 10 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 6 | 1 | 0 | 0 | 1 | LQFP48 |
| APM32F091RBT6 | 48 | 128 | 32 | - | 52 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 16 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 8 | 1 | 0 | 0 | 1 | LQFP64 |
| APM32F091RCT6 | 48 | 256 | 32 | - | 52 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 16 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 8 | 1 | 0 | 0 | 1 | LQFP64 |
| APM32F091VBT6 | 48 | 128 | 32 | - | 88 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 16 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 8 | 1 | 0 | 0 | 1 | LQFP100 |
| APM32F091VCT6 | 48 | 256 | 32 | - | 88 | 2~3.6 | 5 | 1 | 1 | 2 | ✓ | ✓ | ✓ | 1 | 16 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 8 | 1 | 0 | 0 | 1 | LQFP100 |

# GW Low-Power Bluetooth MCUs

| Part No. | CPU | Protocol | Frequency (MHz) | FLASH (KB) | SRAM (KB) | I/Os | Voltage(V) | Max. TX Power(dBm) | RX Sensitivity(dBm) | TX Current (mA@0dBm) | RX Current (mA@0dBm) | Sleep Mode Current (μA) | Deep Sleep Mode Current (μA) | Operating Temperature (°C), Tj | Timer | WDT(16bit) | RTC | Analog Interface | | | Connectivity | | | | | | | | | | | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | GPADC 10bit Cell | GPADC 10bit Channels | DAC 12bit Channels | SPI(Master) | I2C(Master) | UART | USB | SDIO | PWM | Quadrature Decoder | ISO7816 | Infrared Emitting & Receiving | Keyscan Decoder (Rows & Columns) | AES Encryption Engine | |
| GW8811KEU6 | Cortex-M0 | 4.2 | 64 | 512 | 24 | 21 | 1.8~3.6 | +4 | -94 | 4.8 | 2.8 | 2.7 | 1 | -40~+85 | 5 | 1 | 1 | 1 | 4+1 | 0 | 2 | 2 | 2 | 0 | 0 | 6 | Yes | Yes | Yes | 8 x 20 | 128 bit | QFN32 |
| GW8811CEU6 | Cortex-M0 | 4.2 | 64 | 512 | 32 | 32 | 1.8~3.6 | +4 | -94 | 4.8 | 2.8 | 2.7 | 1 | -40~+85 | 5 | 1 | 1 | 1 | 8+1 | 0 | 2 | 2 | 2 | 0 | 0 | 6 | Yes | Yes | Yes | 8 x 20 | 128 bit | QFN48 |
| GW3323HGU6 | RISC-V | 5.2 | 160 | 1024 | 256 | 24 | 3~4.5 | +9 | -94 | 18.7 | 28 | 500 | 4 | -40~+85 | 6 | 1 | 1 | 1 | 16 | 2 | 1 | 1 | 3 | 1 | 1 | 9 | 0 | 0 | 0 | 0 | 0 | QFN40 |
| GW3323HIU6 | RISC-V | 5.2 | 160 | 4096 | 256 | 24 | 3~4.5 | +9 | -94 | 18.7 | 28 | 500 | 4 | -40~+85 | 6 | 1 | 1 | 1 | 16 | 2 | 1 | 1 | 3 | 1 | 1 | 9 | 0 | 0 | 0 | 0 | 0 | QFN40 |
| GW3323HJU6 | RISC-V | 5.2 | 160 | 8192 | 256 | 24 | 3~4.5 | +9 | -94 | 18.7 | 28 | 500 | 4 | -40~+85 | 6 | 1 | 1 | 1 | 16 | 2 | 1 | 1 | 3 | 1 | 1 | 9 | 0 | 0 | 0 | 0 | 0 | QFN40 |

# BMP Battery Fuel Gauge

| Part No. | Core | Frequency(MHz) | Code FLASH(KB) | Data FLASH(KB) | SRAM(KB) | I/Os | Voltage(V) | Advanced TMR(16bit) | Basic TMR(8-bit) | IWDT | WWDT | ADC 16-bit Cell | CADC Channels | VADC Channels | I2C | HDQ | UART | EXIT | SHA256 | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BMP561Y8Y6 | Cortex-M0+ | 4 | 64 | 4 | 8 | 5 | 2~5.5 | 2 | 1 | ✓ | ✓ | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 1 | WLCSP12 |
| BMP561Y8D6 | Cortex-M0+ | 4 | 64 | 4 | 8 | 5 | 2~5.5 | 2 | 1 | ✓ | ✓ | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 1 | DFN12 |
| BMP561L8U6 | Cortex-M0+ | 4 | 64 | 4 | 8 | 9 | 2~5.5 | 2 | 1 | ✓ | ✓ | 2 | 2 | 2 | 1 | 1 | 1 | 3 | 1 | QFN16 |

# APM32 Motor Control Dedicated MCUs/SoCs

| Part No. | Core | Frequency(MHz) | M0CP Coprocessor | FLASH(KB) | SRAM(KB) | I/Os | Voltage(V) | Timer | | | | | | | | Analog Interface | | | | | | | Connectivity | | | | | | | | Integrated Gate Driver | Driver Voltage(V) | LDO(V) | Floating Gate Voltage(V) | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | GPTMR(16bit) | GPTMR(32bit) | Advanced TMR(16bit) | Basic TMR | Systick(24bit) | IWDT | WWDT | RTC | ADC 12-bit Cell | ADC 12-bit Channels | DAC 12-bit Cell | DAC 12-bit Channels | Analog Comparator | Operational Amplifier | TSC (Channels) | SPI | I2S | I2C | USART | CAN | SDIO | USB Device | CEC | | | | | |
| APM32F035C8T7 | Cortex-M0+ | 72 | 1 | 64 | 10 | 42 | 2~3.6 | 2 | 1 | 1 | 2 | ✓ | ✓ | ✓ | ✓ | 1 | 16 | 0 | 0 | 2 | 4 | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | - | - | - | - | LQFP48 |
| APM32M3514C8U7 | Cortex-M0+ | 72 | 1 | 64 | 10 | 29 | 2~3.6 | 2 | 1 | 1 | 2 | ✓ | ✓ | ✓ | ✓ | 1 | 13 | 0 | 0 | 2 | 4 | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 6N | 5~20 | 3.3 | 200 | QFN48 |
| APM32M3514C8T7 | Cortex-M0+ | 72 | 1 | 64 | 10 | 29 | 2~3.6 | 2 | 1 | 1 | 2 | ✓ | ✓ | ✓ | ✓ | 1 | 13 | 0 | 0 | 2 | 4 | 0 | 1 | 1 | 1 | 2 | 1 | 0 | 0 | 0 | 6N | 5~20 | 3.3 | 200 | LQFP48 |

# GHD Motor Contorl Dedicated Gate-Drivers

| Part No. | Output Channel | Driver Power Transistor Type | Vs Voltage(V) | Voltage(V) | Operating Temperature(℃) | Logic Control | IO+/IO-(A) | VCC(UV+/UV-) (V) | VBS(UV+/UV-) (V) | Direct Current Prevention | Over Temperature Protection | Dead Time(ns) | LDO | LDO Voltage(V) | Bootstrap Diode | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GHD3440PF | 6 | 6N | 200 | 5.5~18 | -40~105 | HIN/LIN | 0.8/-1.0 | 4.6/4.3 | 4.4/4.1 | ✓ | - | 250 | - | - | - | TSSOP20 |
| GHD3440QE | 6 | 6N | 200 | 5.5~18 | -40~105 | HIN/LIN | 0.8/-1.0 | 4.6/4.3 | 4.4/4.1 | ✓ | - | 250 | - | - | - | QFN24 |
| GHD3440R3 | 6 | 6N | 200 | 5~20 | -40~105 | HIN/LIN | 0.9/-1.1 | 4.6/4.3 | 4.3/4.0 | ✓ | - | 500 | ✓ | 3.3 | - | SSOP24 |
| GHD3440R5 | 6 | 6N | 200 | 5~20 | -40~105 | HIN/LIN | 0.9/-1.1 | 4.6/4.3 | 4.3/4.0 | ✓ | - | 500 | ✓ | 5.5 | - | SSOP24 |
| GHD1620T | 2 | 2N | 600 | 10~20 | -40~105 | HIN/LIN | 0.23/-0.50 | 8.8/8.2 | 8.6/8.0 | ✓ | ✓ | 500 | - | - | ✓ | SOP8 |
| GHD3125R | 6 | 3P+3N | 40 | 5~30 | -40~105 | HIN/LIN | - | 4.0/3.8 | - | ✓ | ✓ | 350 | ✓ | 5 | - | SOP16 |

# APM32/G32A Automotive General-Purpose MCUs

| Part No. | Frequency(MHz) | FLASH(KB) | SRAM(KB) | FPU | I/Os | Voltage(V) | Timer | | | | | | | | Analog Interface | | | | | | Connectivity | | | | | | | | | | | | | | Security | | | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | GPTMR(16bit) | GPTMR(32bit) | Advanced TMR(16bit) | Basic TMR | Systick(24bit) | IWDT | WWDT | RTC | ADC 12-bit Cell | ADC 12-bit Channels | DAC 12-bit Cell | DAC 12-bit Channels | Analog Comparator | TSC (Channels) | SPI | I2S | I2C | U(S)ART | CAN | SDIO | USB Device | CEC | USB OTG_FS | USB OTG_HS | DCI | SMC | DMC | Ethernet | RNG | AES/DES/ TDES | BN/ SM3/SM4 | |
| APM32F003F6U7 | 48 | 32 | 4 | - | 16 | 2.4~5.5 | 1 | 0 | 2 | 1 | √ | √ | √ | - | 1 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | 0 | - | - | - | QFN20 |
| APM32F072RBT7 | 48 | 128 | 16 | - | 51 | 2~3.6 | 5 | 1 | 1 | 2 | √ | √ | √ | √ | 1 | 16 | 1 | 2 | 2 | 18 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | 0 | 0 | - | - | - | 0 | - | - | - | LQFP64 |
| APM32F072CBT7 | 48 | 128 | 16 | - | 37 | 2~3.6 | 5 | 1 | 1 | 2 | √ | √ | √ | √ | 1 | 10 | 1 | 2 | 2 | 17 | 2 | 2 | 2 | 4 | 1 | 0 | 1 | 1 | 0 | 0 | - | - | - | 0 | - | - | - | LQFP48 |
| APM32A091RCT7 | 48 | 256 | 32 | - | 52 | 2~3.6 | 5 | 1 | 1 | 2 | √ | √ | √ | √ | 1 | 16 | 1 | 2 | 2 | 24 | 2 | 2 | 2 | 8 | 1 | 0 | 0 | 1 | 0 | 0 | - | - | - | 0 | - | - | - | LQFP64 |
| APM32F103RCT7 | 96 | 256 | 64 | - | 51 | 2~3.6 | 4 | 0 | 2 | 2 | √ | √ | √ | √ | 3 | 16 | 2 | 2 | 0 | 0 | 3 | 2 | 2 | 3+2 | 1 | 1 | 1 | 0 | 0 | 0 | - | - | - | 0 | - | - | - | LQFP64 |
| APM32A103VET7 | 120 | 512 | 128 | √ | 80 | 2~3.6 | 4 | 0 | 2 | 2 | √ | √ | √ | √ | 3 | 16 | 2 | 2 | 0 | 0 | 3 | 2 | 2 | 3+2 | 2 | 1 | 1 | 0 | 0 | 0 | - | √ | - | 0 | - | - | - | LQFP100 |
| APM32A103RET7 | 120 | 512 | 128 | √ | 51 | 2~3.6 | 4 | 0 | 2 | 2 | √ | √ | √ | √ | 3 | 16 | 2 | 2 | 0 | 0 | 3 | 2 | 2 | 3+2 | 2 | 1 | 1 | 0 | 0 | 0 | - | - | - | 0 | - | - | - | LQFP64 |
| APM32A103CBT7 | 96 | 128 | 20 | √ | 37 | 2~3.6 | 3 | 0 | 1 | 0 | √ | √ | √ | √ | 2 | 10 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | - | - | - | 0 | - | - | - | LQFP48 |
| APM32A407VGT7 | 168 | 1020 | 192+4 | √ | 82 | 1.8~3.6 | 8 | 2 | 2 | 2 | √ | √ | √ | √ | 3 | 16 | 2 | 2 | 0 | 0 | 3 | 2 | 3 | 4+2 | 2 | 1 | 0 | 0 | 1 | 1+1 | √ | √ | - | 1 | √ | - | √ | LQFP100 |
| APM32A407ZGT7 | 168 | 1020 | 192+4 | √ | 114 | 1.8~3.6 | 8 | 2 | 2 | 2 | √ | √ | √ | √ | 3 | 24 | 2 | 2 | 0 | 0 | 3 | 2 | 3 | 4+2 | 2 | 1 | 0 | 0 | 1 | 1+1 | √ | √ | - | 1 | √ | - | √ | LQFP144 |

| Part No. | Frequency(MHz) | FLASH(KB) | SRAM(KB) | FPU | I/Os | Voltage(V) | Timer | | | | | | | Analog Interface | | | | Connectivity | | | | | | Security | | | Package |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | FTMR(16bit) | LPTMR(16bit) | LPITMR(32bit) | Systick(24bit) | WDT | EWDT | RTC | ADC 12-bit Cell | ADC 12-bit Channels | Comparator with 8-bit DAC | PDU | LPSPI | LPI2C | LPUART | CAN | SAI | Ethernet | RNG | AES/DES/ TDES | BN/ SM3/SM4 | |
| G32A1445UAT0MLH | 112 | 512 | 64 | √ | 58 | 2.7~5.5 | 4 | 1 | 1 | √ | √ | √ | √ | 2 | 16+13 | 1 | 2 | 3 | 1 | 3 | 3 | 0 | 0 | √ | √ | - | LQFP64 |
| G32A1445UAT0MLL | 112 | 512 | 64 | √ | 89 | 2.7~5.5 | 4 | 1 | 1 | √ | √ | √ | √ | 2 | 16+16 | 1 | 2 | 3 | 1 | 3 | 3 | 0 | 0 | √ | √ | - | LQFP100 |
| G32A1465UAT0MLH | 112 | 1024 | 128 | √ | 58 | 2.7~5.5 | 4 | 1 | 1 | √ | √ | √ | √ | 2 | 16+13 | 1 | 2 | 3 | 1 | 3 | 3 | 0 | 0 | √ | √ | - | LQFP64 |
| G32A1465UAT0MLL | 112 | 1024 | 128 | √ | 89 | 2.7~5.5 | 4 | 1 | 1 | √ | √ | √ | √ | 2 | 16+16 | 1 | 2 | 3 | 1 | 3 | 3 | 0 | 0 | √ | √ | - | LQFP100 |

# GURC Ultrasonic Sensing and Signal Processor

| Part No. | Interface | Transducer frequency (kHz) | Operating Frequency (MHz) | Transducer driver type / output (mA) | Measurable Distance (cm) | $V_{supply}$(V) | Temp. Range(°C) | Package |
|---|---|---|---|---|---|---|---|---|
| GURC01 | 3-wire (bidirectional) SPI | 30~83 | 12 | 187 ~ 404 | 10-700 | 6~18 | -40~+105 | QFN20L4 |

# GALT Automotive Headlamp LED Matrix Controller

| Part No. | Voltage(V) | Switch Channels | Max Current Per Switch(A) | ADC Cells | ADC Channels | PWM Dimming | I2C | UART | WDT | $R_{DS(on)}$ (mohm) | Temp. Range(°C) | Package | Diagnosis and Protection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GALT61120 | 4.5~60 | 12 | 1.5 | 2*8-bit | 2 | 10-bit | 1 | 1 | 1 | 120 | -40~+125 | E-TQFP48 | Fault Diagnosis, Open Circuit Fault Diagnosis, Short Circuit Fault Diagnosis, Temperature Compensation |

# Geehy Ecosystem

With a comprehensive ecosystem, Geehy offers an abundance of software and hardware development tools, empowering engineers to expedite product development, reduce costs, and optimize performance.

## Development & Design

### IDE
arm KEIL, IAR SYSTEMS, RT, eclipse, Embeetle IDE

### MCAL

### SDK

### Reliability Test

### Security Library
SIL ASIL Class B

## Official Tools

### Programmer



### Debugger


### MINI Board


### TINY Board


### EVAL Board


### DFU


### ISP


### PROG


## Technical Support

| Selection Tools | Technical Doc | **Samples** | Services Support |
|---|---|---|---|
| Product Selection Guide<br>Online Selection Tool | Datasheet<br>User Manuals<br>AN/FAQ | Chips<br>Demo Boards | Sales<br>AE<br>FAE |

## Partner Tools

- Geehy Community
- Github
- Hackster

## Eco Platform

MaxWiz Technology, ELNEC, SEGGER The Embedded Experts, PE micro

## Training & Promotion

- Webinar
- Live Streaming
- Offline Training

## Campus Ecology

- Graduate Training
- Campus Presentation
- Student Design Competition

# Software & Hardware Tools

## GEEHY-LINK Debugger

It is an all-in-one debugger and programmer specifically designed for in-circuit debugging and emulation of the full APM32 series MCUs within the Keil development environment.

## APM32 Programmer

It effortlessly connects with various interfaces on your computer and collaborates with PC software to enable efficient and reliable program writing on the MCUs.


**Real-Time System**

- FreeRTOS
- RT-Thread

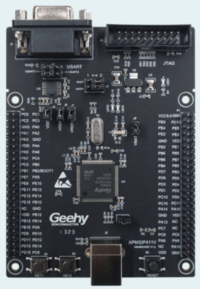
**Development Tools**

- Keil MDK-Arm
- IAR Embedded Workbench
- Visual Studio Code
- Eclipse

**Technical Support**

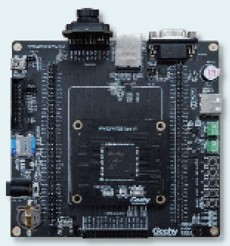
- User Manuals
- Diagram

**MINI Board**



**TINY Board**

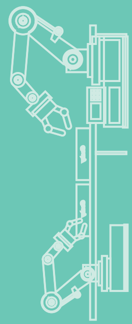
**EVAL Board**

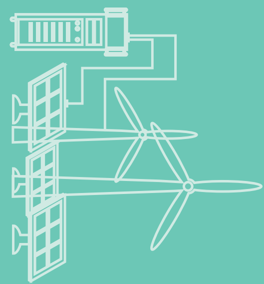


# Abbreviations & Packages

| | |
|---|---|
| ADC | Analog-to-digital converter |
| ART | Auto-reload timer |
| CAN | Controller area network |
| CC | Capture compare |
| CEC | Consumer electronic controller |
| COMP | Analog comparators |
| CRC | cyclic redundancy check |
| CSS | Clock security system |
| DAC | Digital-to-Analog Converter |
| DCI | Digital Camera Interface |
| DMA | Direct memory access |
| EMMC | External Memory Controller |
| DMC | Dynamic memory Controller |
| SMC | Static Memory Controller |
| FPU | Float Point Unit |
| GPTMR | General-Purpose Timer |
| IC/OC | Input capture/output compare |
| PG | programming |
| IR | Infrared |
| IrDA | Infrared data association |
| ISP | In-situ programming |
| I²C | Inter-integrated circuit |
| I²S | Inter-IC sound |
| LCD | Liquid crystal display controller |
| LIN | Local interconnect network |
| LVD | Low voltage detection |
| M0CP | Coprocessor |
| MMC | MultiMediaCard |
| NMI | Non-maskable interrupt |
| PDR | Power down reset |
| PLL | Phase locked loop |
| POR | Power-on reset |
| PVD | Programmable voltage detector |
| PWM | Pulse width modulation |
| RTC | Peal-time clock timer |
| SAI | Serial Audio Interface |
| SC | Smartcard |
| SDIO | Secure digital input/output interface |
| SD/MMC | Secure Digital / Multi Media Card |
| TMR | Timer |
| SPI | Serial peripheral interface |
| QSPI | Quad Serial Peripheral Interface |
| UART | Universal asynchronous receiver transmitter |
| USART | Universal sync/async receiver transmitter |
| USB | Universal Seria Bus |
| WUPT | Auto Wakeup |
| WDG | Watchdog timer |
| IWDT | Independent Watchdog Timer |
| WWDT | Windows Watchdog Timer |

| | |
|---|---|
| LFBGA | Low Profile Fine Pitch Ball Grid Array |
| TFBGA | Thin Profile Fine Pitch Ball Grid Array |
| UFBGA | Ultra Thin Profile Fine Pitch Ball Grid Array |
| SOP | Small Outline package |
| TSSOP | Thin Small Outline Package |
| LQFP | Low Profile Quad Flat Package |
| QFN | Quad Flat No-lead |
| WLCSP | Wafer-Level Chip-Scale Package |





TECHNOLOGY
INSPIRED.

GitHub

Hackster

Geehy Community

Geehy SEMICONDUCTOR

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