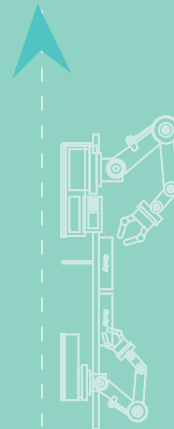


极海微控制器选型手册





目录

产品组合矩阵	01
产品选型指南	02
产品型号表	03
■ APM32F4高性能MCU — Arm® Cortex®-M4F	03
■ APM32E1/F1主流型MCU — Arm® Cortex®-M3	05
■ APM32F0基础型MCU — Arm® Cortex®-M0+	07
■ 电机控制专用MCU — Arm® Cortex®-M0+	10
■ APM32车规级MCU/G32A汽车通用MCU — Arm® Cortex®-M0+/M3/M4F	11
■ GW低功耗蓝牙芯片 — Arm® Cortex®-M0 / RISC-V	12
APM32 MCU开发生态	13
软硬件工具	14
命名与封装	15
极海联系方式	16

极海32位MCU-Arm® Cortex®-M内核

丰富的产品组合阵营，满足客户多样化应用需求



汽车 & 工业



功能安全 & 信息安全



电机控制



连接



超低功耗



触摸



Arm® Cortex®-M0+/M3/M4F...



高性能 MCU
APM32F417
APM32F407/405
APM32F465
APM32F411

Cortex-M4F

主流型 MCU
APM32E103
APM32F107/105
APM32F103

Cortex-M3

基础型 MCU
APM32F091
APM32F072
APM32F051
APM32F030
APM32F003

Cortex-M0+

电机控制专用 MCU
APM32F035

Cortex-M0+

低功耗蓝牙 MCU
GW8811 (BLE4.2)
GW3323 (BLE5.2)

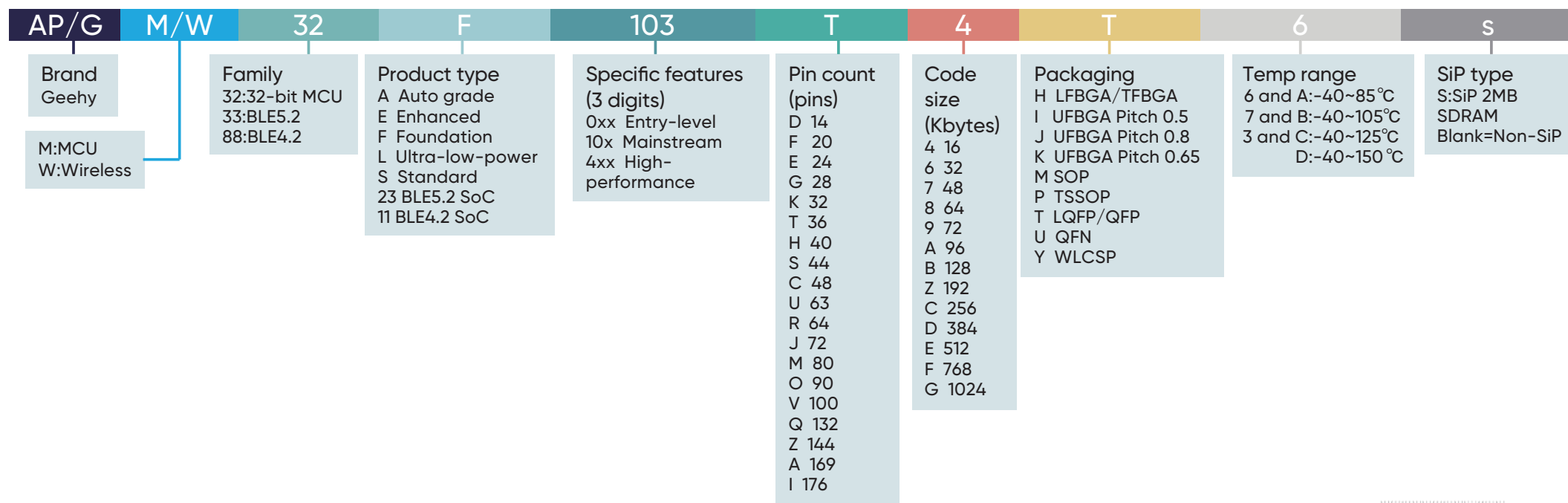
Cortex-M0
RISC-V

车规级 MCU
G32A1465
G32A1445
APM32A407
APM32A103
APM32A091
APM32F103RCT7
APM32F072RBT7
APM32F072CBT7

Cortex-M4F/M3/M0+

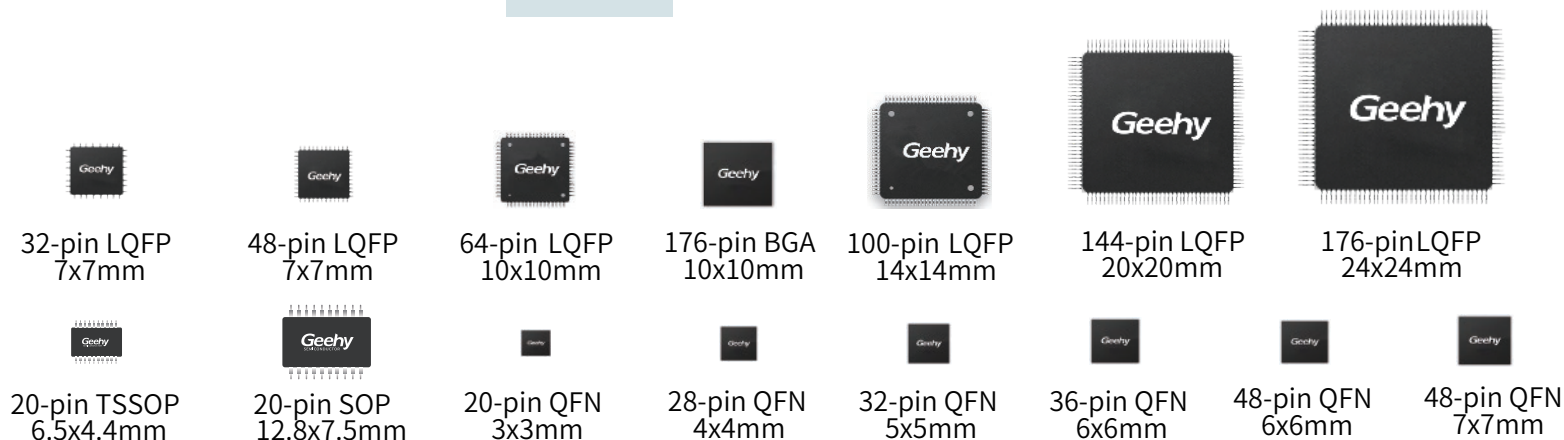


产品选型指南



多样化封装形式

- LQFP176/144/100/64/48/32
- QFN48/36/32/28
- TSSOP20
- SOP20
- BGA176



APM32F4系列高性能MCU —— 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 TMR(16bit)	Basic TMR	Systick	IWDt	WWDT	RTC	ADC 12-bit Cell	ADC 12-bit Channels	DAC 12-bit Channels	SPI	QSPI	I2S	I2C	U/S/ART	CAN	SDIO	USB OTG_FS	USB OTG_HS	DCI	SMC	DMC	Ethernet	RNG	AES/DES/TDES	SM3/SM4	BN/	
APM32F405RGT6	168	1024	192+4	✓	51	1.8~3.6	8	2	2	2	✓	✓	✓	✓	3	16	2	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	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	3	0	2	3	4+2	2	1	1	1+1	-	✓	-	0	✓	-	-	-	LQFP144
APM32F407IGH6	168	1024	192+4	✓	140	1.8~3.6	8	2	2	2	✓	✓	✓	✓	3	24	2	3	0	2	3	4+2	2	1	1	1+1	✓	✓	✓	1	✓	-	✓	-	BGA176
APM32F407RET6	168	512	192+4	✓	51	1.8~3.6	8	2	2	2	✓	✓	✓	✓	3	16	2	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	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	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	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	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	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	3	0	2	3	4+2	2	1	1	1+1	✓	✓	✓	1	✓	-	✓	-	LQFP176
APM32F411CCU6	120	256	128	✓	36	1.7~3.6	8	2	2	0	✓	✓	✓	✓	2	10	0	3	0	3	3	3+1	2	1	1	0	0	-	-	0	✓	-	-	-	QFN48
APM32F411CEU6	120	512	128	✓	36	1.7~3.6	8	2	2	0	✓	✓	✓	✓	2	10	0	3	0	3	3	3+1	2	1	1	0	0	-	-	0	✓	-	-	-	QFN48
APM32F411CCT6	120	256	128	✓	36	1.7~3.6	8	2	2	0	✓	✓	✓	✓	2	10	0	3	0	3	3	3+1	2	1	1	0	0	-	-	0	✓	-	-	-	LQFP48
APM32F411CET6	120	512	128	✓	36	1.7~3.6	8	2	2	0	✓	✓	✓	✓	2	10	0	3	0	3	3	3+1	2	1	1	0	0	-	-	0	✓	-	-	-	LQFP48
APM32F411RCT6	120	256	128	✓	50	1.7~3.6	8	2	2	0	✓	✓	✓	✓	2	16	0	5	1	5	3	4+2	2	1	1	0	0	-	-	0	✓	-	-	-	LQFP64
APM32F411RET6	120	512	128	✓	50	1.7~3.6	8	2	2	0	✓	✓	✓	✓	2	16	0	5	1	5	3	4+2	2	1	1	0	0	-	-	0	✓	-	-	-	LQFP64
APM32F411VCT6	120	256	128	✓	81	1.7~3.6	8	2	2	0	✓	✓	✓	✓	2	16	0	5	1	5	3	4+2	2	1	1	0	0	✓	-	0	✓	-	-	-	LQFP100
APM32F411VET6	120	512	128	✓	81	1.7~3.6	8	2	2	0	✓	✓	✓	✓	2	16	0	5	1	5	3	4+2	2	1	1	0	0	✓	-	0	✓	-	-	-	LQFP100
APM32F417VGT6	168	1024	192+4	✓	82	1.8~3.6	8	2	2	2	✓	✓	✓	✓	3	16	2	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	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	3	0	2	3	4+2	2	1	1	1+1	✓	✓	✓	1	✓	✓	✓	-	LQFP176

APM32F4系列高性能MCU —— Arm® Cortex®-M4F

Package	Security			Connectivity																	Analog Interface			Timer							Voltage(V)	I/O	FPU	SRAM(KB)	FLASH(KB)	Frequency(MHz)	Part No.
	BN/ SM3/SM4	AES/DES/ TDES	RNG	Ethernet	DMC	SMC	DCI	USB OTG_HS	USB OTG_FS	SDIO	CAN	U(S)ART	I2C	I2S	QSPI	SPI	DAC 12-bit Channels	ADC 12-bit Channels	ADC 12-bit Cell	RTC	WWDT	IWDT	Systick	Basic TMR	Advanced TMR(16bit)	GPTMR(32bit)	GPTMR(16bit)	8~3.6	37	✓	192+4	512	168	QFN48			
	-	-	-	0	-	-	-	1	1	1	2	2+1	2	2	0	3	2	16	3	✓	✓	✓	✓	2	2	2	8	1.8~3.6	50	✓	192+4	512	168	LQFP64			
	-	-	-	0	-	-	-	1	1	1	2	4+2	2	2	0	3	2	16	3	✓	✓	✓	✓	2	2	2	8	1.8~3.6	81	✓	192+4	512	168	LQFP100			

APM32E1/F1系列主流型MCU —— 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	Systick(24bit)	IWDT	WWDT	RTC	ADC 12-bit Cell	ADC 12-bit Channels	DAC 12-bit Cell	DAC 12-bit Channels	Analog Comparator	SPI	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	0	1	0	1	2	1	0	1	0	0	-	-	0	QFN36	
APM32F103TBU6	96	128	20	✓	26	2~3.6	3	0	1	0	✓	✓	✓	✓	2	10	0	0	0	1	0	1	2	1	0	1	0	0	-	-	0	QFN36	
APM32F103TBU7	96	128	20	✓	26	2~3.6	3	0	1	0	✓	✓	✓	✓	2	10	0	0	0	1	0	1	2	1	0	1	0	0	-	-	0	QFN36	
APM32F103C8T6	96	64	20	-	37	2~3.6	3	0	1	0	✓	✓	✓	✓	2	10	0	0	0	2	0	2	3	1	0	1	0	0	-	-	0	LQFP48	
APM32F103CBT6	96	128	20	✓	37	2~3.6	3	0	1	0	✓	✓	✓	✓	2	10	0	0	0	2	0	2	3	1	0	1	0	0	-	-	0	LQFP48	
APM32F103CBT7	96	128	20	✓	37	2~3.6	3	0	1	0	✓	✓	✓	✓	2	10	0	0	0	2	0	2	3	1	0	1	0	0	-	-	0	LQFP48	
APM32F103R8T6	96	64	20	-	51	2~3.6	3	0	1	0	✓	✓	✓	✓	2	16	0	0	0	2	0	2	3	1	0	1	0	0	-	-	0	LQFP64	
APM32F103RBT6	96	128	20	✓	51	2~3.6	3	0	1	0	✓	✓	✓	✓	2	16	0	0	0	2	0	2	3	1	0	1	0	0	-	-	0	LQFP64	
APM32F103RBT7	96	128	20	✓	51	2~3.6	3	0	1	0	✓	✓	✓	✓	2	16	0	0	0	2	0	2	3	1	0	1	0	0	-	-	0	LQFP64	
APM32F103VBT6	96	128	20	✓	80	2~3.6	3	0	1	0	✓	✓	✓	✓	2	16	0	0	0	2	0	2	3	1	0	1	0	0	-	-	0	LQFP100	
APM32F103CCT6	96	256	64	-	37	2~3.6	4	0	1	1	✓	✓	✓	✓	2	10	2	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	2	2	3	2	0	1	0	0	-	-	0	LQFP48	

APM32E1/F1系列主流型MCU —— 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	Systick(24bit)	IWDT	WWDT	RTC	ADC 12-bit Cell	ADC 12-bit Channels	DAC 12-bit Cell	Andlog Comparator	DAC 12-bit Channels	SPI	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	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	2	0	3	2	1	3+2	2	0	0	0	1	-	-	1	LQFP100

APM32F0系列基础型MCU —— 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	Systick(24bit)	IWDT	WWDT	RTC	ADC 12-bit Cell	ADC 12-bit Channels	DAC 12-bit Cell	DAC 12-bit Channels	Comparator Analog	TSC (Channels)	SPI	I2S	I2C	U(S)ART	CAN	SDIO	USB Device	CEC	
APM32F003F4P6	48	16	2	-	16	2~5.5	1	0	2	1	✓	✓	✓	-	1	8	0	0	0	0	1	0	1	3	0	0	0	0	TSSOP20
APM32F003F6P6	48	32	4	-	16	2~5.5	1	0	2	1	✓	✓	✓	-	1	8	0	0	0	0	1	0	1	3	0	0	0	0	TSSOP20
APM32F003F6P7	48	32	4	-	16	2~5.5	1	0	2	1	✓	✓	✓	-	1	8	0	0	0	0	1	0	1	3	0	0	0	0	TSSOP20
APM32F003F4M6	48	16	2	-	16	2~5.5	1	0	2	1	✓	✓	✓	-	1	8	0	0	0	0	1	0	1	3	0	0	0	0	SOP20
APM32F003F6M6	48	32	4	-	16	2~5.5	1	0	2	1	✓	✓	✓	-	1	8	0	0	0	0	1	0	1	3	0	0	0	0	SOP20
APM32F003F4U6	48	16	2	-	16	2~5.5	1	0	2	1	✓	✓	✓	-	1	8	0	0	0	0	1	0	1	3	0	0	0	0	QFN20
APM32F003F6U6	48	32	4	-	16	2~5.5	1	0	2	1	✓	✓	✓	-	1	8	0	0	0	0	1	0	1	3	0	0	0	0	QFN20
APM32F003F6U7	48	32	4	-	16	2~5.5	1	0	2	1	✓	✓	✓	-	1	8	0	0	0	0	1	0	1	3	0	0	0	0	QFN20
APM32F030F4P6	48	16	8	-	15	2~3.6	4	0	1	0	✓	✓	✓	✓	1	9	0	0	0	0	1	0	0	1	0	0	0	0	TSSOP20
APM32F030F6P6	48	32	8	-	16	2~3.6	4	0	1	0	✓	✓	✓	✓	1	9	0	0	0	0	1	0	0	1	0	0	0	0	TSSOP20
APM32F030F8P6	48	64	8	-	15	2~3.6	4	0	1	0	✓	✓	✓	✓	1	9	0	0	0	0	1	0	0	1	0	0	0	0	TSSOP20
APM32F030G4U6	48	16	8	-	23	2~3.6	4	0	1	1	✓	✓	✓	✓	1	10	0	0	0	0	1	0	1	1	0	0	0	0	QFN28
APM32F030G6U6	48	32	8	-	23	2~3.6	4	0	1	1	✓	✓	✓	✓	1	10	0	0	0	0	1	0	1	2	0	0	0	0	QFN28
APM32F030G8U6	48	64	8	-	23	2~3.6	5	0	1	1	✓	✓	✓	✓	1	10	0	0	0	0	2	0	2	2	0	0	0	0	QFN28
APM32F030K6U6	48	32	8	-	26	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	8	-	26	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	8	-	26	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	-	26	2~3.6	5	0	1	1	✓	✓	✓	✓	1	10	0	0	0	0	1	0	1	1	0	0	0	0	LQFP32
APM32F030C6U6	48	32	8	-	39	2~3.6	5	0	1	1	✓	✓	✓	✓	1	10	0	0	0	0	1	0	1	1	0	0	0	0	QFN48

APM32F0系列基础型MCU —— 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	Systick(24bit)	IWDT	WWDT	RTC	ADC 12-bit Cell	ADC 12-bit Channels	DAC 12-bit Cell	DAC 12-bit Channels	Comparator	Analog (Channels)	TSC	SPI	I2S	I2C	U(s)ART	CAN	SDIO	USB Device	CEC
APM32F030C8U6	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	QFN48
APM32F030C6T6	48	32	8	-	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
APM32F051K6U6	48	32	8	-	27	2~3.6	5	1	1	1	✓	✓	✓	✓	1	10	1	1	2	18	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	18	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	18	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	18	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	18	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	18	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	18	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	18	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
APM32F070CBT6	48	128	16	-	37	2.4~3.6	5	0	1	2	✓	✓	✓	✓	1	10	0	0	0	0	2	0	2	4	0	0	1	0	LQFP48
APM32F070RBT6	48	128	16	-	51	2.4~3.6	5	0	1	2	✓	✓	✓	✓	1	16	0	0	0	0	2	0	2	4	0	0	1	0	LQFP64
APM32F071CBU6	48	128	16	-	37	2~3.6	5	1	1	2	✓	✓	✓	✓	1	10	1	2	2	17	2	2	2	4	0	0	0	1	QFN48

APM32F0系列基础型MCU —— 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	Systick(24bit)	IWDT	WWDT	RTC	ADC 12-bit Cell	ADC 12-bit Channels	DAC 12-bit Cell	DAC 12-bit Channels	Comparator	TSC (Channels)	SPI	I2S	I2C	U(S)ART	CAN	SDIO	USB Device	CEC	
APM32F071CBT6	48	128	16	-	37	2~3.6	5	1	1	2	✓	✓	✓	✓	1	10	1	2	2	17	2	2	2	4	0	0	0	1	LQFP48
APM32F071V8T6	48	64	16	-	87	2~3.6	5	1	1	2	✓	✓	✓	✓	1	16	1	2	2	24	2	2	2	4	0	0	0	1	LQFP100
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
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

电机控制专用MCU

Part No.	Core	Frequency(MHz)	M0CP Coprocessor	FLASH(KB)	SRAM(KB)	I/Os	Voltage(V)	Timer							Analog Interface							Connectivity								Package	
								GPTMR(16bit)	GPTMR(32bit)	Advanced TMR(16bit)	Basic TMR	Systick(24bit)	IWDT	WWDT	RTC	ADC 12-bit Channels	ADC 12-bit Cell	DAC 12-bit Channels	DAC 12-bit Cell	Analog Comparator	Operational Amplifier	TSC (Channels)	SPI	I2S	I2C	USART	CAN	SDIO	USB Device		CEC
APM32F035K8T7	Cortex-M0+	72	1	64	10	27	2.0~3.6	2	1	1	2	✓	✓	✓	✓	1	12	0	0	2	2	0	1	1	1	2	1	0	0	0	LQFP32
APM32F035C8T7	Cortex-M0+	72	1	64	10	42	2.0~3.6	2	1	1	2	✓	✓	✓	✓	1	16	0	0	2	4	0	1	1	1	2	1	0	0	0	LQFP48

APM32系列车规级MCU / G32A系列汽车通用MCU

Package	Security			Connectivity																				Analog Interface					Timer								Voltage	I/Os	FPU	SRAM(KB)	FLASH(KB)	Frequency (MHz)	Part No.
BN/ SM3/SM4	AES/DES/ TDES	RNG	Ethernet	DMC	SMC	DCI	USB OTG_HS	USB OTG_FS	CEC	USB Device	SDIO	CAN	U(S)ART	I2C	I2S	SPI	TSC (Channels)	Analag Compactor	DAC 12-bit Channels	DAC 12-bit Cell	ADC 12-bit Channels	ADC 12-bit Cell	RTC	WWDT	IWDT	Systick(24bit)	Basic TMR	Advanced TMR(16bit)	GPTMR(32bit)	GPTMR(16bit)													
LQFP64	-	-	0	-	-	-	0	0	1	1	0	1	4	2	2	2	18	2	2	2	1	16	1	✓	✓	✓	✓	2	1	1	1	5	2~3.6	51	-	16	128	48	APM32F072RBT7				
LQFP48	-	-	0	-	-	-	0	0	1	1	0	1	4	2	2	2	17	2	2	2	1	10	1	✓	✓	✓	✓	2	1	1	1	5	2~3.6	37	-	16	128	48	APM32F072CBT7				
LQFP64	-	-	0	-	-	-	0	0	1	0	0	1	8	2	2	2	24	2	2	2	1	16	1	✓	✓	✓	✓	2	1	1	1	5	2~3.6	52	-	32	256	48	APM32A091RCT7				
LQFP64	-	-	0	-	-	-	0	0	0	1	0	1	3+2	2	2	2	0	0	2	2	3	16	2	✓	✓	✓	✓	2	0	2	4	2~3.6	51	-	64	256	96	APM32F103RCT7					
LQFP100	-	-	0	-	✓	-	0	0	0	0	1	1	3+2	2	2	2	0	0	2	2	3	16	2	✓	✓	✓	✓	2	0	2	4	2~3.6	80	✓	128	512	120	APM32A103VET7					
LQFP64	-	-	0	-	-	-	0	0	0	0	1	1	3+2	2	2	2	0	0	2	2	3	16	2	✓	✓	✓	✓	2	0	2	4	2~3.6	51	✓	128	512	120	APM32A103RET7					
LQFP48	-	-	0	-	-	-	0	0	0	0	1	0	3	2	0	2	0	0	0	0	2	10	0	✓	✓	✓	✓	0	1	1	3	2~3.6	37	✓	20	128	96	APM32A103CBT7					
LQFP100	✓	-	1	✓	✓	-	1+1	1	0	0	0	1	4+2	3	2	3	0	0	2	2	3	16	2	✓	✓	✓	✓	2	2	2	8	1.8~3.6	82	✓	192+4	1024	168	APM32A407VGT7					
LQFP144	✓	-	1	✓	✓	-	1+1	1	0	0	0	2	4+2	3	2	3	0	0	2	2	24	2	✓	✓	✓	✓	2	2	2	8	1.8~3.6	114	✓	192+4	1024	168	APM32A407ZGT7						

Part No.	Frequency (MHz)	FLASH(KB)	SRAM(KB)	FPU	I/Os	Voltage	Timer							Analog Interface					Connectivity							Security			Package
							FTMR(16bit)	LPTMR(16bit)	LPITMR(32bit)	Systick(24bit)	WDT	EWDT	RTC	ADC 12-bit Channels	Comparator with 8-bit	PDU	LPSPi	LPi2C	LPUART	CAN	SAI	Ethernet	RNG	AES/DES/ TDES	BN/ SM3/SM4				
G32A1445UATOMLH	112	512	64	✓	58	2.7~5.5V	4	1	1	✓	✓	✓	✓	2	16+13	1	2	3	1	3	3	0	0	✓	✓	-	-	-	LQFP64
G32A1445UATOMLL	112	512	64	✓	89	2.7~5.5V	4	1	1	✓	✓	✓	✓	2	16+16	1	2	3	1	3	3	0	0	✓	✓	-	-	-	LQFP100
G32A1465UATOMLH	112	1024	128	✓	58	2.7~5.5V	4	1	1	✓	✓	✓	✓	2	16+13	1	2	3	1	3	3	0	0	✓	✓	-	-	-	LQFP64
G32A1465UATOMLL	112	1024	128	✓	89	2.7~5.5V	4	1	1	✓	✓	✓	✓	2	16+16	1	2	3	1	3	3	0	0	✓	✓	-	-	-	LQFP100

GW系列低功耗蓝牙芯片

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	2	1	3	1	1	9	0	0	0	0	0	QFN40				

极海MCU开发生态

极海具备完善的生态体系，可提供灵活便捷、简单易用、丰富多样的软硬件开发工具及生态平台，为工程师提供出色的使用体验，助力客户缩短产品设计时间、降低开发成本，实现性能最优化。



开发设计

IDE

arm KEIL IAR SYSTEMS RT eclipse

MCAL



SDK



可靠性测试



安全库



官方工具

烧录器



仿真器



MINI Board



EVAL Board



TINY Board



DFU



ISP



PROG



技术支持



选型工具

选型手册
在线选型工具

技术文档

数据手册
用户手册
应用笔记
FAQ

样品支持

样品
开发板

服务支持

销售
AE
FAE

第三方工具



生态平台



培训与宣传



在线研讨会

线上直播

线下培训

校园生态



师资培训

校园宣讲

大学生
设计竞赛

软硬件工具

GEEHY-LINK仿真器

GEEHY-LINK是一款仿真器和编程器一体化的开发工具，可以在Keil集成开发环境下，对APM32全系列MCU芯片进行在线调试和仿真



APM32 PROG 烧录器

APM32 PROG烧录器是针对APM32全系列MCU的程序下载设备，利用计算机连接各类接口，配合上位机软件，可将编写好的程序写入芯片中



实时系统

- FreeRTOS
- RT-Thread

开发工具

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

配套资料

- 使用说明书
- 原理图

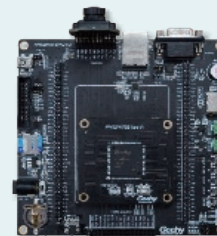
MINI开发板



TINY开发板



EVAL评估板



命名与封装

缩写	全称	缩写	全称	缩写	全称
ADC	Analog-to-digital converter	ISP	In-situ programming	SPI	Serial peripheral interface
ART	Auto-reload timer	I ² C	Inter-integrated circuit	QSPI	Quad Serial Peripheral Interface
CAN	Controller area network	I ² S	Inter-IC sound	UART	Universal asynchronous receiver transmitter
CC	Capture compare	LCD	Liquid crystal display controller	USART	Universal sync/async receiver transmitter
CEC	Consumer electronic controller	LIN	Local interconnect network	USB	Universal Serial Bus
COMP	Analog comparators	LVD	Low voltage detection	WUPT	Auto Wakeup
CRC	cyclic redundancy check	M0CP	Coprocessor	WDG	Watchdog timer
CSS	Clock security system	MMC	MultiMediaCard	IWDT	Independent Watchdog Timer
DAC	Digital-to-Analog Converter	NMI	Non-maskable interrupt	WWDT	Windows Watchdog Timer
DCI	Digital Camera Interface	PDR	Power down reset		
DMA	Direct memory access	PLL	Phase locked loop		
EMMC	External Memory Controller	POR	Power-on reset		
DMC	Dynamic memory Controller	PVD	Programmable voltage detector		
SMC	Static Memory Controller	PWM	Pulse width modulation		
FPU	Float Point Unit	RTC	Real-time clock timer		
GPTMR	General-Purpose Timer	SAI	Serial Audio Interface		
IC/OC	Input capture/output compare	SC	Smartcard		
PG	programming	SDIO	Secure digital input/output interface		
IR	Infrared	SD/MMC	Secure Digital / Multi Media Card		
IrDA	Infrared data association	TMR	Timer		

封装

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

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