Introduction

After its establishment in 1983 and until the present day, Holtek Semiconductor has released an unceasing stream of competitive semiconductor devices onto the global market. While continuing to concentrate its design efforts in the 8-bit and 32-bit microcontroller development area, the extensive and increasing range of peripheral semiconductor products should also not be ignored. At the foundation of these successful product developments exists many years of semiconductor design experience accumulated by the company's professional engineering design teams. The results of these extensive efforts have led to Holtek customers being provided with a huge range of high quality industrial grade semiconductor devices. Among Holtek's many customers are included a wide array of popular global brand consumer appliances and industrial products, which shows the global confidence in the company's devices. With this background, Holtek remains fully committed to a continuous expansion of its high quality and superior price-performance semiconductor devices well into the future.

Product Device Range

Holtek's product development focus will remain firmly in the microcontroller area for both 8-bit and Arm® core based 32-bit microcontrollers. These highly functionally integrated microcontrollers includes digital and analog features such as A/D converters, comparators, LCD drivers, PWM generators, high current LED drivers, touch switches, SPI, I^2C, UART and USB interfaces, voice functions, RF functions etc. All of the company's 32-bit and 8-bit microcontroller devices meet with full industry specifications in having a wide voltage and temperature operating range. In addition to its microcontrollers there exists a wide range of peripheral devices such as stand-alone touch switch ICs, LCD drivers, power management devices, video processors, sensors etc. The company will also be expanding its range of functional modules such as PIR modules, infrared modules, temperature/humidity modules etc, further increasing the Holtek product diversity and opening up applications into a wider market area.

Product Development Strategy

In following market trends and customer requirements, Holtek's commitment to new product development and innovation can be seen through its continuously expanding device functionality. As the world of IOT continues to extend its reach into demands for an increasingly connected lifestyle, Holtek's multi-function product range stands in a strong position to have a strong presence in this rapidly expanding market area. The integration of features such as RF functions, voice, touch key and power management functions into its microcontroller range demonstrates this commitment to IOT product trends. Holtek's range of standard microcontroller products will continue to expand but alongside it will be the design of application specific products such as those for motor control, personal health care, home appliances and many others. With its long history of working alongside its customers to assist in the design their custom microcontrollers, Holtek welcomes product manufacturers to contact them to discuss new custom microcontroller design possibilities. Additionally, and as no functionally rich microcontroller is useful without an appropriate development platform, all of Holtek's products are fully supported by a comprehensive range of hardware and software development tools to simplify the designer product development process. Holtek′s obligation to ISO compliance and its string of innovation awards and intellectual properties provide further evidence of the company′s commitment to product development excellence.

Marketing Service Network

Holtek's range of semiconductor products is fully complemented by its extensive global marketing network with a sales presence in most parts of the world. Having established a large number of worldwide sales offices and agents, Holtek′s global marketing structure is well placed to take advantage of any new market opportunities and trends as they arise.

Selecting Your Holtek Device

As the range of 8-bit and 32-bit microcontroller devices covers such a vast range of types and functions, Holtek recommends that customers consult its on-line ″Product Selector″ to assist them in their selection of the most suitable microcontroller for their specific application. With Holtek continually releasing new products onto the market, it should be noted that the website version, rather than the printed version of the selection guide, will contain the most up to date product information.

To use our MCU Product Selector, please visit: www.holtek.com.

32-Bit Flash MCU

Cortex-M0+ 32-Bit MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	Timers*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	Interface	Others	I/O	Package
HT32F52220	40MHz	2.0V ~ 3.6V	16KB	4KB	—	1Msps 12-bit ×8	BFTM×1 SCTM×2 GPTM×1	6	—	—	USART×1 UART×1 SPI×1, I²C×1	—	19	24SSOP
HT32F52230			32KB	4KB									23	28SSOP
													23	33QFN
HT32F52231	40MHz	2.0V ~ 3.6V	32KB	4KB	—	1Msps 12-bit ×12	BFTM×2 SCTM×4 GPTM×1 MCTM×1	12	3	√	USART×1 UART×2 SPI×2 I²C×2	CRC	19	24SSOP
													23	28SSOP
HT32F52241			64KB	8KB									26	33QFN
													40	48LQFP
HT32F52243	40MHz	2.0V ~ 3.6V	64KB	8KB	6CH	1Msps 12-bit ×12	BFTM×2 SCTM×4 GPTM×1 MCTM×1	12	3	√	USART×2 UART×4 SPI×2 I²C×3	CRC DIV	26	33QFN
													38	46QFN
HT32F52253			128KB	16KB									40	48LQFP
													52	64LQFP

Cortex-M0+ 32-Bit USB MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	CMP	DAC	Timers*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	SCI*4	USB*5	EBI*6	I²S	Inter-face	Others	I/O	Package
HT32F52331	48MHz	2.0V ~ 3.6V	32KB	4KB	—	1Msps 12-bit ×12	—	—	BFTM×2 SCTM×4 GPTM×1 MCTM×1	12	3	√	1	√	—	—	USART×1 UART×2 SPI×2 I²C×2	CRC	24	33QFN
HT32F52341			64KB	8KB															38	48LQFP
HT32F52342	48MHz	2.0V ~ 3.6V	64KB	8KB	6CH	1Msps 12-bit ×12	2	—	BFTM×2 SCTM×2 GPTM×2 MCTM×1	14	3	√	2	√	√	√	USART×2 UART×2 SPI×2 I²C×2	CRC	26	33QFN
																			39	48LQFP
HT32F52352			128KB	16KB															51	64LQFP
HT32F52344	60MHz	1.65V ~ 3.6V	64KB	8KB	6CH	1Msps 12-bit ×12	2	—	BFTM×2 SCTM×2 GPTM×1 MCTM×1	10	3	√	—	√	√	—	UART×2 SPI×2 I²C×1	CRC DIV	26	33QFN
																			38	46QFN
HT32F52354			128KB	8KB															40	48LQFP
																			54	64LQFP
HT32F52357	60MHz	1.65V ~ 3.6V	128KB	16KB	6CH	1Msps 12-bit ×12	2	500Ksps 12-bit×2	BFTM×2 SCTM×2 PWM×2 GPTM×1 MCTM×1	18	3	√	2	√	√	√	USART×2 UART×4 SPI×2 QSPI×1 I²C×2	AES CRC DIV	37	46QFN
																			39	48LQFP
HT32F52367			256KB	32KB															53	64LQFP
																			67	80LQFP

Cortex-M0+ 32-Bit LCD MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	CMP	DAC	Timers*1	Cap.*2 or PWM	RTC	SCI*4	USB*5	I²S	LCD	Inter-face	Others	I/O	Package
HT32F57331	60MHz	1.65V ~ 3.6V	32KB	4KB	—	1Msps 12-bit ×10	—	—	BFTM×2 PWM×2 GPTM×1	12	√	1	√	—	29x4 ~ 25x8	USART×1 UART×2 SPI×2 I²C×2	CRC DIV	37	46QFN
																		39	48LQFP
HT32F57341			64KB	8KB														53	64LQFP
HT32F57342	60MHz	1.65V ~ 3.6V	64KB	8KB	6CH	1Msps 12-bit ×10	2	500Ksps 12-bit×2	BFTM×2 SCTM×2 PWM×2 GPTM×1	14	√	2	√	√	37x4 ~ 33x8	USART×1 UART×2 SPI×2 I²C×2	AES CRC DIV	37	46QFN
																		39	48LQFP
HT32F57352			128KB	16KB														53	64LQFP
																		67	80LQFP

Cortex-M0+ 32-Bit 5V MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	ADC	Timers*1	Cap.*2 / PWM	Cpm. PWM*3	RTC	Interface	Others	I/O	Package
HT32F50020*	16MHz	2.5V ~ 5.5V	16KB	2KB	1Msps 12-bit×12	BFTM×1 SCTM×3	3 / 6	—	√	UART×2 SPI×1 I²C×1	LEDC	18	24QFN
												19	24SSOP
HT32F50030*			32KB	2KB								23	28SSOP
												26	32QFN
												42	48LQFP
HT32F50220	20MHz	2.5V ~ 5.5V	16KB	4KB	1Msps 12-bit×12	BFTM×1 PWM×2 GPTM×1	12 / 12	—	√	UART×2 SPI×2 I²C×1	DIV	18	24QFN
												19	24SSOP
HT32F50230			32KB	4KB								23	28SSOP
												22	28SOP
HT32F50231			32KB	4KB		BFTM×2 PWM×2 GPTM×1 MCTM×1	16 / 16	3		USART×1 UART×2 SPI×2 I²C×2	CRC DIV	26	33QFN
												36	44LQFP
HT32F50241			64KB	8KB								38	46QFN
												40	48LQFP

Cortex-M0+ 32-Bit 5V USB MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	Timers*1	Cap.*2 or PWM*3	RTC	USB*5	Interface	Others	I/O	Package
HT32F50343	60MHz	2.5V ~ 5.5V	64KB	12KB	6CH	1Msps 12-bit×12	BFTM×2 SCTM×2 8-PWM×3 GPTM×1	30	√	√	UART×2 SPI×2 I²C×2 SLED×8*7	CRC DIV	23	32QFN
													35	46QFN
													37	48LQFP
													51	64LQFP

* Under development, available in 3Q, 2022.

Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, 8-PWM: 8 Output channel PWM Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.
2. Cap.: Input Capture.
3. Cpm. PWM: Complementary PWM for 3-phase motor control or inverter application.
4. SCI: ISO7816-3 Smart Card Interface.
5. USB 2.0 Full Speed device.
6. EBI: External Bus Interface for NOR Flash / SRAM / LCD.
7. SLED: Strip LED Controller.

32-Bit Flash MCU

Cortex-M0+ 32-Bit 5V USB Smart Card Reader MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	Timers*1	RTC	SCI*4	Card LDO	USB*5	Interface	Others	I/O	Package
HT32F61141*	48MHz	2.5V~5.5V	64KB	16KB	BFTM×2 SCTM×2 GPTM×1	√	2	1.8V 3.0V 5.0V	√	UART×2 SPI×1 I²C×1	CRC	21 34 36	32QFN 46QFN 48LQFP

Cortex-M0+ 32-Bit Data Bridge MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	Timers*1	Cap.*2 or PWM	RTC	USB*5	Interface	Others	I/O	Package
HT32F0008	60MHz	1.65V~3.6V	64KB	16KB	6CH	BFTM×2 PWM×2 GPTM×1	12	√	√	USART×1 UART×1 SPI×1 I²C×1	AES CRC DIV	19 28 40 42	24QFN 33QFN 46QFN 48LQFP

Cortex-M0+ 32-Bit BLDC MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	CMP	OPA	Timer*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	Interface	Others	I/O	Package
HT32F65232	60MHz	2.5V~5.5V	32KB	4KB	6CH	2Msps×1 12-bit×12	2	1	BFTM×2 SCTM×4 GPTM×1 MCTM×1	12	3	√	USART×1 UART×1 SPI×1 I²C×1	CRC DIV	20 28 44	24SSOP 32QFN 48LQFP
HT32F65230						1Msps×2 12-bit×8	3	2							40	48LQFP
HT32F65240			64KB	8KB												

Cortex-M0+ 32-Bit BLDC MCU with Gate-Driver

Part No.	Max. Freq.	VCC (HV)	LDO	Gate-Driver	Flash	SRAM	PDMA	ADC	CMP	OPA	Timer*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	Interface	Others	I/O	Package
HT32F65432**	60MHz	6V~38V	5V	3P3N	32KB	4KB	6CH	2Msps×1 12-bit×12	2	1	BFTM×2 SCTM×4 GPTM×1 MCTM×1	8	3	√	USART×1 UART×1 SPI×1 I²C×1	CRC DIV	16 29	32QFN 48LQFP-EP
HT32F65532		6V~48V		6N													12 28	32QFN 48LQFP-EP
HT32F65732**		6V~110V		6N				2Msps×1 12-bit×11									22 26	46QFN 48LQFP-EP
HT32F65440**		6V~38V		3P3N	64KB	8KB		1Msps×2 12-bit×11	3	2							28	48LQFP-EP
HT32F65540		6V~48V		6N													26	48LQFP-EP
HT32F65740**		6V~110V		6N													26	48LQFP-EP

Cortex-M0+ 32-Bit BLDC MCU with Driver

Part No.	Max. Freq.	VCC (HV)	LDO	Peak Current	Flash	SRAM	PDMA	ADC	CMP	OPA	Timer*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	Interface	Others	I/O	Package
HT32F65C32	60MHz	6V~32V	5V	3.5A	32KB	4KB	6CH	2Msps×1 12-bit×12	2	1	BFTM×2 SCTM×4 GPTM×1 MCTM×1	8	3	√	USART×1 UART×1 SPI×1 I²C×1	CRC DIV	16 29	32QFN 48LQFP-EP
HT32F65C40					64KB	8KB		1Msps×2 12-bit×8	3	2							26	48LQFP-EP

Cortex-M0+ 32-Bit USB Data Logger LCD MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDF Create LIB	PDMA	ADC	CMP	DAC	Timers*1	Cap.*2 or PWM	RTC	SCI*4	USB*5	I²S	LCD	Inter-face	Others	I/O	Package
HT32F5828	60MHz	1.65V~3.60V	128KB	16KB	√	6CH	1Msps 12-bit×10	2	500Ksps 12-bit×2	BFTM×2 SCTM×2 PWM×2 GPTM×1	14	√	2	√	√	37×4~33×8	USART×1 UART×2 SPI×2 I²C×2	AES CRC DIV	39 67	48LQFP 64LQFP 80LQFP

Cortex-M0+ 32-Bit 5V Touch MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	CMP	Timers*1	Cap.*2 or PWM*3	Cpm. PWM*3	RTC	Touch Key	LED Controller	Interface	Others	I/O	Package
HT32F54231*	60MHz	2.5V~5.5V	32 KB	4KB	—	1Msps 12-bit ×10	—	BFTM×2 SCTM×2 GPTM×1 MCTM×1	10	3	√	24	8×8	USART×1 UART×2 SPI×2 I²C×2	CRC DIV	23 26 38 40	28SSOP 32QFN 46QFN 48LQFP
HT32F54241*			64KB	8KB													
HT32F54243*	60MHz	2.5V~5.5V	64KB	8KB	6CH	1Msps 12-bit ×10	2	BFTM×2 SCTM×4 GPTM×1 MCTM×1	12	3	√	28	12×8	USART×2 UART×4 SPI×2 I²C×3	CRC DIV	26 38 40 54	32QFN 46QFN 48LQFP 64LQFP
HT32F54253*			128KB	16KB													

* Under development, available in 1Q, 2022.
** Under development, available in 2Q, 2022.

Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.
2. Cap.: Input Capture.
3. Cpm. PWM: Complementary PWM for 3-phase motor control or inverter application.
4. SCI: ISO7816-3 Smart Card Interface.
5. USB 2.0 Full Speed device.
6. EBI: External Bus Interface for NOR Flash / SRAM / LCD.
7. CSIF: CMOS Sensor Interface.
8. ULP: Ultra Low Power, TRNG: Software based True Random Number Generator, QDEC: Quadrature Decoder, KBCTL: Keyboard Controller, TMPSEN: Temperature Sensor.

32-Bit Flash MCU

Cortex-M0+ 32-Bit BLE MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	ADC	Timers #	Ver.	Data Rate	Output Power	Sensitivity	Interface	Others	I/O	Package
HT32F67741	40MHz	2.0V~3.6V	64KB	8KB	1Msps 12-bit×6	RTC×1, WDT×1, BFTM×2, SCTM×4, GPTM×1, MCTM×1	5.2	1/2Mbps	+3.5dBm	-94/-91dBm	USART×1, UART×2, SPI×2, I²C×2	CRC×1 TRNG×1	25	46QFN

Note: # BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.

Cortex-M0+ 32-Bit Music Synthesizer MCU with Data Flash ROM

Part No.	Max. Freq.	VDD	Flash	Data Flash*8	SRAM	PDMA	Audio DAC	ADC	Timers*1	I²S	RTC	USB*5	MIDI Engine	SB Coding	Echo	Interface	I/O	Package
HT32F61244*	48MHz	2.3V~3.6V	64KB	16Mbit	8KB	6CH	16-bit ×2	1Msps 12-bit×16	BFTM×2 SCTM×2 GPTM×1	—	—	—	16CH	√	√	UART×1 SPI×1 QSPI×1 I²C×1	49	48LQFP 64LQFP
HT32F61245*				32Mbit														
HT32F61355	48MHz	2.3V~3.6V	128KB	32Mbit	16KB	6CH	16-bit ×2	1Msps 12-bit×16	BFTM×2 SCTM×4 GPTM×1	√	√	√	32CH	√	√	USART×1 UART×1 SPI×1 QSPI×1 I²C×1	43	48LQFP 64LQFP
HT32F61356				64Mbit														
HT32F61357				128Mbit														

Enhanced 24-Bit A/D Cortex-M0+ 32-Bit MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	ADC		Timers*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	Interface	Others	I/O	Package
HT32F59041	20MHz	2.5V~5.5V	64KB	8KB	SAR ADC 1Msps 12-bit×12	Delta Sigma ADC 24-bit×4	BFTM×2 PWM×2 GPTM×1 MCTM×1	16	3	√	USART×1 UART×2 SPI×1 I²C×1	CRC DIV	30	48LQFP

Enhanced 24-Bit A/D Cortex-M0+ 32-Bit LCD MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	ADC		Timers*1	Cap.*2 or PWM	RTC	SCI*4	USB*5	LCD	Inter-face	Others	I/O	Package
HT32F59741	60MHz	1.65V~3.6V	64KB	8KB	SAR ADC 1Msps 12-bit×10	Delta Sigma ADC 24-bit×4	BFTM×2 PWM×2 GPTM×1	12	√	1	√	19×4 ~ 15×8	USART×1 UART×2 SPI×1, I²C×1	CRC DIV	43	64LQFP

2.4GHz RF Transceiver Cortex-M0+ 32-Bit MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	Timers*1	RTC	Frequency	Data Rate	Output Power	Sensitivity	Interface	Others	I/O	Package
HT32F67041*	60MHz	2.2V~3.6V	64KB	8KB	6CH	1Msps 12-bit×16	BFTM×2 SCTM×4 GPTM×1	√	2402~2480 MHz	125/250/500Kbps	-10~+6 dBm	-97dBm @ 250Kbps	UART×2 SPI×2 I²C×2	AES CRC	16 29	32QFN 46QFN
HT32F67051*			128KB												29 31	46QFN 48LQFP-EP

Cortex-M3 32-Bit MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	CMP	Timers*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	SCI*4	USB*5	EBI*6	I²S	Inter-face	Others	I/O	Package
HT32F12345	96MHz	2.0V~3.6V	64KB	16KB	12CH	1Msps 12-bit ×12	2	BFTM×2 GPTM×2 MCTM×2	16	6	√	—	√	√	√	SDIO×1 USART×2 UART×2 SPI×2, I²C×2	CRC	37 37 51	46QFN 48LQFP 64LQFP
HT32F12365	96MHz	2.0V~3.6V	256KB	64KB	12CH	1Msps 12-bit ×16	2	BFTM×2 GPTM×2 MCTM×2	16	6	√	2	√	√	√	SDIO×1 USART×2 UART×2 SPI×2, I²C×2	AES CRC	37 37 51 80	46QFN 48LQFP 64LQFP 100LQFP
HT32F12366			256KB	128KB															
HT32F12364	72MHz	1.65V~3.6V	256KB	128KB	6CH	1Msps 12-bit ×8	—	BFTM×2 SCTM×2 PWM×1 GPTM×1	10	—	√	1	√	√	—	USART×1 UART×2 SPI×2, I²C×2	AES CRC	32 38 52	40QFN 48LQFP 64LQFP

Cortex-M3 32-Bit Fingerprint MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	CMP	Timers*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	SCI*4	USB*5	EBI*6	CSIF *7	Inter-face	Others	I/O	Package
HT32F22366	96MHz	2.0V~3.6V	256KB	128KB	12CH	1Msps 12-bit ×16	2	BFTM×2 GPTM×2 MCTM×2	16	6	√	2	√	√	√	SDIO×1 USART×2 UART×2 SPI×2 I²C×2 I²S×1	AES CRC	37 37 51 80	46QFN 48LQFP 64LQFP 100LQFP

* Under development, available in 1Q, 2022.

Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.
2. Cap.: Input Capture.
3. Cpm. PWM: Complementary PWM for 3-phase motor control or inverter application.
4. SCI: ISO7816-3 Smart Card Interface.
5. USB 2.0 Full Speed device.
6. EBI: External Bus Interface for NOR Flash / SRAM / LCD.
7. CSIF: CMOS Sensor Interface.
8. QSPI Flash ROM.

8-Bit Flash MCU

Low Pin Count Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	PWM	Comparator	Package
HT68F0017	8MHz	1.8V~5.5V	0.5K×12	16×8	—	2	8	8-bit×1	—	—	—	8/10SOP
HT66F302	8MHz	1.8V~5.5V	1K×14	64×8	32×8	2	8	10-bit STM×1 10-bit PTM×1	12-bit×4	—	—	8/10SOP
HT66F303							14					16NSOP
HT68F002	8MHz	2.2V~5.5V	1K×14	64×8	32×8	2	8	10-bit STM×1	—	—	—	8SOP, 10MSOP
HT66F0021		1.8V~5.5V			32×14#		6	8-bit×1	10-bit×4	8-bit×1		8SOP
HT66F002		2.2V~5.5V			32×8		8	10-bit STM×1	12-bit×4	—		8SOP, 10MSOP
HT66F0025			2K×14			4			12-bit×4			8/10SOP
HT66F007	20MHz	2.2V~5.5V	2K×16	160×8	512×8	8	8	10-bit CTM×2 16-bit STM×1	12-bit×5	—	1	8DIP/SOP 10MSOP
HT66F008	20MHz	2.2V~5.5V	4K×16	256×8	1024×8	8	8	10-bit CTM×2 16-bit STM×1	12-bit×5	—	1	8DIP/SOP 10MSOP

Note: # Emulated EEPROM.

Low Pin Count Flash MCU with Multi-interface

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Comparator	Interface	Package
HT66F2030	8MHz	1.8V~5.5V	2K×15	128×8	32×8	4	—	14	10-bit CTM×1 10-bit PTM×1	12-bit ×4	—	SPI/I²C×1 UART×1	8SOP, 10MSOP 16NSOP/QFN
HT66F2040	8MHz	1.8V~5.5V	4K×16	512×8	512×8	8	√	18	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×8	2	SPI/I²C/UART×1 UART×1	8SOP, 10MSOP 16NSOP/QFN 20SSOP
HT66F2050			8K×16										

Flash MCU with EEPROM

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	PWM	SCOM	Package
HT68F003	8MHz	2.2V~5.5V	1K×14	64×8	32×8	2	14	10-bit STM×1 10-bit PTM×1	—	—	—	16NSOP
HT66F0031		1.8V~5.5V			32×14#		14	8-bit×1	10-bit×4	8-bit×1		
HT66F003		2.2V~5.5V			32×8		14	10-bit STM×1 10-bit PTM×1	12-bit×4	—		
HT66F004	8MHz	2.2V~5.5V	2K×15	96×8	32×8	4	18	10-bit PTM×2	12-bit×8	—	4	16NSOP, 24SSOP 20SOP/SSOP/NSOP
HT66F0041		1.8V~5.5V	2K×14	64×8	32×14#			8-bit×1	10-bit×4	8-bit×1	—	16/20NSOP, 20SSOP

Note: # Emulated EEPROM.

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	SCOM/ SSEG	CMP	RTC	High Current LED Driver	Inter-face	Package
HT66F017	20MHz	2.2V~5.5V	2K×16	128×8	64×8	8	—	14	16-bit CTM×1 16-bit STM×1	12-bit ×4	—	1	—	—	—	16NSOP
HT66F0172	20MHz	2.2V~5.5V	2K×16	128×8	—	8	—	18	10-bit PTM×2	12-bit ×8	—	—	—	—	—	20SOP/SSOP
HT66F0174					64×8								√			
HT66F0175	20MHz							22			SCOM×6 SSEG×14			22	SPI/I²C×1	20/24SOP/SSOP
HT66F0176															SPI/I²C×1 UART×1	16/20NSOP 24SOP/SSOP
HT66F0181	8MHz	1.8V~5.5V	4K×15	128×8	32×15#	6	—	18	10-bit PTM×1 10-bit STM×1	10-bit ×8	—	—	—	18	—	16/20NSOP 20SOP/SSOP
HT66F0185	20MHz	2.2V~5.5V	4K×16	256×8	128×8	8	—	26	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×8	SCOM×6 SSEG×18	1	√	26	SPI/I²C×1 UART×1	24/28SOP/SSOP
HT66F0186				1024×8	4096×8											20NSOP 24/28SOP/SSOP
HT66F019	16MHz	2.2V~5.5V	8K×16	256×8	64×8	8	—	18	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×8	—	1	√	18	SPI/I²C×1 UART×1	20NSOP
HT66F0195				512×8	128×8			26		12-bit ×12	SCOM×6 SSEG×18			26		24/28SSOP
HT66F3185	16MHz	1.8V~5.5V	4K×16	256×8	128×8	8	√	26	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×12	(SCOM/ SSEG)×22 SSEG×4	1	√	26	SPI/I²C×1 UART×1	16/20NSOP 20/24/28SOP 20/24/28SSOP 24/28QFN
HT66F3195			8K×16	512×8				26		12-bit ×12	(SCOM/ SSEG)×22 SSEG×4			26		20NSOP 24/28SSOP/QFN
HT66F31A5	16MHz	1.8V~5.5V	16K×16	1024×8	1024×8	12	√	30	10-bit PTM×2 16-bit CTM×1 16-bit STM×1	12-bit ×12	(SCOM/ SSEG)×30	1	√	30	SPI/I²C×1 UART×2	24/28SSOP/QFN 32QFN

Note: # Emulated EEPROM.
SCOM/SSEG: Software Control LCD Common/Segment.

8-Bit Flash MCU

Flash MCU with LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	LCD	RTC	Power Switch	Interface	Package
HT69F340	16MHz	1.8V~5.5V	4K×16	256×8	64×8	8	√	39	10-bit PTM×1 10-bit CTM×1	24×4 25×3	√	—	SPI/I²C×1	48LQFP
HT69F3742	8MHz	1.8V~5.5V	4K×16	128×8	128×8	4	—	9	10-bit STM×1	23×4 24×3	—	√	—	46QFN, Dice
HT69F350	16MHz	1.8V~5.5V	8K×16	512×8	64×8	8	√	55	10-bit PTM×1 10-bit CTM×1 16-bit STM×1	36×4 37×3	√	—	SPI/I²C×1	48/64LQFP
HT69F360	16MHz	1.8V~5.5V	16K×16	1024×8	128×8	8	√	63	10-bit PTM×2 10-bit CTM×1 16-bit STM×1	48×4 49×3	√	—	SPI/I²C×1 UART×1	64/80LQFP
HT67F370	20MHz	1.8V~5.5V	32K×16	2048×8	256×8	8	√	63	10-bit PTM×2 10-bit CTM×1 16-bit STM×1	48×4 49×3	√	—	SPI/I²C×1 UART×1	64/80LQFP

I/O Flash MCU with High Current Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	High Current I/O	PWM	Package
HT68F0036	8MHz	1.8V~5.5V	1K×14	64×8	32×14#	2	13	8-bit×1	7	8-bit×1	16NSOP

Note: # Emulated EEPROM.

A/D Flash MCU with High Accuracy / Low Current LIRC

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Package
HT66F2630	8MHz	1.8V~5.5V	2K×16	128×8	64×8	8	18	16-bit PTM×1	12-bit×4	8SOP, 10MSOP 16SSOP, 16/20NSOP

Advanced A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	SCOM	CMP	RTC	High Current LED Driver	Interface	Package
HT66F317	16MHz	1.8V~ 5.5V	2K×16	128×8	64×8	8	22	10-bit PTM×2	12-bit ×8	4	—	√	22	—	16NSOP 20/24SOP/SSOP
HT66F318	16MHz	1.8V~ 5.5V	4K×16	192×8	64×8	8	26	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×8	4	1	√	26	I²C×1 UART×1	20/24/28SOP/SSOP
HT66F319	16MHz	1.8V~ 5.5V	8K×16	256×8	64×8	8	26	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×8	4	1	√	26	I²C×1 UART×1	16NSOP 20/24/28SOP/SSOP

Note: SCOM/SSEG: Software Control LCD Common/Segment.

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	SCOM	RTC	Comp-arator	CRC	Interface	Package
HT66F2350	16MHz	2.2V~ 5.5V	8K×16	768×8	256×8	16	√	44	10-bit PTM×2 16-bit PTM×2 16-bit STM×3	12-bit ×12	4	√	2	√	SPI/I²C×1 SPIA×1 UART×2	48LQFP
HT66F2360	16MHz	2.2V~ 5.5V	16K×16	1536×8	256×8	16	√	58	10-bit PTM×2 16-bit PTM×2 16-bit STM×3	12-bit ×16	4	√	2	√	SPI/I²C×1 SPIA×1 UART×2	48/64LQFP
HT66F2362		1.8V~ 5.5V		2048×8	1024×8			44								28SOP, 32QFN 44/48LQFP
HT66F2370	16MHz	2.2V~ 5.5V	32K×16	3072×8	512×8	16	√	58	10-bit PTM×2 16-bit PTM×2 16-bit STM×3	12-bit ×16	4	√	2	√	SPI/I²C×1 SPIA×1 UART×3	48/64LQFP
HT66F2372		1.8V~ 5.5V			2048×8			44								28SOP 44/48LQFP
HT66F2390	16MHz	2.2V~ 5.5V	64K×16	4096×8	1024×8	16	√	58	10-bit PTM×2 16-bit PTM×2 16-bit STM×3	12-bit ×16	4	√	2	√	SPI/I²C×1 SPIA×1 UART×3	48/64LQFP

Note: These devices conform to the European standard IEC 60730 and the U.S. standard UL 60730 certified.

8-Bit Flash MCU

Low Power A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Temp. Sensor	SCOM	RTC	Interface	Package
HT66L2540*	16MHz	1.8V~5.5V	4K×16	256×8	256×8	8	√	26	16-bit PTM×1 16-bit STM×1	12-bit ×8	√	4	√	SPI/I²C/UART×1	16NSOP 24/28SSOP 28QFN
HT66L2550*	16MHz	1.8V~5.5V	8K×16	512×8	256×8	8	√	30	16-bit PTM×2 16-bit STM×1	12-bit ×8	√	4	√	SPI/I²C/UART×1	24/28SSOP 32QFN

* Under development, available in 2Q, 2022.

Low Power A/D Flash MCU with LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Temp. Sensor	LCD	RTC	Interface	Package
HT67L2540*	16MHz	1.8V~5.5V	4K×16	256×8	256×8	8	√	22	16-bit PTM×1 16-bit STM×1	12-bit ×8	√	24×4	√	SPI/I²C/UART×1	48LQFP
HT67L2550*	16MHz	1.8V~5.5V	8K×16	512×8	512×8	8	√	30	16-bit PTM×2 16-bit STM×1	12-bit ×8	√	32×4	√	SPI/I²C/UART×1	48/64LQFP

* Under development, available in 2Q, 2022.

8-Bit High Supply Voltage Flash MCU

12V High Current Driver A/D Flash MCU

Part No.	Max. Freq.	VCC (HV)	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	HVIO	Timer	ADC	LDO Output Voltage	OVP	Inter-face	Package
HT66F2730	16MHz	7.5V~12V	4.5V~5.5V	2K×16	128×8	64×8	4	10	10	10-bit STM×1 10-bit PTM×1	12-bit ×4	5.0V	—	SPI/I²C/UART×1	16NSOP-EP 20NSOP 24SOP/SSOP-EP
HT66F2740				4K×16	256×8	128×8	8	14		10-bit STM×1 10-bit PTM×1 10-bit CTM×1	12-bit ×8		1		16NSOP-EP 24/28SOP 24SSOP-EP

8-Bit LCD Display Flash MCU

A/D Flash MCU with LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	LCD	RTC	Comp-arator	Interface	Package
HT67F40	16MHz	2.2V~5.5V	4K×15	256×8	128×8	8	—	44	10-bit CTM×1 10-bit ETM×1 16-bit STM×1	12-bit ×8	32×4 33×3	√	2	SPI/I²C×1 SPIA×1	48/64LQFP
HT67F50	16MHz	2.2V~5.5V	8K×16	384×8	256×8	8	—	52	10-bit CTM×2 10-bit ETM×1 16-bit STM×1	12-bit ×8	40×4 41×3	√	2	SPI/I²C×1 SPIA×1	48/64/80LQFP
HT67F60A	16MHz	2.2V~5.5V	16K×16	1024×8	128×8	16	√	47	10-bit CTM×2 10-bit ETM×1 16-bit STM×3	12-bit ×12	56×4	√	2	SPI/I²C×1 SPIA×1	48/64/80LQFP

A/D Flash MCU with LCD Driver & High Accuracy HIRC

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	LCD	RTC	IR LED Driver	Interface	Package
HT67F2432	4MHz	1.8V~5.5V	2K×16	128×8	32×16#	6	—	26	9-bit Timer×1 10-bit CTM×1	10-bit ×5	20×4	√	—	UART×1	24/28SOP/SSOP
HT67F2352*	4MHz	1.8V~5.5V	8K×16	512×8	128×8	8	√	44	10-bit CTM×1 10-bit PTM×1 16-bit STM×1	12-bit ×8	30×4 29×5 28×6	√	√	UART×1	32/44/48LQFP

* Under development, available in 1Q, 2022.
Note: # Emulated EEPROM.

Advanced A/D Flash MCU with LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	LCD	RTC	Comp-arator	CRC	Interface	Package
HT67F2350	16MHz	2.2V~5.5V	8K×16	768×8	256×8	16	√	57	10-bit PTM×6 16-bit PTM×2 16-bit STM×3	12-bit ×12	46×4 44×6 42×8	√	2	√	SPI/I²C×1 SPIA×1 UART×2	48/64LQFP
HT67F2360	16MHz	2.2V~5.5V	16K×16	1536×8	256×8	16	√	71	10-bit PTM×6 16-bit PTM×2 16-bit STM×3	12-bit ×16	56×4 54×6 52×8	√	2	√	SPI/I²C×1 SPIA×1 UART×2	64/80LQFP
HT67F2362		1.8V~5.5V		2048×8	1024×8			57			46×4 44×6 42×8					48/64LQFP
HT67F2370	16MHz	2.2V~5.5V	32K×16	3072×8	512×8	16	√	71	10-bit PTM×6 16-bit PTM×2 16-bit STM×3	12-bit ×16	56×4 54×6 52×8	√	2	√	SPI/I²C×1 SPIA×1 UART×3	64/80LQFP
HT67F2372		1.8V~5.5V			2048×8			57			46×4 44×6 42×8					48/64LQFP
HT67F2390	16MHz	2.2V~5.5V	64K×16	4096×8	1024×8	16	√	71	10-bit PTM×6 16-bit PTM×2 16-bit STM×3	12-bit ×16	56×4 54×6 52×8	√	2	√	SPI/I²C×1 SPIA×1 UART×3	64/80LQFP

Note: These devices conform to the European standard IEC 60730 and the U.S. standard UL 60730 certified.

8-Bit LCD / LED Flash MCU

A/D Flash MCU with six Timer & High Current LED Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	SCOM	High Current LED Driver	RTC	Interface	Package
HT66F0042	16MHz	2.2V~5.5V	2K×15	96×8	32×8	6	22	10-bit PTM×4 10-bit CTM×2	12-bit ×8	4	22	√	SPI/I²C×1	20/24SOP/SSOP
HT66F0082			4K×16	128×8	64×8		26				26			24/28SOP/SSOP

Note: The HT66F0042/0082 devices include 6 Timer Modules and are suitable for use in products requiring multiple PWM functions such as RGB lighting.

RGB LED Controller Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Stack	I/O	Timer	Multiple RGB LED	Constant Current	Interface	Package
HT45F0060	8MHz	2.2V~5.5V	1K×14	64×8	2	8	10-bit CTM×3	—	3	Cascading Transceiver	8SOP/DFN 10SOP
HT45F0062	8MHz	2.2V~5.5V	2K×16	128×8	4	14	10-bit CTM×1	√	12	I²C×1, Cascading Transceiver	16NSOP-EP/QFN
HT45F0063	8MHz	2.2V~5.5V	4K×16	256×8	4	20	10-bit CTM×1	√	15	I²C×1, Cascading Transceiver	24SSOP-EP/QFN

A/D Flash MCU with LCD & High Current LED Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	LCD	High Current LED Driver	RTC	Interface	Package
HT67F489	16MHz	2.2V~5.5V	8K×16	256×8	64×8	8	—	42	10-bit CTM×3 10-bit PTM×1	12-bit ×10	20×8 20×4	8	√	UART×1	44LQFP
HT67F4892				384×8				50			32×4/32×8 28×4/28×8			SPI/I²C×1 UART×1	48/52LQFP
HT67F2355	12MHz	1.8V~5.5V	8K×16	512×8	512×8	8	√	46	10-bit CTM×3 10-bit PTM×1	12-bit ×10	32×4/31×5 30×6/28×8	46	√	SPI/I²C×1 UART×1	44/48LQFP

USB Interface Flash MCU

I/O Flash USB MCU (USB 2.0 Full Speed)

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Stack	IAP/ ISP	I/O	Timer	End-points	LDO Driving Current	VDDIO	Interface	Package
HT68FB550	16MHz	2.2V~5.5V	8K×16	512×8	8	√	25	10-bit CTM×2 10-bit STM×1 16-bit STM×1	6	70mA	√	SPI/I²C×1 SPIA×1	24/28SSOP
HT68FB560	16MHz	2.2V~5.5V	16K×16	768×8	12	√	37	10-bit CTM×2 10-bit STM×1 16-bit STM×1	8	70mA	√	SPI/I²C×1 SPIA×1	24/28SSOP 48LQFP

A/D Flash USB MCU (USB 2.0 Full Speed)

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP/ ISP	I/O	Timer	ADC	RTC	MDU#	End-points	LDO Driving Current	VDDIO	Comp-arator	Inter-face	Package
HT66FB540	16MHz	2.2V~ 5.5V	4K×16	512×8	—	8	√	25	10-bit CTM×2 10-bit STM×1 16-bit STM×1	12-bit ×8	√	—	4	70mA	√	2	SPI/I²C×1 SPIA×1	28SSOP 48LQFP
HT66FB542	16MHz	2.2V~ 5.5V	4K×16	256×8	—	8	√	17	10-bit CTM×2 10-bit STM×1 16-bit STM×1	12-bit ×4	—	—	4	70mA	√	1	SPI/I²C×1 SPIA×1	24SSOP
HT66FB550	16MHz	2.2V~ 5.5V	8K×16	768×8	—	8	√	37	10-bit CTM×2 10-bit STM×1 16-bit STM×1	12-bit ×16	√	—	6	70mA	√	2	SPI/I²C×1 SPIA×1	28SSOP 48LQFP
HT66FB560	16MHz	2.2V~ 5.5V	16K×16	1024×8	—	12	√	45	10-bit CTM×2 10-bit STM×1 16-bit STM×1	12-bit ×16	√	—	8	70mA	√	2	SPI/I²C×1 SPIA×1	48/64LQFP
HT66FB570	16MHz	2.2V~ 5.5V	32K×16	1024×8	256×8	12	√	55	10-bit PTM×5 16-bit STM×1	12-bit ×24	√	—	8	70mA	√	2	SPI/I²C×1 SPIA×1 UART×1	48/64LQFP
HT66FB582	16MHz	2.2V~ 5.5V	48K×16	1024×8	16K×8	12	√	41	10-bit PTM×5 16-bit STM×1	12-bit ×16	√	16-bit	8	70mA	√	2	SPI/I²C×1 SPIA×1 UART×1	46QFN 48LQFP

Note: # MDU: Multiplier Divider Unit.

USB Flash RGB LED MCU (USB 2.0 Full Speed)

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP/ ISP	I/O	Timer	ADC	End-points	LDO Driving Current	VDDIO	Inter-face	RGB LED Driver	LED PWM	Const. Current	Package
HT68FB541	16MHz	3.0V~ 5.5V	4K×16	256×8	64×8	8	√	18	16-bit×2	—	4	70mA	√	SPI×1	8	3×8	—	24SSOP
HT68FB571	16MHz	3.0V~ 5.5V	8K×16	512×8	64×8	8	√	41	16-bit×2	—	4	70mA	√	SPI×1	42	16×8	—	28SSOP 48LQFP
HT66FB572	16MHz	2.2V~ 5.5V	8K×16	1024×8	256×8	12	√	34	10-bit PTM×3 16-bit STM×1	12-bit ×8	8	70mA	√	SPI/I²C×1 SPIA×1 UART×1	40	15×8	15	48/64LQFP

Motor Controller & Driver Flash MCU

Cortex-M0+ 32-Bit BLDC Flash MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	CMP	OPA	Timer*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	Interface	Others	I/O	Package
HT32F65232	60MHz	2.5V~5.5V	32KB	4KB	6CH	2Msps×1 12-bit×12	2	1	BFTM×2 SCTM×4 GPTM×1 MCTM×1	12	3	√	USART×1 UART×1 SPI×1 I²C×1	CRC DIV	20 28 44	24SSOP 32QFN 48LQFP
HT32F65230						1Msps×2 12-bit×8	3	2							40	48LQFP
HT32F65240			64KB	8KB												

Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.
2. Cap.: Input Capture.
3. Cpm. PWM: Complementary PWM for 3-phase motor control or inverter application.

Cortex-M0+ 32-Bit BLDC Flash MCU with Gate-Driver

Part No.	Max. Freq.	VCC (HV)	LDO	Gate-Driver	Flash	SRAM	PDMA	ADC	CMP	OPA	Timer*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	Interface	Others	I/O	Package
HT32F65432*	60MHz	6V~38V	5V	3P3N	32KB	4KB	6CH	2Msps×1 12-bit×12	2	1	BFTM×2 SCTM×4 GPTM×1 MCTM×1	8	3	√	USART×1 UART×1 SPI×1 I²C×1	CRC DIV	16 29	32QFN 48LQFP-EP
HT32F65532		6V~48V		6N													12 28	32QFN 48LQFP-EP
HT32F65732*		6V~110V		6N				2Msps×1 12-bit×11									22 26	46QFN 48LQFP-EP
HT32F65440*		6V~38V		3P3N	64KB	8KB		1Msps×2 12-bit×11	3	2							28	48LQFP-EP
HT32F65540		6V~48V		6N													26	48LQFP-EP
HT32F65740*		6V~110V		6N													26	48LQFP-EP

* Under development, available in 2Q, 2022.
Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.
2. Cap.: Input Capture.
3. Cpm. PWM: Complementary PWM for 3-phase motor control or inverter application.

Cortex-M0+ 32-Bit BLDC Flash MCU with Driver

Part No.	Max. Freq.	VCC (HV)	LDO	Peak Current	Flash	SRAM	PDMA	ADC	CMP	OPA	Timer*1	Cap.*2 or PWM	Cpm. PWM*3	RTC	Interface	Others	I/O	Package
HT32F65C32	60MHz	6V~32V	5V	3.5A	32KB	4KB	6CH	2Msps×1 12-bit×12	2	1	BFTM×2 SCTM×4 GPTM×1 MCTM×1	8	3	√	USART×1 UART×1 SPI×1 I²C×1	CRC DIV	16 29	32QFN 48LQFP-EP
HT32F65C40					64KB	8KB		1Msps×2 12-bit×8	3	2							26	48LQFP-EP

Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.
2. Cap.: Input Capture.
3. Cpm. PWM: Complementary PWM for 3-phase motor control or inverter application.

Tool Power Controller Flash MCU

Part No.	Max. Freq.	VCC (HV)	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	VREF	OCP	HVO	HVIO	CRC	IAP	Inter-face	Package
HT45F3630	8MHz	12V	2.2V~5.5V	2K×16	64×8	32×8	6	12	10-bit PTM×2	12-bit ×8	—	1	1	0	0	0	I²C×1	16SSOP
BP45F3640	8MHz	12V	2.2V~5.5V	4K×16	256×8	32×8	8	15	10-bit PTM×2	12-bit ×8	2.4V	1	0	2	1	1	I²C×1	16/20SSOP

Note: The BP45F3640 device conforms to the European standard IEC 60730 and the U.S. standard UL 60730 certified.

Servo Motor Flash MCU with H-Bridge Driver

Part No.	Max. Freq.	VCC (HV)	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	H-Bridge Driver	LDO	Inter-face	Package
HT45F4830	8MHz	3.5V~10V	3.0V	2K×16	128×8	32×8	4	—	4	10-bit PTM×1 16-bit PTM×1	12-bit ×4	600mA Min.	3.0V	—	8SOP-EP
HT45F4840	16MHz	6.0V~12V	3.3V or 5.0V	4K×16	256×8	—	6	√	8	10-bit PTM×1 16-bit STM×1 16-bit CTM×1	12-bit ×4	—	3.3V or 5.0V	UART×1	10SOP 16NSOP/QFN
HT45F4842									6			√			10SOP-EP 24QFN

Motor Controller & Driver Flash MCU

BLDC Motor Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	MDU	OCP	PWM	Comp-arator	OPA	Inter-face	Package
HT66FM5230	20MHz	4.5V~5.5V	2K×16	256×8	32×8	6	—	18	10-bit CTM×1 10-bit STM×1 16-bit CAPTM×1 16-bit CTM×1	10-bit ×6	—	1	10-bit ×3	3	—	I²C×1	16NSOP 20SSOP
HT66FM5240	20MHz	4.5V~5.5V	4K×16	256×8	64×8	8	—	26	10-bit PTM×2 16-bit PTM×2 16-bit CAPTM×1	12-bit ×8	—	1	10-bit ×3	3	—	I²C×1 UART×1	20/28SSOP 24QFN
HT66FM5242	20MHz	4.5V~5.5V	4K×16	256×8	—	8	—	18	10-bit PTM×2 16-bit PTM×2 16-bit CAPTM×1	12-bit ×7	—	1	10-bit ×3	—	—	—	16NSOP 20SSOP
HT66FM5440	16MHz	4.5V~5.5V	4K×16	384×8	—	8	—	26	10-bit PTM×2 16-bit PTM×2 16-bit CAPTM×1	12-bit ×9	—	1	10-bit ×3	3	2	I²C×1 UART×1	28SSOP
BD66FM5245*	20MHz	4.5V~5.5V	4K×16	512×8	—	8	√	24	10-bit PTM×2 16-bit PTM×2 16-bit CAPTM×1	12-bit ×14	√	1	10-bit ×3	3	—	UART×1	16NSOP 24SSOP
BD66FM5250	20MHz	4.5V~5.5V	8K×16	2048×8	512×8	8	√	30	10-bit PTM×2 16-bit PTM×2 16-bit CAPTM×1	12-bit ×10	√	1	10-bit ×3	3	—	UART×1	24/28SSOP 32QFN

* Under development, available in 3Q, 2022.
Note: HT66FM5440 is a new HT8-1T architecture MCU which takes one clock cycle to execute one instruction. It improves 4 times the CPU performance of the original HT8-4T architecture MCU which takes four clock cycles to execute one instruction.

BLDC Motor Flash MCU with Gate-Driver

Part No.	Max. Freq.	VCC (HV)	LDO	Gate-Driver	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	MDU	OCP	PWM	Comp-arator	Package
HT66FM5340	20MHz	6V~15V	5V	3P3N	4.5V~5.5V	4K×16	256×8	—	8	—	19	10-bit PTM×2 16-bit PTM×2 16-bit CAPTM×1	12-bit ×8	—	1	10-bit ×3	3	24SSOP
BD66FM6445*	20MHz	6V~38V	5V	3P3N	4.5V~5.5V	4K×16	512×8	—	8	√	15	10-bit PTM×2 16-bit PTM×2 16-bit CAPTM×1	12-bit ×12	√	1	10-bit ×3	3	32QFN
BD66FM6545**		6V~48V		6N														
BD66FM6450*	20MHz	6V~38V	5V	3P3N	4.5V~5.5V	8K×16	2048×8	512×8	8	√	18	10-bit PTM×2 16-bit PTM×2 16-bit CAPTM×1	12-bit ×10	√	1	10-bit ×3	3	32QFN
BD66FM6550		6V~48V		6N							24							32QFN 48LQFP-EP
BD66FM6750*		6V~120V																46QFN 48LQFP-EP

* Under development, available in 2Q, 2022.
** Under development, available in 3Q, 2022.

BLDC Motor Flash MCU with Driver

Part No.	Max. Freq.	VCC (HV)	LDO	Peak Current	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	MDU	OCP	PWM	CMP	Package
BD66FM8345**	20MHz	6V~15V	5V	1.5A	4.5V~5.5V	4K×16	512×8	—	8	√	13	10-bit PTM×2 16-bit PTM×2 16-bit CAPTM×1	12-bit ×11	√	1	10-bit ×3	3	24SSOP-EP 32QFN
BD66FM8445*		6V~32V		3.5A														
BD66FM8450*						8K×16	2048×8	512×8			15		12-bit ×10					32QFN

* Under development, available in 1Q, 2022.
** Under development, available in 3Q, 2022.

Motor Controller & Driver Peripheral

H-Bridge Driver

Part No.	Supply Voltage	Max. Motor Voltage	Typ. Motor Peak Current (A)	Typ. Motor RMS Current (A)	Max. Sleep Current (μA)	Max. PWM Frequency (Hz)	# of H-Bridge	Protections	Package
HT7K1201	1.8V~6.0V	6V	1.3	0.8	0.1	200K	1	UVLO, OCP OTP, OSP	SOT23-6
HT7K1211		7.5V	2.1	1.5					8SOP-EP
HT7K1311	2.5V~5.5V	15V	3.0	2.4	1.0	200K	1	UVLO, OCP OTP, OSP	8SOP-EP
HT7K1312									8DFN
HT7K1401	2.5V~5.5V	24V	2.0	1.8	1.0	200K	1	UVLO, OCP OTP, OSP	8SOP-EP
HT7K1411			3.2	2.5					

OPA Flash MCU

Advanced Flash MCU with OPA

Part No.	Max. Freq.	Input Voltage	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	DAC	RTC	Voice DAC	Comp-arator	OPA	Interface	Package
HT66F4530	12MHz	2.2V~5.5V	2K×16	128×8	32×8	6	18	10-bit STM×1 10-bit PTM×1	12-bit ×5	8-bit ×3	√	—	2	2	SPI/I²C×1	16NSOP 20SSOP
HT66F4540	12MHz	2.2V~5.5V	4K×16	256×8	64×8	8	26	10-bit STM×1 10-bit PTM×2	12-bit ×8	8-bit ×3	√	—	2	2	SPI/I²C×1 UART×1	24/28SSOP
HT66F4550	12MHz	2.2V~5.5V	8K×16	384×8	64×8	8	26	10-bit STM×2 10-bit PTM×2	12-bit ×8	8-bit ×3	√	16-bit ×1	2	2	SPI/I²C×1 UART×1	24/28SSOP
HT66F4560	12MHz	2.2V~5.5V	16K×16	512×8	128×8	16	46	10-bit STM×2 10-bit PTM×2	12-bit ×8	8-bit ×3	√	16-bit ×1	2	2	SPI/I²C×1 UART×1	28SSOP 48LQFP

Note: The MCUs internal OPA gain bandwidth are software programmable.

24-Bit A/D Flash MCU

24-Bit A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	MDU#	Stack	IAP	I/O	Timer	ADC	RTC	OPA	Interface	Package
BH66F5232	12MHz	2.2V~5.5V	2K×16	128×8	32×8	—	4	—	4	10-bit CTM×1	24-bit ×2	—	—	SPI/I²C×1 UART×1	10SOP
BH66F5233	12MHz	2.2V~5.5V	2K×16	96×8	32×8	—	4	—	14	10-bit CTM×1	24-bit ×2	—	—	SPI/I²C×1	16/20NSOP
BH66F5242	12MHz	2.2V~5.5V	4K×16	256×8	64×8	—	6	—	14	10-bit CTM×1 16-bit PTM×1	24-bit ×12	—	1	SPI/I²C/UART×1	16NSOP/SSOP 20NSOP/QFN
BH66F5250	16MHz	2.2V~5.5V	8K×16	512×8	128×8	16-bit	8	√	37	16-bit STM×1 10-bit PTM×3	24-bit ×16	√	1	SPI/I²C/UART×1 SPI×1	48LQFP

Note: # MDU: Multiplier Divider Unit.

Enhanced 24-Bit A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	ENOB	SCOM	Comp-arators	CRC	Interface	Package
BH66F5362	16MHz	1.8V~5.5V	16K×16	2048×8	1024×8	16	√	32	10-bit PTM×2 16-bit PTM×2 16-bit STM×1	12-bit×9 24-bit×4	19.4 @5V	4	2	√	SPI/I²C×1 SPI×1 UART×2	48LQFP

24-Bit A/D Flash MCU with LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	MDU ##	Stack	IAP	I/O	Timer	ADC	LCD	OPA	RTC	Touch Key	Interface	Package
BH67F5235	8MHz	2.2V~5.5V	3K×16	192×8	32×16#	—	4	—	5	10-bit CTM×1	24-bit ×2	16×4	—	—	2	—	24/28SSOP 32QFN
BH67F5245	12MHz	2.2V~5.5V	4K×16	256×8	32×8	—	6	—	21	10-bit CTM×1	24-bit ×4	17×4	—	—	4	UART×1	24/28SSOP
BH67F5250	16MHz	2.2V~5.5V	8K×16	512×8	128×8	16-bit	8	√	46	10-bit PTM×3 16-bit STM×1	24-bit ×16	28×4 26×6 24×8	—	√	—	SPI/I²C/UART×1 SPI×1	64LQFP
BH67F5255*	8MHz	2.2V~5.5V	8K×16	512×8	512×8	—	16	√	30	10-bit PTM×2 16-bit STM×1	24-bit ×4	24×4 22×6	2	—	—	SPI/I²C/UART×1	48LQFP
BH67F5260	16MHz	2.2V~5.5V	16K×16	1024×8	256×8	16-bit	8	√	46	10-bit PTM×3 16-bit STM×1	24-bit ×16	42×4 40×6 38×8	—	√	—	SPI/I²C/UART×1 SPI×1	64/80LQFP
BH67F5265*	16MHz	2.2V~5.5V	16K×16	1024×8	1024×8	16-bit	16	√	43	10-bit PTM×3 16-bit STM×1	24-bit ×6	30×4 28×6 26×8	2	√	—	SPI/I²C/UART×1 SPI×1	64LQFP
BH67F5270	16MHz	2.2V~5.5V	32K×16	2048×8	512×8	16-bit	16	√	46	10-bit PTM×3 16-bit STM×1	24-bit ×16	42×4 40×6 38×8	—	√	—	SPI/I²C/UART×1 SPI×1	64/80LQFP
BH67F5275*	16MHz	2.2V~5.5V	32K×16	2048×8	2048×8	16-bit	16	√	57	10-bit ATM×1 10-bit PTM×3 16-bit STM×1	24-bit ×6	44×4 42×6 40×8	2	√	—	SPI/I²C/UART×1 SPI×1	64/80LQFP

* Under development, available in 2Q, 2022.
Note: # Emulated EEPROM.
MDU: Multiplier Divider Unit.

Enhanced 24-Bit A/D Flash MCU with LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	LCD	ENOB	RTC	CRC	Comp-arators	Interface	Package
BH67F5362	16MHz	1.8V~5.5V	16K×16	2048×8	1024×8	16	√	45	10-bit PTM×5 16-bit PTM×2 16-bit STM×3	12-bit×14 24-bit×4	36×4 34×6 32×8	19.4 @5V	√	√	2	SPI/I²C×1 SPI×1 UART×2	64LQFP

ATS 24-Bit A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Temperature Sensor	OPA	Interface	Package
BH66F2742	8MHz	2.2V~5.5V	4K×16	256×8	32×8	6	4	10-bit CTM×1	24-bit ×2	±0.2°C	1	SPI/I²C/UART×1	16SSOP 24QFN
BH66F5255*	12MHz	2.2V~5.5V	8K×16	512×8	512×8	8	9	10-bit CTM×1 16-bit PTM×1	24-bit ×4	±0.2°C	2	SPI/I²C×1 UART×1	24QFN/SSOP

* Under development, available in 2Q, 2022.

24-Bit A/D Peripheral

Enhanced 24-Bit A/D Peripheral

Part No.	Max. Freq.	VDD	ADC	ENOB	Data Rate	PGA	Interface	Package
BH45B1225	4.91MHz	2.4V~5.5V	24-bit×4	19.4@5V	5Hz~1.6kHz	1~128	I²C×1	8SOP, 16NSOP

Advanced 24-Bit A/D Peripheral

Part No.	Max. Freq.	VDD	ADC	ENOB	Data Rate	PGA	Interface	Package
BH45B1525	4.91MHz	2.7V~5.5V	24-bit×4	20.9@5V	10Hz~1.28kHz	1~128	I²C×1, SPI×1	20SSOP

Health Care Flash MCU

Ear Thermometer Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	LCD	OPA	Interface	Package
BH67F2742	16MHz	2.2V~5.5V	4K×16	256×8	32×8	6	—	21	10-bit CTM×1	24-bit ×8	17×4 15×6	1	SPI/I²C/UART×1	28SSOP 32QFN
BH67F2752	8MHz	2.2V~5.5V	8K×16	384×8	128×8	6	—	17	10-bit CTM×2	24-bit ×8	32×4 30×6	2	SPI×1 UART×1	48/64LQFP
BH67F2762	12MHz	2.2V~5.5V	16K×16	1024×8	256×8	8	√	38	10-bit CTM×2 16-bit PTM×1	24-bit ×8	39×4 37×6	2	SPI/I²C/UART×1	48/64LQFP

Glucose Meter Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	MDU#	Stack	IAP	I/O	Timer	ADC	LCD	RTC	OPA	DAC	Audio DAC	Interface	Package
HT45F67	16MHz	2.2V~5.5V	32K×16	512×8	—	—	12	√	59	10-bit CTM×2 16-bit STM×1 10-bit ETM×1	12-bit ×8	32×4 30×6	√	2	10-bit ×1	16-bit ×1	SPI/I²C×1 SPIA×1 UART×1	64/80LQFP
BH67F2470	16MHz	2.2V~5.5V	32K×16	768×8	64×8	16-bit	8	√	34	10-bit PTM×3 16-bit STM×1	12-bit ×4	48×4 46×6 44×8	√	1	10-bit ×1	—	SPI/I²C×1 SPIA×1 UART×2	64/80LQFP
BH67F2472	16MHz	2.2V~5.5V	32K×16	2048×8	2048×8	—	16	√	58	10-bit PTM×2 16-bit STM×1 10-bit ATM×1	12-bit ×6	36×4 34×6 32×8	√	2	12-bit ×1	—	SPI/I²C/UART×2 SPI×1	64/80LQFP
BH67F2480	16MHz	2.2V~5.5V	48K×16	1024×8	64×8	16-bit	12	√	46	10-bit PTM×3 16-bit STM×1	12-bit ×6	48×4 46×6 44×8	√	2	12-bit ×1	—	SPI/I²C×1 SPIA×1 UART×2	80LQFP

Note: # MDU: Multiplier Divider Unit.

Impedance & Electrochemical Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	MDU#	Stack	IAP	I/O	Timer	ADC	LCD	RTC	OPA	DAC	Phase Detect	Inter-face	Package
BH67F2485	16MHz	2.2V~5.5V	48K×16	4096×8	128×8	16-bit	12	√	44	10-bit PTM×3 16-bit STM×1	24-bit ×6	36×4 34×6 32×8	√	4	12-bit ×2	√	SPI/I²C×1 SPIA×1 UART×2	64/80LQFP

Note: # MDU: Multiplier Divider Unit.

Health Care Flash MCU

Body Fat Measurement Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	MDU#	Stack	IAP	I/O	Timer	ADC	LCD	RTC	Electrode	Interface	Package
BH66F2632	8MHz	2.2V~5.5V	3K×16	256×8	32×8	—	6	—	9	10-bit CTM×1	24-bit ×2	—	—	4	SPI/I²C/UART×1	24QFN
BH66F2650	16MHz	2.2V~5.5V	8K×16	256×8	64×8	16-bit	8	√	28	10-bit PTM×3 16-bit STM×1	24-bit ×4	—	√	8	SPI/I²C×1 UART×1	48LQFP
BH66F2652	8MHz	2.2V~5.5V	8K×16	384×8	32×8	—	8	—	17	10-bit CTM×1	24-bit ×4	—	—	4	SPI×1 UART×1	32QFN
BH66F2652-2									14							28SSOP
BH66F2660	16MHz	2.2V~5.5V	16K×16	1024×8	256×8	16-bit	8	√	28	10-bit PTM×3 16-bit STM×1	24-bit ×4	—	√	8	SPI/I²C×1 UART×1	48LQFP
BH66F2662	8MHz	2.2V~5.5V	16K×16	512×8	64×8	—	8	—	17	10-bit CTM×1 10-bit STM×1	24-bit ×4	—	—	4	SPI×1 UART×1	32QFN
BH66F2662-2									14							28SSOP
BH67F2662	8MHz	2.2V~5.5V	16K×16	512×8	64×8	—	8	—	12	10-bit CTM×1 10-bit STM×1	24-bit ×4	16×4 14×6	—	4	SPI×1 UART×1	48LQFP
BH66F2663	16MHz	2.2V~5.5V	16K×16	1024×8	256×8	16-bit	8	√	35	10-bit PTM×3 16-bit STM×1	24-bit ×6	—	√	8	SPI/I²C×1 SPIA×1 UART×1	48/64LQFP
BH66F2665*	8MHz	2.2V~5.5V	16K×16	1024×8	1024×8	—	16	√	15	10-bit CTM×1 10-bit STM×1	24-bit ×4	—	√	4	SPI/I²C×1 UART×1	28SSOP 32QFN

* Under development, available in 2Q, 2022.
Note: # MDU: Multiplier Divider Unit.
The BH66F2663 device includes Impedance Phase Measurement function.

BLE Beacon Body Fat Measurement Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Frequency	Data Rate	Output Power	Package
BH66F71652	8MHz	2.2V~3.6V	8K×16	384×8	32×8	8	17	10-bit CTM×1	24-bit ×4	2402/2426/2480MHz	1Mbps	-10~+8dBm	46QFN
BH66F71662			16K×16	512×8	64×8			10-bit CTM×1 10-bit STM×1					

R-Type Blood Pressure Meter Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	MDU#	Stack	IAP	I/O	Timer	ADC	LCD	RTC	PGA	Const. Current	Audio PWM	Inter-face	Package
BH67F2262	16MHz	2.2V~5.5V	16K×16	512×8	64×8	16-bit	8	√	52	10-bit PTM×3 16-bit STM×1	12-bit ×4	45×4 43×6 41×8	√	3	1	√	SPI/I²C/UART×1, SPIA×1	64/80LQFP
BH67F2265	8MHz	2.2V~5.5V	16K×16	512×8	1024×8	—	12	√	30	10-bit CTM×2 16-bit STM×1	12-bit ×4	32×4 30×6	√	3	1	—	SPI/I²C×1 UART×1	64LQFP
BH67F2270	16MHz	2.2V~5.5V	32K×16	1024×8	64×8	16-bit	8	√	43	10-bit PTM×3 16-bit STM×1	12-bit ×4	46×4 44×6 42×8	√	3	1	—	SPI/I²C×1 SPIA×1 UART×2	64/80LQFP

Note: # MDU: Multiplier Divider Unit.
The BH67F2262 device uses the PWM function together with the external SPI flash to implement the voice playing function.

Measurement Flash MCU

Proximity Sensing Flash MCU

Part No.	Max. Freq.	VCC (HV)	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Touch Key	IR Driver & Receiver	Battery Voltage Detector	DC Motor Driver	Inter-face	Package
BS45F3232	8MHz	—	2.2V~5.5V	2K×14	64×8	32×8	4	11	10-bit STM×1	12-bit ×8	—	IR×1 OPA×2	—	—	SPI/I²C/ UART×1	8SOP 16NSOP/QFN
BS45F3235														V_M=7.5V		24SSOP
HT45F3230	8MHz	3V~12V	2.2V~5.5V	2K×16	128×8	64×8	8	16	10-bit PTM×1 10-bit CTM×1	12-bit ×8	—	IR×1 OPA×2	√	√	—	16NSOP 24SSOP
BS45F3332	8MHz	—	1.8V~5.5V	2K×15	128×8	32×8	4	13	10-bit CTM×1	10-bit ×4	2	IR×2 OPA×1	—	—	—	8SOP 16NSOP
BS45F3335			1.8V~5.5V					11						V_M=7.5V		24SSOP
BS45F3336			2.5V~5.5V					11						V_M=15V		24SSOP
BS45F3337			1.8V~5.5V					9						NMOS RDS(on)= 120mΩ		16NSOP
BS45F3340	8MHz	—	1.8V~5.5V	4K×16	192×8	32×8	6	20	10-bit CTM×1 10-bit STM×1	12-bit ×8	4	IR×2 OPA×2	—	—	UART×1	16NSOP/QFN 24SSOP
BS45F3345								17						V_M=7.5V		16NSOP 24/28SSOP
BS45F3346			2.5V~5.5V											V_M=15V		

R to F MCU

Ultra-Low Voltage R to F Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	LCD	R to F	LVD	Package
BH67F2132	128kHz	1.1V~2.2V	2K×16	128×8	128×8	4	24	10-bit CTM×1	21×3 22×2	2CH	1.15V	48LQFP
BH67F2142*			4K×16	256×8								

* Under development, available in 1Q, 2022.

Security & Safety Flash MCU

PIR & Microwave Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	OPA	Interface	Package
BA45F6622	8MHz	2.2V~5.5V	1K×14	64×8	32×14#	4	6	10-bit STM×1	10-bit×2	2	—	16NSOP/QFN
BA45F6630	8MHz	2.2V~5.5V	2K×16	256×8	32×8	6	15	10-bit STM×2	12-bit×4	2	SPI/I²C/UART×1	24SSOP/QFN
BA45F6640*	8MHz	2.2V~5.5V	4K×16	384×8	64×8	8	18	10-bit STM×2 10-bit CTM×1	12-bit×8	2	SPI/I²C/UART×1	24/28SSOP 28QFN

* Under development, available in 2Q, 2022.
Note: # Emulated EEPROM.

Smoke Detector Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Audio DAC	AFE	IR Driver	Temp. Sensor	Interface	Package
BA45F5220	8MHz	2.2V~ 5.5V	1K×14	64×8	32×14#	4	—	4	10-bit PTM×1	10-bit ×3	—	√	2	—	—	8/10SOP
BA45F5240	8MHz	2.2V~ 5.5V	4K×16	256×8	64×8	8	—	13	10-bit PTM×1 10-bit STM×1	12-bit ×4	—	√	2	—	SPI/I²C/ UART×1	16NSOP 20SSOP
BA45F5240-2								11								16NSOP
BA45F5250	8MHz	2.2V~ 5.5V	8K×16	1024×8	128×8	8	√	22	10-bit PTM×1 10-bit STM×2	12-bit ×8	16-bit ×1	√	2	—	SPI/I²C×1 UART×1	16NSOP 20/24/28SSOP
BA45F5260	16MHz	2.2V~ 5.5V	16K×16	2048×8	256×8	8	√	26	10-bit PTM×3 10-bit STM×2	12-bit ×12	16-bit ×1	√	2	√	SPI/I²C×1 UART×2	24/28SSOP 48LQFP

Note: # Emulated EEPROM.

Smoke Detector Flash MCU with 12V Piezoelectric Horn Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Audio DAC	AFE	IR Driver	Temp. Sensor	Buzzer Driver & Boost	Inter-face	Package
BA45F5320	8MHz	2.2V~ 5.5V	1K×14	64×8	32×14#	4	—	4	10-bit PTM×1	10-bit ×3	—	√	2	—	√	—	20SSOP
BA45F5340	8MHz	2.2V~ 5.5V	4K×16	256×8	64×8	8	—	13	10-bit PTM×1 10-bit STM×1	12-bit ×4	—	√	2	—	√	SPI/I²C/ UART×1	24/28SSOP
BA45F5350	8MHz	2.2V~ 5.5V	8K×16	1024×8	128×8	8	√	22	10-bit PTM×1 10-bit STM×2	12-bit ×8	16-bit ×1	√	2	—	√	SPI/I²C×1 UART×1	28SSOP 48LQFP
BA45F5360	16MHz	2.2V~ 5.5V	16K×16	2048×8	256×8	8	√	26	10-bit PTM×3 10-bit STM×2	12-bit ×12	16-bit ×1	√	2	√	√	SPI/I²C×1 UART×2	28SOP 48LQFP

Note: # Emulated EEPROM.

9V Battery Smoke Detector Flash MCU

Part No.	Max. Freq.	VCC (HV)	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Audio DAC	AFE	IR Driver	Temp. Sensor	LDO	Buzzer Driver	Inter-face	Package
BA45F5420	8MHz	4.3V~ 12V	1K×14	64×8	32×14#	4	—	4	10-bit PTM×1	10-bit ×3	—	√	2	—	√	√	—	16NSOP
BA45F5440	8MHz	4.3V~ 12V	4K×16	256×8	64×8	8	—	9	10-bit PTM×1 10-bit STM×1	12-bit ×4	—	√	2	—	√	√	SPI/I²C/ UART×1	20SOP 20SSOP
BA45F5450	8MHz	4.3V~ 12V	8K×16	1024×8	128×8	8	√	17	10-bit PTM×1 10-bit STM×2	12-bit ×8	16-bit ×1	√	2	—	√	√	SPI/I²C×1 UART×1	20/24/28 SOP
BA45F5460	16MHz	4.3V~ 12V	16K×16	2048×8	256×8	8	√	24	10-bit PTM×3 10-bit STM×2	12-bit ×12	16-bit ×1	√	2	√	√	√	SPI/I²C×1 UART×1	48LQFP

Note: # Emulated EEPROM.

Smoke Detector Flash MCU with Power Line Transceiver

Part No.	Max. Freq.	VCC (HV)	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	AFE	IR Driver	Power Line Transceiver	Temp. Sensor	Inter-face	Package
BA45F5542	8MHz	5.3V~ 42V	2.2V~ 5.5V	4K×16	256×8	64×8	8	—	9	10-bit PTM×1 10-bit STM×1	12-bit ×4	√	2	√	—	SPI/I²C/ UART×1	16NSOP 20SSOP
BA45F5542-2									7		12-bit ×3						16NSOP
BA45F5552	8MHz	5.3V~ 42V	2.2V~ 5.5V	8K×16	1024×8	128×8	8	√	13	10-bit PTM×1 10-bit STM×2	12-bit ×8	√	2	√	—	SPI/I²C×1 UART×1	16NSOP 20/24SOP
BA45F5562	8MHz	5.3V~ 42V	2.2V~ 5.5V	16K×16	2048×8	256×8	8	√	23	10-bit PTM×3 10-bit STM×2	12-bit ×12	√	2	√	√	SPI/I²C×1 UART×2	24/28SOP 28SSOP 48LQFP

Security & Safety Flash MCU

Sub-1GHz RF Transceiver Smoke Detector Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	AFE	IR Driver	Band	Data Rate	Max. Output Power	Rx Current Consumption	Temp. Sensor	Package
BA45F5640	8MHz	2.2V~3.6V	4K×16	256×8	64×8	8	—	13	10-bit PTM×1 10-bit STM×1	12-bit ×4	√	2	315/433/470/868/915MHz	2~250 Kbps	13dBm	4.2mA@433MHz 5.5mA@868MHz	—	46QFN
BA45F5650			8K×16	1024×8	128×8		√	17	10-bit PTM×1 10-bit STM×2	12-bit ×5							—	46QFN
BA45F5660			16K×16	2048×8	256×8		√	22	10-bit PTM×3 10-bit STM×2	12-bit ×8							√	48LQFP-EP

Smoke Detector Flash MCU with Calendar

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Audio DAC	AFE	IR Driver	Temp. Sensor	Inter-face	Package
BA45F5740	8MHz	2.2V~5.5V	4K×16	256×8	64×8	8	—	13	10-bit PTM×1 10-bit STM×1	12-bit ×4	—	√	2	—	SPI/I²C/UART×1	16NSOP 20/24SOP
BA45F5740-2								6		12-bit ×2						16NSOP
BA45F5750	8MHz	2.2V~5.5V	8K×16	1024×8	128×8	8	√	22	10-bit PTM×1 10-bit STM×2	12-bit ×8	16-bit ×1	√	2	—	SPI/I²C×1 UART×1	16NSOP 20/24SOP 48LQFP
BA45F5760	16MHz	2.2V~5.5V	16K×16	2048×8	256×8	8	√	26	10-bit PTM×3 10-bit STM×2	12-bit ×12	16-bit ×1	√	2	√	SPI/I²C×1 UART×2	24/28SOP 48LQFP

Fire Protection Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	LVR/LVD	Interface	Package
BA45F5241	8MHz	2.2V~5.5V	4K×16	256×8	64×8	8	18	10-bit PTM×2 10-bit CTM×2	10-bit×4	√	UART×1	16NSOP 20SSOP

Fire Protection Flash MCU with Power Line Transceiver

Part No.	Max. Freq.	VCC (HV)	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Power Line Transceiver	LDO	Interface	Package
BA45F5541	8MHz	5.3V~42V	2.2V~5.5V	4K×16	256×8	64×8	8	13	10-bit PTM×2 10-bit CTM×2	10-bit ×4	√	√	UART×1	16NSOP 20SSOP

CO/GAS Detector Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	AFE	LCD Driver	Temp. Sensor	LVD	16-bit Voice DAC	Interface	Package
BA45F0096	8MHz	2.2V~5.5V	1K×14	64×8	32×8	2	—	14	10-bit PTM×1 10-bit STM×1	12-bit ×4	—	—	—	—	—	—	16NSOP
BA45F6720	8MHz	2.2V~5.5V	1K×14	64×8	32×8	4	—	4	10-bit PTM×1	12-bit ×4	√	—	√	—	—	—	8/10SOP
BA45F6730	8MHz	2.2V~5.5V	2K×16	128×8	32×8	6	—	14	10-bit PTM×1	12-bit ×5	√	—	—	√	—	SPI/I²C/UART×1	10SOP, 16NSOP 20SSOP
BA45F6740	8MHz	2.2V~5.5V	4K×16	256×8	128×8	8	√	22	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	—	√	√	—	SPI/I²C/UART×1	16NSOP 20/24/28SSOP
BA45F6746	8MHz	2.2V~5.5V	4K×16	256×8	128×8	8	√	31	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	12SEG ×4COM	√	√	—	SPI/I²C/UART×1	28SSOP 32QFN, 48LQFP
BA45F6750	8MHz	2.2V~5.5V	8K×16	1024×8	256×8	8	√	36	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	—	√	√	√	SPI/I²C/UART×1 UART×1	28SSOP 32QFN, 48LQFP
BA45F6756	8MHz	2.2V~5.5V	8K×16	1024×8	256×8	8	√	36	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	16SEG ×4COM	√	√	√	SPI/I²C/UART×1 UART×1	28SSOP 48LQFP

CO/GAS Detector Flash MCU with Calendar

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	AFE	LCD Driver	Temp. Sensor	LVD	Interface	Package
BA45F6742	8MHz	2.2V~5.5V	4K×16	256×8	128×8	8	√	22	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	—	√	√	SPI/I²C/UART×1	28SSOP 48LQFP
BA45F6748	8MHz	2.2V~5.5V	4K×16	256×8	128×8	8	√	31	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	12SEG ×4COM	√	√	SPI/I²C/UART×1	48LQFP
BA45F6752	8MHz	2.2V~5.5V	8K×16	1024×8	256×8	8	√	31	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	—	√	√	SPI/I²C/UART×1 UART×1	48LQFP
BA45F6753	16MHz	2.2V~5.5V	8K×16	512×8	128×8	8	√	26	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×8	—	—	—	√	SPI/I²C×1 UART×1	28SSOP 48LQFP
BA45F6758	8MHz	2.2V~5.5V	8K×16	1024×8	256×8	8	√	32	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	13SEG ×4COM	√	√	SPI/I²C/UART×1 UART×1	48LQFP

Security & Safety Flash MCU

CO/GAS Detector Flash MCU with 12V Piezoelectric Horn Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	AFE	LCD Driver	Temp. Sensor	LVD	16-bit Voice DAC	Buzzer Driver & Boost	Inter-face	Package
BA45F6830	8MHz	2.2V~5.5V	2K×16	128×8	32×8	6	—	14	10-bit PTM×1	12-bit ×5	√	—	—	√	—	√	SPI/I²C/ UART×1	24/28SSOP
BA45F6840	8MHz	2.2V~5.5V	4K×16	256×8	128×8	8	√	22	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	—	√	√	—	√	SPI/I²C/ UART×1	24/28SSOP 48LQFP
BA45F6846	8MHz	2.2V~5.5V	4K×16	256×8	128×8	8	√	31	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	12SEG ×4COM	√	√	—	√	SPI/I²C/ UART×1	48LQFP
BA45F6850	8MHz	2.2V~5.5V	8K×16	1024×8	256×8	8	√	34	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	—	√	√	√	√	SPI/I²C/ UART×1 UART×1	28SOP 48LQFP
BA45F6856	8MHz	2.2V~5.5V	8K×16	1024×8	256×8	8	√	31	10-bit PTM×1 10-bit STM×1	12-bit ×8	√	12SEG ×4COM	√	√	√	√	SPI/I²C/ UART×1 UART×1	48LQFP

IR Dust Detector Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	MDU#	Stack	IAP	I/O	High Current Driver	Timer	ADC	AFE	IR Driver	OVP	Temp. Sensor	Inter-face	Package
BA45F4140*	12MHz	2.2V~5.5V	4K×16	512×8	512×8	16-bit	8	√	15	1	10-bit PTM×4 10-bit CTM×2	12-bit ×4	√	1	×3	√	SPI/I²C/ UART×1	16NSOP 24SSOP

* Under development, available in 2Q, 2022.
Note: # MDU: Multiplier Divider Unit.

Sound Effect Flash MCU

Alarm Tone Flash MCU

Part No.	VCC (HV)	VDD	Max. Freq.	Program Memory	Data Memory	Stack	I/O	Timer	Waveform Output	Package
HT45F2020	8V~16V	5.0V	8MHz	1K×14	32×8	2	4	10-bit PTM×1	2	SOT23-6 8SOP
HT45F2022	—	2.2V~5.5V								

Security & Safety IC

PIR Controller

Part No.	VDD	Standby Current	ZC Off/On for Override	Flash on Mode Auto-change	Comparator Window	Effective Trigger Width	CDS Debounce Time	Triac Drive	Relay Drive	LED	Buzzer	LVD	Package
HT7612B	2.7V~5.5V	19μA	2 Times	Flash	Vref×(1/2±1/6)	>24ms	<3s	√	√	√	√	√	16NSOP

Note: Operating and standby current values are typical values.

Touch Flash MCU

Cortex-M0+ 32-Bit 5V Touch MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	CMP	Timers*1	Cap.*2 or PWM*3	Cpm. PWM*3	RTC	Touch Key	LED Controller	Interface	Others	I/O	Package
HT32F54231*	60MHz	2.5V~ 5.5 V	32KB	4KB	—	1Msps 12-bit ×10	—	BFTM×2 SCTM×2 GPTM×1 MCTM×1	10	3	√	24	8×8	USART×1 UART×2 SPI×2 I²C×2	CRC DIV	23 26 38 40	28SSOP 32QFN 46QFN 48LQFP
HT32F54241*			64KB	8KB													
HT32F54243*	60MHz	2.5V~ 5.5 V	64KB	8KB	6CH	1Msps 12-bit ×10	2	BFTM×2 SCTM×4 GPTM×1 MCTM×1	12	3	√	28	12×8	USART×2 UART×4 SPI×2 I²C×3	CRC DIV	26 38 40 54	32QFN 46QFN 48LQFP 64LQFP
HT32F54253*			128KB	16KB													

* Under development, available in 1Q, 2022.
Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.
2. Cap.: Input Capture.
3. Cpm. PWM: Complementary PWM for 3-phase motor control or inverter application.

Enhanced Touch I/O Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	Touch Key	High Current LED Driver	RTC	LVR	Interface	Package
BS83A01C	8MHz	1.8V~ 5.5V	512×14	32×8	—	2	4	—	1	—	—	1.7V	—	6DFN, 8SOP SOT23-6
BS83A02C	8MHz	2.2V~ 5.5V	1K×16	96×8	—	4	4	8-bit×1	2	4	—	2.10V 2.55V 3.15V 3.80V	—	6DFN, 8SOP SOT23-6
BS83A04C	8MHz	1.8V~ 5.5V	1K×16	128×8	32×16#	4	8	10-bit CTM×1	4	8	—	1.7V	I²C×1	8SOP, 10DFN 10MSOP
BS83B04C	8MHz	1.8V~ 5.5V	2K×16	128×8	32×8	4	8	10-bit CTM×1	4	8	—	1.7V 1.9V 2.55V 3.15V 3.80V	I²C×1	8SOP 10MSOP/DFN
BS83B08C	16MHz	2.2V~ 5.5V	2K×16	288×8	64×8	6	14	10-bit PTM×1	8	14	—	2.10V 2.55V 3.15V 3.80V	SPI/I²C×1	16NSOP/SSOP 16QFN
BS83B12C	16MHz	2.2V~ 5.5V	2K×16	512×8	64×8	6	18	10-bit PTM×1	12	18	—	2.10V 2.55V 3.15V 3.80V	SPI/I²C×1	20SOP/SSOP 20QFN
BS83B16C	16MHz	2.2V~ 5.5V	2K×16	512×8	64×8	6	22	10-bit PTM×1	16	22	—	2.10V 2.55V 3.15V 3.80V	SPI/I²C×1	24SOP/SSOP 24QFN
BS83B24C	16MHz	2.2V~ 5.5V	3K×16	512×8	128×8	6	26	10-bit PTM×1	24	26	√	2.10V 2.55V 3.15V 3.80V	SPI/I²C×1 UARTx1	28SSOP
BS83C40C	16MHz	2.2V~ 5.5V	4K×16	768×8	128×8	6	42	10-bit CTM×1 10-bit PTM×1	40	42	√	2.10V 2.55V 3.15V 3.80V	SPI/I²C×1 UARTx1	44LQFP

Note: # Emulated EEPROM.

Touch Flash MCU

Enhanced Touch A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Touch Key	High Current LED Driver	LVR	Interface	Package
BS84B04C	16MHz	1.8V~5.5V	2K×16	256×8	32×8	4	14	10-bit CTM×4	12-bit ×8	4	14	1.70V 1.90V 2.55V 3.15V 3.80V	I²C×1	8SOP 10MSOP/DFN 16NSOP/WLCSP
BS84B08C	16MHz	2.2V~5.5V	3K×16	288×8	64×8	6	22	10-bit PTM×1	12-bit ×8	8	22	2.10V 2.55V 3.15V 3.80V	SPI/I²C×1	16NSOP/SSOP 20/24SOP/SSOP
BS84C12C	16MHz	2.2V~5.5V	4K×16	512×8	128×8	6	26	10-bit CTM×1 10-bit PTM×1	12-bit ×8	12	26	2.10V 2.55V 3.15V 3.80V	SPI/I²C×1	20/24/28SOP/SSOP
BS84C12CA*	16MHz	1.8V~5.5V	4K×16	512×8	512×8	6	26	10-bit CTM×1 10-bit PTM×1	12-bit ×8	12	26	1.70V 1.90V 2.55V 3.15V 3.80V	SPI/I²C×1 UART×1#	16NSOP 20/24/28SSOP

* Under development, available in 1Q, 2022.
Note: # High speed UART interface.

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Touch Key	RTC	High Current LED Driver	LVR/ LVD	Interface	Package
BS66F340C	16MHz	2.2V~5.5V	4K×16	512×8	128×8	8	√	26	10-bit CTM×2 16-bit STM×1 10-bit PTM×1	12-bit ×8	12	√	26	√	SPI/I²C×1 UART×1	28SSOP
BS66F350C	16MHz	2.2V~5.5V	8K×16	768×8	128×8	8	√	40	10-bit CTM×2 16-bit STM×1 10-bit PTM×1	12-bit ×8	20	√	40	√	SPI/I²C×1 UART×1	44/48LQFP
BS66F360C	16MHz	2.2V~5.5V	16K×16	1024×8	128×8	12	√	46	10-bit CTM×2 16-bit STM×1 10-bit PTM×1	12-bit ×8	28	√	46	√	SPI/I²C×1 UART×1	44/48LQFP

Touch I/O Flash MCU with LED / LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	LCD	Touch Key	RTC	High Current LED Driver	LVR	Interface	Package
BS82B12A-3	16MHz	2.7V~5.5V	2K×16	384×8	64×8	6	22	10-bit CTM×1 10-bit PTM×1	16×4	12	—	22	2.55V	I²C×1 UART×1	20SOP 24QFN
BS82C16A-3	16MHz	2.7V~5.5V	4K×16	512×8	64×8	6	26	10-bit CTM×1 10-bit PTM×1	20×4	16	√	26	2.55V	I²C×1 UART×1	24/28SOP 32QFN
BS82D20A-3	16MHz	2.7V~5.5V	8K×16	768×8	64×8	8	26	10-bit CTM×1 10-bit PTM×1	20×4	20	√	26	2.55V	I²C×1 UART×1	28SOP/SSOP

Enhanced Touch I/O Flash MCU with LED / LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	LCD	Touch Key	RTC	High Current LED Driver	LVR/ LVD	Interface	Package
BS82C16CA*	16MHz	1.8V~5.5V	4K×16	512×8	512×8	6	26	10-bit CTM×2 10-bit PTM×1	26×26	16	√	26	√	I²C×1 UART×1#	24/28SOP/SSOP
BS82D20CA*	16MHz	1.8V~5.5V	8K×16	768×8	512×8	8	42	10-bit CTM×2 10-bit PTM×2	34×34	20	√	42	√	I²C×1 UART×1#	28SOP/SSOP 48LQFP

* Under development, available in 2Q, 2022.
Note: # High speed UART interface.

Enhanced Touch A/D Flash MCU with LED Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Touch Key	High Current LED Driver	RTC	LVR/ LVD	Interface	Package
BS86C08C	16MHz	2.2V~5.5V	4K×16	384×8	32×8	8	26	10-bit CTM×1 10-bit PTM×1	12-bit ×8	8	26	—	√	I²C×1 UART×1	24/28SOP/SSOP
BS86D12C	16MHz	2.2V~5.5V	8K×16	512×8	64×8	8	26	10-bit CTM×1 10-bit PTM×1	12-bit ×8	12	26	—	√	I²C×1 UART×1	24/28SOP/SSOP
BS86D20C	16MHz	2.2V~5.5V	8K×16	768×8	64×8	8	26	10-bit CTM×1 10-bit PTM×2	12-bit ×8	20	26	√	√	I²C×1, SPI×1 UART×1	24/28SOP
BS86D20CA		1.8V~5.5V			512×8									I²C×1, SPI×1 UART×1#	24SSOP 28SOP/SSOP
BS86E16C	16MHz	2.2V~5.5V	16K×16	768×8	64×8	8	42	10-bit CTM×1 10-bit PTM×2	12-bit ×8	16	42	√	√	I²C×1 UART×2	28SOP/SSOP 44LQFP

Note: # High speed UART interface.

Touch Flash MCU

Touch A/D Flash MCU with OPA / Comparator

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Touch Key	LCD	High Current LED Driver	OPA/ Comp.	RTC	LVR	Interface	Package
BS87B12A-3	16MHz	2.7V~ 5.5V	3K×16	384×8	64×8	6	22	10-bit CTM×1 10-bit PTM×1	12-bit ×8	12	16×4	22	√	—	2.55V	SPI/I²C×1 UART×1	20NSOP
BS87C16A-3	16MHz	2.7V~ 5.5V	4K×16	512×8	64×8	6	30	10-bit CTM×1 10-bit PTM×2	12-bit ×8	16	20×4	30	√	√	2.55V	SPI/I²C×1 UART×1	24/28SOP
BS87D20A-3	16MHz	2.7V~ 5.5V	8K×16	768×8	64×8	8	42	10-bit CTM×2 10-bit PTM×2	12-bit ×8	20	36×4	42	√	√	2.55V	SPI/I²C×1 UART×1	28SOP 44LQFP

Touch A/D Flash MCU with LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Touch Key	LCD	RTC	LVR/ LVD	Interface	Package
BS67F340	16MHz	2.2V~ 5.5V	4K×16	512×8	128×8	8	√	31	10-bit CTM×2 16-bit STM×1 10-bit PTM×1	12-bit ×8	16	24×4	√	√	SPI/I²C×1 UART×1	48LQFP
BS67F350	16MHz	2.2V~ 5.5V	8K×16	768×8	128×8	8	√	39	10-bit CTM×2 16-bit STM×1 10-bit PTM×1	12-bit ×8	20	32×4	√	√	SPI/I²C×1 UART×1	48/64LQFP
BS67F350C								43			24					
BS67F360	16MHz	2.2V~ 5.5V	16K×16	1024×8	128×8	12	√	43	10-bit CTM×2 16-bit STM×1 10-bit PTM×1	12-bit ×8	28	40×4	√	√	SPI/I²C×1 UART×1	48/64LQFP
BS67F370	16MHz	2.2V~ 5.5V	32K×16	1536×8	128×8	16	√	59	10-bit CTM×2 16-bit STM×1 10-bit PTM×1	12-bit ×8	36	48×4	√	√	SPI/I²C×1 UART×1	48/64/80LQFP

Ultrasonic Atomiser Flash MCU with Touch

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Touch Key	Atomiser Processor	Interface	Package
BS45F3832	12MHz	2.7V~ 5.5V	2K×16	64×8	32×8	4	8	10-bit CTM×1 10-bit PTM×1	12-bit ×2	2	√	—	8/10SOP
BS45F3833	12MHz	2.2V~ 5.5V	2K×16	128×8	32×8	4	18	10-bit CTM×3 10-bit STM×1 10-bit PTM×1	12-bit ×4	4	√	—	16/20NSOP
BS45F3843	8MHz	2.2V~ 5.5V	4K×16	256×8	32×8	8	26	10-bit CTM×3 10-bit STM×1 10-bit PTM×1	12-bit ×8	8	√	UART×1	16NSOP 24/28SSOP

Ultra-Low Power Touch Flash MCU

Ultra-Low Power Touch I/O Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	Touch Key	Interface	Package
BS83A02L	8MHz	1.8V~5.5V	1K×14	64×8	—	2	4	8-bit×1	2	—	6DFN, 8SOP SOT23-6
BS83B04L	8MHz	1.8V~5.5V	2K×16	128×8	32×8	4	8	10-bit CTM×1	4	I²C×1	8SOP 10DFN/MSOP

Note: The standby current is less than 150nA at 3.0V (1 Key).

Ultra-Low Power Flash MCU with LCD Driver & Touch Key

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Touch Key	LCD	RTC	Interface	Package
BS67F2563	12MHz	1.8V~ 5.5V	16K×16	2304×8	128×8	16	√	31	10-bit CTM×2 16-bit STM×1	12-bit ×7	20	32×4	√	SPI×1 SPI/I²C/UART×1	64LQFP

Note: The power consumption of the RTC on standby current is less than 200nA at 3V.

Touch Key IC

Enhanced Touch Key

Part No.	Touch Key	VDD	Standby Current at 3V		Key Output Type	Package	Serial Interface
			One-key Wake-up	Any-key Wake-up			
BS811C-1	1-Key	2.2V~5.5V	—	2.5μA	Active Low	SOT23-6	—
BS812C-1	2-Key	2.2V~5.5V	—	3.5μA	Active Low	SOT23-6	—
BS813C-1	3-Key	2.2V~5.5V	—	4.0μA	Active Low	8SOP	—
BS814C-1	4-Key	2.2V~5.5V	—	5.0μA	Active Low	10MSOP	—
BS814C-2	4-Key	2.2V~5.5V	—	5.0μA	—	8SOP	√
BS816C-1	6-Key	2.2V~5.5V	—	7.5μA/3.5μA*	Active Low/Active High*	16NSOP	—
BS818C-2	8-Key	2.2V~5.5V	—	8.5μA/3.5μA*	Binary*	16NSOP	√
BS818C-3	8-Key	2.2V~5.5V	3.5μA/2.5μA**	8.0μA/3.5μA**	I²C	16NSOP	√
BS8112C-3	12-Key	2.2V~5.5V	4.0μA/2.5μA**	12.0μA/4.5μA**	I²C	16NSOP, 20SSOP	√
BS8116C-3	16-Key	2.2V~5.5V	4.0μA/2.5μA**	16.0μA/5.5μA**	I²C	20/24SSOP	√

Note: 1. The BS81x series devices have enhanced noise rejection performance.
2. * pin selected option.
3. ** option by I²C communication.

Cortex-M0+ 32-Bit Voice / Music Flash MCU

Cortex-M0+ 32-Bit Music Synthesizer MCU with Data Flash ROM

Part No.	Max. Freq.	VDD	Flash	Data Flash*3	SRAM	PDMA	Audio DAC	ADC	Timers*1	I²S	RTC	USB*2	MIDI Engine	SB Coding	Echo	Interface	I/O	Package
HT32F61244*	48MHz	2.3V~3.6V	64KB	16Mbit	8KB	6CH	16-bit ×2	1Msps 12-bit×16	BFTM×2 SCTM×2 GPTM×1	—	—	—	16CH	√	√	UART×1 SPI×1 QSPI×1 I²C×1	49	48/64LQFP
HT32F61245*				32Mbit														
HT32F61355	48MHz	2.3V~3.6V	128KB	32Mbit	16KB	6CH	16-bit ×2	1Msps 12-bit×16	BFTM×2 SCTM×4 GPTM×1	√	√	√	32CH	√	√	USART×1 UART×1 SPI×1 QSPI×1 I²C×1	43	48/64LQFP
HT32F61356				64Mbit														
HT32F61357				128Mbit														

* Under development, available in 1Q, 2022.
Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.
2. USB 2.0 Full Speed device.
3. QSPI Flash ROM.

Voice & Music MCU

Voice Flash MCU with Power Amplifier

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	RTC	LVR/ LVD	Audio DAC	Power Amp.	Inter-face	Package
HT66FV130	16MHz	2.2V~5.5V	2K×16	128×8	32×8	4	√	15	10-bit CTM×1 10-bit PTM×1	12-bit ×4	—	√	16-bit ×1	1.5W	SPIA×1	20/24SOP
HT66FV140	16MHz	2.2V~5.5V	4K×16	256×8	64×8	8	√	19	10-bit CTM×1 10-bit PTM×2	12-bit ×8	√	√	16-bit ×1	1.5W	SPI/I²C×1 SPIA×1	24SOP/SSOP 28SOP
HT66FV150	16MHz	2.2V~5.5V	8K×16	512×8	128×8	8	√	27	10-bit CTM×2 10-bit PTM×2	12-bit ×8	√	√	16-bit ×1	1.5W	SPI/I²C×1 SPIA×1 UART×1	28SOP 44LQFP
HT66FV160	16MHz	2.2V~5.5V	16K×16	1024×8	256×8	8	√	35	10-bit CTM×2 10-bit PTM×2 16-bit STM×1	12-bit ×8	√	√	16-bit ×1	1.5W	SPI/I²C×1 SPIA×1 UART×1	44LQFP

Voice Peripheral MCU

Part No.	VDD	Voice Flash Memory	Control Mode	PWM Mode	Speech	LVR	Voice Output	PWM Output Power	Support Sentence	Max Voice Capacity	Package
HT68FV022	2.3V~5.5V	16Mbit	One Wire Two Wire Direct	Normal Green	ADPCM u-Law PCM	√	PWM	0.5W into 5V, 8Ω	√	400 sec	8SOP

Voice Record / Playback Flash MCU

Voice Record / Playback Flash MCU with Power Amplifier

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	RTC	LVR/ LVD	G.711 Voice Codec	16-bit PCM ADC	Audio DAC	Power Amp.	Inter-face	Package
HT66FV240	16MHz	2.2V~5.5V	4K×16	384×8	128×8	8	√	28	16-bit CTM×1 16-bit STM×1 16-bit PTM×1	12-bit ×8	√	√	√	√	16-bit ×1	1.5W	SPI/I²C×1	48LQFP

BLE

Cortex-M0+ 32-Bit BLE MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	ADC	Timers #	Ver.	Data Rate	Output Power	Sensitivity	Interface	Others	I/O	Package
HT32F67741	40MHz	2.0V~3.6V	64KB	8KB	1Msps 12-bit×6	RTC×1, WDT×1, BFTM×2, SCTM×4, GPTM×1, MCTM×1	5.2	1/2Mbps	+3.5dBm	-94/-91dBm	USART×1, UART×2, SPI×2, I²C×2	CRC×1 TRNG×1	25	46QFN

Note: # BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.

BLE Controller

Part No.	VDD	Ver.	Data Rate	Output Power	Sensitivity	Interface	Package
BC7701	2.0V~3.6V	5.2	1/2 Mbps	+3.5dBm	-94/-91dBm	UART	32QFN

BLE Beacon Transmitter

Part No.	VDD	Frequency	Beacon Packet Handler	Output Power	Oscillator	BQB 5.0	Interface	Package
BC7161	2.0V~3.6V	2402/2426/2480MHz	√	-10~+8dBm	32MHz	√	I²C×1	8SOP-EP 10MSOP-EP

BLE Beacon Transceiver

Part No.	VDD	Frequency	Beacon Packet Handler	Output Power	Sensitivity	Oscillator	BQB 5.2	Interface	Package
BC7262*	1.9V~3.6V	2402/2426/2480MHz	√	-10~+8dBm	-93dBm	32MHz	√	I²C×1	10SOP-EP

* Under development, available in 1Q, 2022.

BLE Beacon Body Fat Measurement A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Frequency	Beacon Packet Handler	Output Power	Package
BH66F71652	8MHz	2.2V~3.6V	8K×16	384×8	32×8	8	17	10-bit CTM×1	24-bit ×4	2402/2426/2480MHz	√	-10~+8dBm	46QFN
BH66F71662			16K×16	512×8	64×8			10-bit CTM×1 10-bit STM×1					

2.4GHz RF

2.4GHz RF Transceiver Cortex-M0+ 32-Bit MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDMA	ADC	Timers*1	RTC	Frequency	Data Rate	Output Power	Sensitivity	Interface	Others	I/O	Package
HT32F67041*	60MHz	2.2V~3.6V	64KB	8KB	6CH	1Msps 12-bit×16	BFTM×2 SCTM×4 GPTM×1	√	2402~2480 MHz	125/250/500Kbps	-10~+6 dBm	-97dBm @ 250Kbps	UART×2 SPI×2 I²C×2	AES CRC	16	32QFN
															29	46QFN
HT32F67051*			128KB												29	46QFN
															31	48LQFP-EP

* Under development, available in 1Q, 2022.
Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.

2.4GHz RF Transceiver A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Frequency	Data Rate	Output Power	Sensitivity	Interface	Package
BC66F5652	16MHz	1.9V~3.6V	8K×16	512×8	128×8	8	22	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×12	2402~2480 MHz	125/250/500Kbps	-10~+6 dBm	-97dBm @ 250Kbps	SPI/I²C×1 UART×1	28SSOP 46QFN
BC66F5662			16K×16	2048×8	1024×8	16	24	10-bit PTM×2 16-bit STM×3	12-bit ×4						46QFN

2.4GHz RF Transceiver

Part No.	VDD	Frequency	Modulation	Data Rate	Output Power	Sensitivity	Oscillator	Interface	Package
BC5602	1.9V~3.6V	2402~2480MHz	GFSK	125/250/500Kbps	-10~+6dBm	-97dBm@250Kbps	16MHz	SPI	16QFN

2.4GHz RF Transmitter with Encoder A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Frequency	Modulation	Data Rate	Output Power	Package
BC66F5132	8MHz	2.0V~3.6V	2K×14	64×8	32×14#	4	12	8-bit×1	10-bit×4	2402~2480MHz	GFSK	125/250/500Kbps	-10~+8dBm	24SSOP-EP

Note: # Emulated EEPROM.

2.4GHz RF Transmitter with Encoder

Part No.	VDD	Frequency	Modulation	Data Rate	Output Power	Oscillator	Key Mode	Interface	Package
BC5161	2.0V~3.6V	2402~2480MHz	GFSK	125/250/500Kbps	-10~+8dBm	32MHz	√	—	8SOP-EP, 16QFN
BC5162							—	I²C	8SOP-EP

Sub-1GHz RF

Sub-1GHz RF Transceiver A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Band	Data Rate	Max. Output Power	Rx Current Consumption	Package
BC66F3652	16MHz	1.9V~3.6V	8K×16	512×8	128×8	8	22	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×12	315/433/470/868/915MHz	2~250 Kbps	13dBm	4.2mA@433MHz 5.5mA@868MHz	46QFN
BC66F3662	16MHz	1.9V~3.6V	16K×16	2048×8	1024×8	16	22	10-bit PTM×2 16-bit STM×2	12-bit ×4	315/433/470/868/915MHz	2~250 Kbps	13dBm	4.2mA@433MHz 5.5mA@868MHz	46QFN

Sub-1GHz RF Transceiver

Part No.	VDD	Band	OOK/GFSK	Low Current	External Inductor	Data Rate	Max. Output Power	Sensitivity	Package
BC3601	2.0V~3.6V	315/433/470/868/915MHz	GFSK	—	—	2~250Kbps	17dBm	-121dBm@2kbps	24QFN
BC3602	1.9V~3.6V	315/433/470/868/915MHz	GFSK	√	√	2~250Kbps	13dBm	-120dBm@2kbps	24QFN
BC3603*	1.8V~3.6V	315/433/470/868/915MHz	√	√	—	OOK: 0.5~20Kbps GFSK: 2~250Kbps	20dBm	-121dBm@2kbps	16QFN

* Under development, available in 2Q, 2022.

Sub-1GHz RF

Sub-1GHz RF Transmitter Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Band	OOK/ FSK	OOK Symbol Rate	Output Power	Package
BC66F2123	8MHz	2.2V~ 3.6V	1K×14	64×8	32×8	2	—	9	10-bit STM×1 10-bit PTM×1	10-bit ×3	315/433/ 868/915MHz	√	0.5~25Ksps	0/5/10/13 dBm	16NSOP-EP
BC68F2123										—					
BC66F2133	8MHz	2.2V~ 3.6V	2K×14	64×8	32×14#	4	—	9	8-bit×1	10-bit ×4	315/433/ 868/915MHz	√	0.5~25Ksps	0/5/10/13 dBm	16NSOP-EP
BC68F2130	16MHz	2.0V~ 3.6V	2K×16	256×8	—	8	√	8	10-bit CTM×1 10-bit PTM×1	—	315/433/ 868/915MHz	√	0.5~25Ksps	0/10/13 dBm	16NSOP-EP 16QFN
BC68F2140	16MHz	2.0V~ 3.6V	4K×16	256×8	—	8	√	14	10-bit CTM×1 10-bit PTM×1	—	315/433/ 868/915MHz	√	0.5~25Ksps	0/10/13 dBm	24SSOP-EP 24QFN
BC68F2150	16MHz	2.0V~ 3.6V	8K×16	256×8	—	8	√	14	10-bit CTM×1 10-bit PTM×1	—	315/433/ 868/915MHz	√	0.5~25Ksps	0/10/13 dBm	24SSOP-EP 24QFN

Note: # Emulated EEPROM.

Sub-1GHz RF Transmitter Hopping Code Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	Band	OOK/ FSK	OOK Symbol Rate	Output Power	Package
BC68F3132	12MHz	2.2V~ 3.6V	2K×15	128×8	64×8	6	9	10-bit CTM×2	315/433/868/915MHz	√	0.5~25Ksps	0/5/10/13dBm	16NSOP-EP

Sub-1GHz RF Transmitter Touch Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Stack	IAP	I/O	Timer	ADC	LVR/ LVD	Band	OOK/ FSK	Touch key	Output Power	Package
BC66F2235	8MHz	2.0V~ 3.6V	2K×16	352×8	8	√	8	10-bit CTM×2 10-bit PTM×1	12-bit×1	√	315/433/ 868/915MHz	√	8	0/10/13dBm	16NSOP-EP
BC66F2245	8MHz	2.0V~ 3.6V	4K×16	352×8	8	√	15	10-bit CTM×2 10-bit PTM×1	12-bit×4	√	315/433/ 868/915MHz	√	14	0/10/13dBm	24SSOP-EP
BC66F2255	8MHz	2.0V~ 3.6V	8K×16	352×8	8	√	23	10-bit CTM×2 10-bit PTM×1	12-bit×4	√	315/433/ 868/915MHz	√	16	0/10/13dBm	32QFN

Sub-1GHz RF Transmitter

Part No.	VDD	Band	OOK/FSK	OOK Symbol Rate	FSK Data Rate	Output Power	Oscillator	Package
BC2102	2.2V~3.6V	315/433/868/915MHz	√	0.5~25Ksps	0.5~50Kbps	0/5/10/13dBm	16MHz	8SOP-EP

Sub-1GHz RF Transmitter with Encoder

Part No.	VDD	Band	OOK	OOK Symbol Rate	Output Power	Oscillator	Encoding Format	Package
BC2161	2.2V~3.6V	315/433/868/915MHz	√	1.5~24Ksps	0/5/10/13dBm	16MHz	1527, 2262 and HT compatible	8SOP-EP 16NSOP-EP/QFN

Sub-1GHz OOK Rx Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Band	Demod.	Symbol Rate	Current Consumption	Sensitivity	Package
BC66F2332	8MHz	2.5V~ 5.5V	2K×14	64×8	32×8	4	8	10-bit STM×1	12-bit ×4	315/433/ 868/915MHz	OOK	20Ksps (Max.)	3.2mA@433MHz 4.0mA@868MHz	-112dBm @10Ksps	16NSOP-EP
BC66F2342	8MHz	2.5V~ 5.5V	4K×15	128×8	32×15#	6	13	10-bit STM×1 10-bit PTM×1	10-bit ×6	315/433/ 868/915MHz	OOK	20Ksps (Max.)	3.2mA@433MHz 4.0mA@868MHz	-112dBm @10Ksps	24SSOP-EP

Note: # Emulated EEPROM.

Sub-1GHz OOK Rx HVIO A/D Flash MCU

Part No.	Max. Freq.	VCC (HV)	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	HVIO	ADC	LDO Output Voltage	Band	Symbol Rate	Current Consumption	Sensit- ivity	Package
BC45F7930	16MHz	7.5V~ 12V	4.5V~ 5.5V	2K×16	128×8	64×8	4	9	10	12-bit ×4	5.0V	315/433/ 868/915MHz	20Ksps (Max.)	3.2mA@433MHz 4.0mA@868MHz	-112dBm @10ksps	46QFN 48LQFP-EP
BC45F7940				4K×16	256×8	128×8	8	13		12-bit ×7						

Sub-1GHz OOK/FSK Rx

Part No.	VDD	Band	OOK/FSK	OOK Symbol Rate	FSK Symbol Rate	Current Consumption	Sensitivity	Package
BC2302A	2.5V~5.5V	315/433MHz	OOK	0.5~20Ksps	—	3.2mA@433MHz	-112dBm@10Ksps	8SOP-EP
BC2302B		315/433/868/915MHz				4.0mA@868MHz		
BC2502A	2.4V~5.5V	315/433MHz	FSK	—	1~50Ksps	4.5mA@433MHz	-110dBm@10Ksps	10SOP-EP
BC2502B		315/433/868/915MHz				5.8mA@868MHz		

NFC

NFC Reader

Part No.	VDD	System Clock	RF Frequency	NFC Standards	RF Data Rate	RF Output Current	NFC FIFO-buffer	CRC	Receiver AGC	VDDIO	Interface	Package
BC45B4523	2.7V~5.5V	27.12MHz	13.56MHz	ISO14443A/B ISO15693	106/212/424/848Kbps @ISO14443A/B	250mA	64×8	√	√	√	SPI×1	24QFN

Infrared / Encoder / Decoder

IR Remote Flash MCU with High Precision HIRC

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Stack	I/O	IR Carrier	Package
HT68F2420	4MHz	1.8V~5.5V	1K×13	32×8	2	16	√	8SOP, 16/20NSOP, 20SSOP

A/D Flash MCU with LCD Driver & High Accuracy HIRC

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	LCD	RTC	IR LED Driver	Interface	Package
HT67F2432	4MHz	1.8V~5.5V	2K×16	128×8	32×16#	6	—	26	9-bit Timer×1 10-bit CTM×1	10-bit ×5	20×4	√	—	UART×1	24/28SOP/SSOP
HT67F2352*	4MHz	1.8V~5.5V	8K×16	512×8	128×8	8	√	44	10-bit CTM×1 10-bit PTM×1 16-bit STM×1	12-bit ×8	30×4 29×5 28×6	√	√	UART×1	32/44/48LQFP

* Under development, available in 1Q, 2022.
Note: # Emulated EEPROM.

RF Module

Cortex-M0+ 32-Bit BLE MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	ADC	Timers*1	Ver.	Data Rate	Output Power	Sensitivity	Interface	Others*2	I/O	Stamp Holes
BM67C741-1	40MHz	2.0V~3.6V	64KB	8KB	1Msps 12-bit×6	RTC×1, WDT×1, BFTM×2, SCTM×4, GPTM×1, MCTM×1	5.2	1/2Mbps	+3.5dBm	-94/-91dBm	USART×1, UART×2, SPI×2, I²C×2	CRC×1 TRNG×1	25	20×24 (P=1.27mm)

Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.
2. ULP: Ultra Low Power, TRNG: Software based True Random Number Generator, QDEC: Quadrature Decoder, KBCTL: Keyboard Controller, TMPSEN: Temperature Sensor.
3. 32KB OTP (One Time Programmable memory).

BLE Controller

Part No.	VDD	Ver.	Data Rate	Output Power	Sensitivity	Interface	Stamp Holes
BM7701-00-1	2.0V~3.6V	5.2	1/2Mbps	+3.5dBm	-94/-91dBm	UART	17.8×18 (P=1.27mm)

Sub-1GHz Receiver

Part No.	VDD	Band	Demod.	Symbol Rate	Current Consumption	Sensitivity	Interface	Dimension
BM2302-33-1	3.0V~5.5V	315MHz	OOK	20Ksps (Max.)	3.2mA@315MHz	-112dBm@10ksps	I²C	43×10.5×5.2 (mm)
BM2302-34-1		433MHz			3.2mA@433MHz	-112dBm@10ksps		
BM2302-38-1		868MHz			4.0mA@868MHz	-111dBm@10ksps		
BM2302-39-1		915MHz			4.0mA@915MHz	-110dBm@10ksps		
BM2302-63-1	3.0V~5.5V	315MHz	OOK	20Ksps (Max.)	3.2mA@315MHz	-112dBm@10ksps	I²C	16×15×2.6 (mm)
BM2302-64-1		433MHz			3.2mA@433MHz	-112dBm@10ksps		
BM2302-68-1		868MHz			4.0mA@868MHz	-111dBm@10ksps		
BM2302-69-1		915MHz			4.0mA@915MHz	-110dBm@10ksps		
BM2502-63-1	2.4V~5.5V	315MHz	OOK/FSK	25Ksps (OOK Max.) 50Ksps (FSK Max.)	4.8mA@315MHz	-112dBm@10ksps (OOK) -110dBm@10ksps (FSK)	I²C	16×15×2.6 (mm)
BM2502-64-1		433MHz			4.6mA@433MHz	-111dBm@10ksps (OOK) -109dBm@10ksps (FSK)		
BM2502-68-1		868MHz			5.8mA@868MHz	-110dBm@10ksps (OOK) -107dBm@10ksps (FSK)		
BM2502-69-1		915MHz			6.0mA@915MHz	-109dBm@10ksps (OOK) -106dBm@10ksps (FSK)		

RF Module

Sub-1GHz Transceiver

Part No.	VDD	Band	Data Rate	Output Power	Rx Current Consumption	Sensitivity	Interface	Dimension
BM3601-03-1	2.0V~3.6V	315MHz	10~250Kbps	17dBm (Max.)	13.5mA@315MHz	-113dBm@10Kbps	SPI	15×18.5×2.5 (mm)
BM3601-04-1		433MHz			13.0mA@433MHz			
BM3601-08-1		868MHz			13.5mA@868MHz	-113dBm@10Kbps		
BM3601-09-1		915MHz			13.5mA@915MHz			
BM3602-03-1	2.0V~3.6V	315MHz	10~250Kbps	13dBm (Max.)	4.1mA@315MHz	-113dBm@10Kbps	SPI	15×18.5×2.5 (mm)
BM3602-04-1		433MHz			4.2mA@433MHz			
BM3602-08-1		868MHz			5.5mA@868MHz	-113dBm@10Kbps		
BM3602-09-1		915MHz			6.0mA@915MHz			

2.4GHz Transceiver

Part No.	VDD	Band	Data Rate	Output Power	Sensitivity	Interface	Dimension
BM5602-60-1	1.9V~3.6V	2402~2480MHz	125/250/500Kbps	7dBm (Max.)	-98dBm@125Kbps	SPI	17×16×2 (mm)

Interface Bridge

USB Bridge

Part No.	Description	VDD	Interface	USB	Virtual COM	HID	FIFO/Buffer	Interface Data Rate	VDDIO	Package
HT42B532-1	USB to I²C Bridge	3.3V~5.5V	USB×1 I²C×1	Full Speed	√	—	TX: 62 bytes RX: 62 bytes	Up to 400kHz	√	8SOP 10MSOP
HT42B533-1	USB to SPI Bridge	3.3V~5.5V	USB×1 SPI×1	Full Speed	√	—	TX: 128 bytes RX: 128 bytes	Up to 8MHz	√	10MSOP 16NSOP
HT42B534-2	USB to UART Bridge	3.3V~5.5V	USB×1 UART×1	Full Speed	√	—	TX: 128 bytes RX: 128 bytes	Up to 3Mbps Baud	√	8/10SOP 10MSOP 16NSOP
HT42B564-1	USB to UART Bridge	3.3V~5.5V	USB×1 UART×1	Full Speed	—	√	TX: 32 bytes RX: 32 bytes	Up to 115.2Kbps Baud	√	10SOP

CAN Bus Controller

Part No.	Description	VDD	Max. Freq.	Protocol	Message Objects	Message Memory	Interface	Package
HT45B3305H	CAN Controller	3.0V~5.5V	24MHz	CAN 2.0A/B ISO11898-1	32	32×139-bit	CAN×1 SPI×1, I²C×1	16NSOP/QFN

Note: Operating temperture rage -40°C~+125°C.
Based on BOSCH CAN IP module C_CAN.

Telecom IC

Telecom Peripheral

Part No.	Description	VDD	OSC Frequency	Package
HT9200A	DTMF generator	2.5V~5.5V	3.58MHz	8SOP
HT9200B				14SOP
HT9170D	DTMF receiver	2.5V~5.5V	3.58MHz	18SOP

Battery Management

Power Bank Flash MCU

Part No.	Max. Freq.	VCC (HV)	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Pro-tections	LDO	HVO	VREF	Q.C 2.0	Package
HT45F4MA	15MHz	—	2.55V~5.5V	2K×16	128×8	64×8	4	16	10-bit PTM×1 16-bit STM×1	12-bit ×8	OVP×1 OCP×1	—	—	—	—	16NSOP 20SSOP
HT45FH4MA-1		3V~28V						13				5V	2			20SSOP
BP45F4MB	15MHz	—	2.5V~5.5V	2K×16	128×8	—	4	18	10-bit PTM×1 16-bit STM×1	12-bit ×7	OVP×1 OCP×1	—	—	2.4V ±1%	—	16NSOP 20SSOP
HT45F4N	15MHz	—	2.55V~5.5V	4K×16	192×8	64×8	8	26	10-bit PTM×3 16-bit STM×1	12-bit ×14	OCP×2 OUVP×1	—	—	—	—	28SSOP
HT45FH4N		3V~28V						21		12-bit ×13		5V	2	—	√	
BP45F4NB	15MHz	—	2.6V~5.5V	4K×16	256×8	—	8	26	10-bit CTM×2 16-bit PTM×1	12-bit ×11	OCP×2 OUVP×1	—	—	2.4V ±1%	—	24/28SSOP 28QFN
BP45FH4NB		3V~28V						21				5V	2		√	28SSOP

Advanced Power Bank Flash MCU

Part No.	Max. Freq.	VCC (HV)	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	Auto-adjust H.R. PWM	Pro-tections	LDO	HVO	VREF	Q.C 2.0	Package
HT45F5N	8MHz	—	2.55V~5.5V	4K×16	256×8	64×8	8	30	10-bit PTM×1 16-bit STM×1	12-bit ×14	2	OCP×2 OUVP×2	—	—	2.4V ±1%	—	28SSOP 32QFN
HT45FH5N		3V~28V						28					5V	2		√	28SSOP 46QFN
BP45FH6N	16MHz	3V~15V	2.55V~5.5V	6K×16	256×8	64×8	8	28	10-bit PTM×1 16-bit STM×1	12-bit ×14	2	OCP×2 OUVP×2	5V	8	2V/3V/4V ±1%	√	46QFN

Note: 1. H.R. PWM: High Resolution and Complementary PWM Outputs with dead-time control, the duty cycle resolution is 7.8ns when the HIRC is 8MHz.
2. BP45FH6N has 4 pin high voltage output with 12V/90mA and 4 pin High Voltage MOS Gate Driver with 12V/450mA.

Battery Charger Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	DAC	OPA	CRC	LVR	Interface	Package
HT45F5Q-1	8MHz	2.2V~5.5V	1K×14	32×8	32×14#	4	9	—	10-bit ×5	8-bit×1 12-bit×1	2	—	2.1V	—	16NSOP
HT45F5Q-2	8MHz	2.2V~5.5V	2K×16	128×8	32×8	6	15	10-bit CTM×1	12-bit ×7	8-bit×1 12-bit×1	3	—	2.1V	UART×1	20NSOP
HT45F5Q-2A	8MHz	2.2V~5.5V	2K×15	128×8	32×15#	6	15	10-bit CTM×1	12-bit ×7	14-bit×1 12-bit×1	3	—	2.1V	UART×1	16/20NSOP
HT45F5Q-3	8MHz	2.2V~5.5V	4K×15	256×8	32×15#	6	23	10-bit CTM×1 10-bit STM×1	12-bit ×11	14-bit×1 12-bit×1	3	√	2.1V	SPI/I²C/UART×1	24/28SSOP

Note: # Emulated EEPROM.

Wireless Charger Tx Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	OCP	De-Modulation	PLL	Clock Gen.	Modu-lation	Interface	Package
HT66FW2230	20MHz	4.0V~5.5V	4K×16	128×8	64×8	8	21	10-bit CTM×1 10-bit STM×1	12-bit ×8	1	1	0	1	—	I²C×1	24/28SSOP 28QFN
HT66FW2350	16MHz	4.0V~5.5V	8K×16	256×8	64×8	8	27	10-bit CTM×1 10-bit STM×1 16-bit PTM×1	12-bit ×7	1	2	32MHz	1	FSK	I²C×1	32QFN

Wireless Charger Rx Flash MCU

Part No.	Max. Freq.	VIN	VDD	Program Memory	Data Memory	Data EEPROM	IAP	I/O	Timer	ADC	Sync. Rectifier	LDO	Linear Charge	Modu-lation	Receive Power	Package
BP66FW1242	16MHz	7V~-7V	1.8V~5.5V	4K×16	256×8	128×8	√	18	16-bit CTM×1 16-bit STM×1 10-bit PTM×1	12-bit ×6	√	30mA @5V	100~1000 mA	R/C type	5W	46QFN

Battery Management

Handheld Product Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	PWM	High Current LED Driver	Linear Charger	N-MOS	H-Bridge Driver	Package
BP45F1120	8MHz	1.8V~5.5V	1K×14	64×8	32×14#	4	11	8-bit×1	10-bit ×4	8-bit ×1	11	40~800mA	—	—	16NSOP/QFN
BP45F1320											9		√		16NSOP
BP45F1322											9		—	2.1A	24SSOP-EP
BP45F1130	8MHz	1.8V~5.5V	2K×14	64×8	32×14#	4	19	8-bit×1	10-bit ×4	8-bit ×1	19	40~400mA	—	—	16/20NSOP 24SSOP
BP45F1330	8MHz	1.8V~5.5V	2K×14	64×8	32×14#	4	14	8-bit×1	10-bit ×4	8-bit ×1	14	40~400mA	—	2.1A	24SSOP
BP45F1132	8MHz	2.2V~5.5V	2K×15	128×8	32×8	4	18	8-bit×1	12-bit ×4	8-bit ×2	17	200~1000mA	—	—	16NSOP-EP 24SSOP-EP/QFN
BP45F1332											14			2.1A	24SSOP-EP

Note: # Emulated EEPROM.

Part No.	Max. Freq.	VIN	VDD	Program Memory	Data Memory	Stack	I/O	Timer	ADC	VREF	High Current LED Driver	LDO	HVO	Pro-tections	H-Bridge Driver	Package
BP45F1430	15MHz	6V~12V	2.6V~5.5V	2K×16	128×8	4	12	10-bit PTM×1 10-bit STM×1	12-bit ×7	2.4V ±1%	12	70mA @5V	4	OCP×1 OVP×1	—	24SSOP 24QFN
BP45F1632							8		12-bit ×5		8				3.0A	24SSOP-EP

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Stack	I/O	Timer	PWM	High Current LED Driver	De-modulation	HV-MOSFET	Package
BP45F0044	16MHz	3.3V~5.5V	512×13	32×8	2	4	8-bit×1	8-bit×1	4	1	1	8SOP

Li Battery & Power Management Flash MCU

Li Battery Protection Flash MCU

Part No.	Max. Freq.	VIN	LDO	VDD	Program Memory	Data Memory	Data EEPROM	IAP	I/O	Timer	ADC	HV MOSFET Gate Driver	Cell Charging Balance	HV Wake Up	V_{MON} Accuracy	Inter-face	Package
HT45F8550	16MHz	7.5V~36V	5V±1% 30mA	1.8V~5.5V	8K×16	512×8	128×8	√	22	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×9	—	—	—	1/n±0.5% (Ratio)	UART×1 SPI/I²C×1	28SSOP 48LQFP-EP
HT45F8560					16K×16	2048×8	1024×8		33	10-bit PTM×2 16-bit PTM×2 16-bit STM×3	12-bit ×8					UART×2 SPI/I²C×1 SPIA×1	48LQFP-EP
HT45F8650*	16MHz	7.5V~36V	5V±1% 50mA	1.8V~5.5V	8K×16	512×8	128×8	√	21	10-bit PTM×1 16-bit CTM×1 16-bit STM×1	12-bit ×8	Low-side×2 High-side×1	√	√	1/n±0.5% (Ratio)	UART×1 SPI/I²C×1	28SSOP 48LQFP-EP
HT45F8662*					16K×16	1024×8	1024×8		25	10-bit PTM×2 16-bit CTM×1 16-bit STM×1	12-bit ×8					UART×2 SPI/I²C×1	48LQFP-EP

* Under development, available in 1Q, 2022.

Power Delivery Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	VREF	CRC	PD 3.0	OPA	Interface	Package
BP45F7850*	20MHz	2.6V~5.5V	8K×16	2K×8	1K×8	16	19	10-bit PTM×2 16-bit PTM×2 16-bit STM×3	12-bit ×11	2/3/4V ±1%	√	√ (DRP#)	1	SPI/I²C×1 I²C Master×1 UART×1	32QFN
BP45F7860*			16K×16												

* Under development, available in 1Q, 2022.
Note: # In the PD protocol, DRP can be used as a DFP (Host) or a UFP (Device) and can be dynamically switched between DFP and UFP.

Inverter Flash MCU

Inverter Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	SPWM	OCP	OVP	AC Detector	LVD/LVR	Inter-face	Package
HT45F5V	20MHz	4.0V~5.5V	4K×16	256×8	64×8	6	24	10-bit CTM×2 16-bit STM×1	12-bit ×10	12-bit ×1	2	1	√	√	UART×1	24/28SSOP

LDO & Detector

TinyPower™ LDO

Part No.	Maximum Input Voltage	Output Voltage, V_{OUT}	Max. Output Current	Typical Current Consumption	Chip Enable Function	Tolerance	Protections	Package
HT1015-1	12V	1.5V	18mA	2.2μA	—	±3%	—	SOT23-5, SOT89
HT71xx-1	30V	2.1V/2.3V/2.5V/2.7V/3.0V/3.3V/3.6V/4.4V/5.0V	30mA	2.5μA	—	±3%	Soft-Start	SOT23-5, SOT89
HT71xx-2	30V	2.1V/2.3V/2.5V/2.7V/3.0V/3.3V/3.6V/4.4V/5.0V	30mA	2.5μA	—	±1%	Soft-Start	SOT23-5, SOT89
HT71xx-3	30V	2.1V/2.3V/2.5V/2.7V/3.0V/3.3V/3.6V/4.4V/5.0V	30mA	1.0μA	—	±2%	Soft-Start	SOT23-5, SOT89
HT75xx-1	30V	2.1V/2.3V/2.5V/2.7V/3.0V/3.3V/3.6V/4.0V/4.4V	100mA	2.5μA	—	±3%	Soft-Start	SOT23-5, SOT89
		5.0V/6.0V/7.0V/8.0V/9.0V/10.0V/12.0V	150mA					
HT75xx-2	30V	2.1V/2.3V/2.5V/2.7V/3.0V/3.3V/3.6V/4.0V/4.4V	100mA	2.5μA	—	±1%	Soft-Start	SOT23-5, SOT89
		5.0V/6.0V/7.0V/8.0V/9.0V/10.0V/12.0V	150mA					
HT75xx-3	30V	2.1V/2.3V/2.5V/2.7V/3.0V/3.3V/3.6V/4.0V/4.4V	100mA	1.0μA	—	±2%	Soft-Start	SOT23-5, SOT89
		5.0V/6.0V/7.0V/8.0V/9.0V/10.0V/12.0V	150mA					
HT75xx-7	30V	2.1V/2.3V/2.5V/2.7V/3.0V/3.3V/3.6V/4.0V/4.4V	100mA	2.5μA	√	±2%	Soft-Start, OCP, OTP	SOT23-5, SOT89
		5.0V/6.0V/7.0V/8.0V/9.0V/10.0V/12.0V	150mA					
HT73xx	12V	1.8V	150mA	3.5μA	—	±3%	—	SOT89
		2.5V	180mA					
		2.7V	200mA					
		3.0V/3.3V/3.5V/4.15V/5.0V	250mA					
HT73xx-1	30V	2.1V/2.3V/2.5V/2.7V/3.0V/ 3.3V/3.6V/4.0V/4.4V/5.0V	250mA	2.5μA	—	±3%	Soft-Start	SOT89, 8SOP-EP
HT73xx-2	30V	2.1V/2.3V/2.5V/2.7V/3.0V/ 3.3V/3.6V/4.0V/4.4V/5.0V	250mA	2.5μA	—	±1%	Soft-Start	SOT89, 8SOP-EP
HT73xx-3	30V	2.1V/2.3V/2.5V/2.7V/3.0V/ 3.3V/3.6V/4.0V/4.4V/5.0V	250mA	1.0μA	—	±2%	Soft-Start	SOT89, 8SOP-EP
HT73xx-7	30V	2.1V/2.3V/2.5V/2.7V/3.0V/ 3.3V/3.6V/4.0V/4.4V/5.0V	250mA	2.5μA	√	±2%	Soft-Start, OCP, OTP	SOT89, 8SOP-EP
HT72xx	8V	1.8V/2.5V/2.7V/3.0V/3.3V/4.5V/5.0V	300mA	4.0μA	√	±2%	OCP, OTP	SOT23, SOT23-5 SOT89
HT78xx	8V	1.8V/2.5V/2.7V/3.0V/3.3V/5.0V	500mA	4.0μA	√	±2%	OCP, OTP	SOT23-5, SOT89
HT73Lxx	6.6V	0.9V/1.05V/1.2V/1.5V/1.8V/ 2.5V/2.7V/3.0V/3.3V/3.6V	250mA	1.0μA	√	±2%	Soft-Start, OCP, OTP	4DFN, SOT89, SOT23-5
HT75Hxx	40V	2.1V/2.3V/2.5V/2.7V/3.0V/ 3.3V/3.6V/4.0V/4.4V/5.0V	150mA	2.5μA	√	±1.5%	Soft-Start, OCP, OTP	SOT89, SOT89-5 SOT23-5, 8SOP-EP
HT73Hxx	40V	2.1V/2.3V/2.5V/2.7V/3.0V/ 3.3V/3.6V/4.0V/4.4V/5.0V	250mA	2.5μA	√	±1.5%	Soft-Start, OCP, OTP	SOT89, SOT89-5 SOT23-5, 8SOP-EP

Note: The xx in the part number is the LDO output voltage.

TinyPower™ Voltage Detector

Part No.	Maximum Input Voltage	Detector Voltage, V_{DET}	Hysteresis Width	Typical Current Consumption	Tolerance	Package
HT70xxA-1	30V	2.2V/2.4V/2.7V/3.3V/3.9V/4.4V/5.0V/8.2V	0.05V×V_{DET}	3.0μA	±3%	SOT23, SOT23-5, SOT89
HT70xxA-2	30V	2.2V/2.4V/2.7V/3.3V/3.9V/4.4V/5.0V/8.2V	0.05V×V_{DET}	3.0μA	±1%	SOT23-5, SOT89
HT70xxA-3	30V	2.2V/2.4V/2.7V/3.3V/3.9V/4.4V/5.0V/8.2V	0.05V×V_{DET}	1.0μA	±2%	SOT23-5, SOT89

Note: The xx in the part number is the detect voltage.

DC to DC Converter

Asynchronous Step-Down DC to DC Converter

Part No.	Max. Input Voltage	Output Voltage	Output Current	Switching Frequency	Current Limit	Accuracy	Shutdown Current, I_{OFF}	Operation Current, I_Q	Efficiency	Mode	Package
HT7463A	52V	1.0V~36V	0.6A	1250kHz	1.0A	0.794V±2.0%	1.0μA	0.7mA	95%	PWM/PSM	SOT23-6
HT7463B				550kHz							
HT74T35A*	60V	0.8V~36V	0.6A	1250kHz	1.2A	0.794V±2.0%	1.0μA	0.2mA	95%	PWM/PSM	SOT23-6
HT74T35B*				550kHz							

* Under development, available in 1Q, 2022.

Synchronous Step-Down DC to DC Converter

Part No.	Max. Input Voltage	Output Voltage, V_{OUT}	Output Current	Switching Frequency	Current Limit	Accuracy	Shutdown Current, I_{OFF}	Operation Current, I_Q	Efficiency	Mode	Package
HT74153*	6V	0.6V~5V	1.8A	1200kHz	3.2A	0.6V±1.5%	0.5μA	0.05mA	95%	PWM/PFM	8SOP-EP SOT23-5
HT74U26L**	60V	0.8V~36V	0.6A	400kHz	1.5A	0.8V±1.5%	1.0μA	0.005mA	95%	PWM/PFM	8SOP-EP SOT23-6

* Under development, available in 1Q, 2022.
** Under development, available in 2Q, 2022.

Asynchronous Step-Up DC to DC Converter

Part No.	Input Voltage	Output Voltage, V_{OUT}	Output Current	Switching Frequency	Current Limit	Accuracy	Shutdown Current, I_{OFF}	Operation Current, I_Q	Efficiency	Mode	Package
HT77xxB	0.7V~6.0V	1.8V/2.2V	0.1A	115kHz	—	V_{OUT}±2.5%	1.0μA	4μA	80%	PFM	SOT23, SOT23-5 SOT89
		2.7V/3.0V/3.3V/3.7V/5.0V							85%		
HT77xxBA	0.7V~6.0V	2.7V/3.0V/3.3V/3.7V/5.0V	0.2A	200kHz	0.8A	V_{OUT}±2.5%	1.0μA	5μA	85%	PFM	SOT23, SOT23-5 SOT89
HT77xxC	0.7V~6.0V	1.8V/2.2V	— (External)	115kHz	—	V_{OUT}±2.5%	1.0μA	4μA	80%	PFM	SOT23-5, SOT89
		2.7V/3.0V/3.3V/3.7V/5.0V							85%		
HT7991	2.6V~5.5V	3.0V~12.0V	1.0A	1000kHz	2.5A	0.6V±2.0%	1.0μA	210μA	85%	PWM	SOT23-6

Note: The xx in the part number is the output voltage.

Synchronous Step-Up DC to DC Converter

Part No.	Input Voltage	Output Voltage, V_{OUT}	Output Current	Switching Frequency	Current Limit	Accuracy	Shutdown Current, I_{OFF}	Operation Current, I_Q	Efficiency	Mode	Package
HT77xxFA	0.7V~6.0V	2.7V/3.0V/3.3V/3.7V/5.0V	0.2A	—	—	V_{OUT}±2%	1.0μA	4μA	90%	PFM	SOT23, SOT23-5, SOT89
HT79171	2.2V~5.0V	2.6V~5.2V	2.0A	500kHz	5.0A	0.6V±1.5%	1.0μA	65μA	95%	PWM/PSM	8SOP-EP, 10QFN
HT79181	2.2V~5.0V	2.6V~5.2V	3.0A	500kHz	6.0A	0.6V±1.5%	1.0μA	65μA	95%	PWM/PSM	10QFN

Note: The xx in the part number is the output voltage.

Charge Pump DC to DC Converter

Part No.	Input Voltage	Output Voltage, V_{OUT}	Output Current	Switching Frequency	Current Limit	Accuracy	Shutdown Current, I_{OFF}	Operation Current, I_Q	Efficiency	Package
HT7660	3V~12V	$-V_{DD}$~V_{DD}	20mA	10kHz	—	V_{OUT}±4.0%	—	0.08mA	98%	8DIP/SOP

AC to DC Converter

AC to DC Converter

Part No.	Topology	PF	Power MOS (BV)	Input Voltage	$R_{DS(ON)}$	Operation Current	Typical Power Capability	Frequency	Protections	Package
HT7A6312	Flyback (SSR), Buck, Buck-Boost	—	730V	9V~38V	19Ω	0.7mA	8W/13W#	60kHz	UVLO, OTP, OVP, OCP	8DIP/SOP
HT7A6322					12Ω		12W/20W#			
HT7L5820	Flyback (PFC+QR PWM)	> 0.97	Ext.	9V~28V	—	3mA	200W	—	Brown In/Out, UVLO, OCP, open/short, OVP (Auto Recovery), OTP (Auto Recovery)	16NSOP
HT7L5821									Brown In/Out, UVLO, OCP, open/short, OVP (Latched), OTP (Latched)	

Note: All of ICs operate from 85V_{AC} to 265V_{AC}.
Max. output power from 85V_{AC} to 265V_{AC}/176V_{AC} to 265V_{AC}.

LCD Controller & Driver

RAM Mapping LCD Controller & Driver

Part No.	VDD	Max. Resolution Segment × Common	LCD Voltage	Bias	Gray Scale	Serial Data	Built-in OSC.	Ext. Crystal	Package
HT1620	2.4V~3.3V	32×4, 32×3, 32×2	$3/2V_{DD}$	1/2, 1/3	—	1	—	√	64LQFP
HT1621	2.4V~5.2V	32×4, 32×3, 32×2	≤ V_{DD}	1/2, 1/3	—	1	√	√	44LQFP, 48SSOP/LQFP
HT1621S	2.4V~5.5V								
HT1621G	2.4V~5.2V								Gold Bump
HT1621SG	2.4V~5.5V								
HT1622	2.7V~5.2V	32×8	≤ V_{DD}	1/4	—	1	√	—	44/52/64LQFP
HT1622G									Gold Bump
HT16220	2.7V~5.2V	32×8	≤ V_{DD}	1/4	—	1	—	√	64LQFP
HT1623	2.7V~5.2V	48×8	≤ V_{DD}	1/4	—	1	√	√	100LQFP
HT1625	2.7V~5.2V	64×8	≤ V_{DD}	1/4	—	1	√	√	100LQFP
HT1626	2.7V~5.2V	48×16	≤ V_{DD}	1/5	—	1	√	√	100LQFP
HT1629G	2.4V~5.5V	240×2, 240×1	2.4V~5.5V	1/1, 1/2	—	1	√	√	Gold Bump

High Noise Immunity LCD Controller & Driver

Part No.	VDD	Max. Resolution Segment × Common	LCD Voltage	Bias	Power Saving Mode	Keyscan	Interface	Package
HT16C21A	2.4V~5.5V	20×4, 16×8	≤ V_{DD}	1/3, 1/4	—	—	I^2C	16NSOP 20/24/28SOP/SSOP
HT16C22A	2.4V~5.5V	44×4	≤ V_{DD}	1/2, 1/3	—	—	I^2C	48/52LQFP
HT16C22AG								Gold Bump
HT16C23A	2.4V~5.5V	56×4, 52×8	2.4V~5.5V	1/3, 1/4	—	—	I^2C	48/64LQFP
HT16C23AG*								Gold Bump
HT16C24A**	2.4V~5.5V	72×4, 68×8, 60×16	2.4V~5.5V	1/3, 1/4, 1/5	—	—	I^2C	64/80LQFP
HT16C24AG**								Gold Bump
HT16K23A**	2.4V~5.5V	20×4	= V_{DD}	1/3	—	20×1	I^2C	28SSOP
		16×8		1/4		16×1		
HT9B92	2.4V~5.5V	36×4	≤ V_{DD}	1/2, 1/3	√	—	I^2C	48LQFP/TSSOP

* Under development, available in 2Q, 2022.
** Under development, available in 3Q, 2022.

Low Voltage LCD Controller & Driver

Part No.	VDD	Max. Resolution Segment × Common	LCD Voltage	Bias	LED	Interface	Package
HT16L21	1.8V~5.5V	32×4	2.4V~6.0V	1/2, 1/3	8	I^2C, SPI 3-Wire	44LQFP

High Operating Voltage LCD Controller & Driver

Part No.	VDD	Max. Resolution Segment × Common	LCD Voltage	Bias	Duty	Charge Pump	Contrast Adjustment	GPO	Interface	Package
HT16H25	2.4V~5.5V	60×16	2.5~12V	1/1~1/5	Static, 1/2~1/16	×2, ×3, ×4, ×5	4-bit	4CH	I^2C, SPI 3-Wire	80/100LQFP

LED Controller & Driver

RAM Mapping LED Controller & Driver

Part No.	VDD	Max. Resolution Row×Common	Row Source Current (Min.)	Row Sink Current (Min.)	Com Source Current (Min.)	Com Sink Current (Min.)	PWM Gray Scale	Key-scan	Inter-face	Package
HT1632D	4.5V~5.5V	32×8, 24×16	50mA	12mA	45mA	250mA	16Level for Global	—	4-Wire	52LQFP
		24×8								48LQFP
HT1632D-2		28×8								48LQFP
HT1635C	4.5V~5.5V	44×8	50mA	10mA	45mA	250mA	16Level for Global	—	4-Wire	64LQFP
HT1635D									I²C	
HT16K33A*	4.5V~5.5V	16×8	20mA±5%	6mA	20mA	160mA	16Level for Global	13×3	I²C	28SOP
		12×8						10×3		24SOP
		8×8						8×3		20SOP

* Under development, available in 2Q, 2022.

Advanced LED Controller & Driver

Part No.	VDD	LED_VDD	Max. Resolution Row×Common	Com Source Current (Min.)	Com Sink Current (Min.)	PWM Gray Scale	Constant Current	Fade	Auto Scrolling	Over Temp. Detection	Open/Short Detection	Interface	Package
HT16D31A	2.7V~5.5V	4.5V~5.5V	8×9	270mA	—	256Level for each dot	33mA±3% Max. 48mA	√	√	√	√	3-Wire SPI	16NSOP-EP 16QFN
HT16D31B												I²C	
HT16D33A	2.7V~5.5V	4.5V~5.5V	9×10 + 9×10 12×12, 16×16	315mA	—	256Level for each dot	33mA±3% Max. 48mA	√	√	√	√	3-Wire SPI	24SSOP-EP 28SSOP 32QFN
HT16D33B												I²C	
HT16D35A	2.7V~5.5V	4.5V~5.5V	28×8	250mA	45mA	64Level for each dot	30mA±3% Max. 45mA	√	√	√	—	3-Wire SPI	48LQFP-EP
HT16D35B												I²C	

AC / DC LED Lighting Driver

AC / DC LED Lighting

Part No.	Topology	PF	Power MOS	HV Start-up	Maximum Output Power	Current Accuracy	Protections	Package
HT7L5600	Flyback (PSR)	>0.9	Ext.	—	60W	±3%	UVLO, OVP, OTP, OCP, LED open/short	SOT23-6
HT7L5820	Flyback (PFC+QR PWM)	>0.97	Ext.	650V	200W	±2%	Brown In/Out, UVLO, OCP, open/short, OVP (Auto Recovery), OTP (Auto Recovery)	16NSOP
HT7L5821							Brown In/Out, UVLO, OCP, open/short, OVP (Latched), OTP (Latched)	

Note: 1. All of LED Lighting Drivers operate from $85V_{AC}$ to $265V_{AC}$.
2. Max. output power from $85V_{AC}$ to $265V_{AC}$/$176V_{AC}$ to $265V_{AC}$.

Bank & Commercial Flash MCU

Cortex-M0+ 32-Bit 5V USB Smart Card Reader MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	Timers*1	RTC	SCI*2	Card LDO	USB*3	Interface	Others	I/O	Package
HT32F61141*	48MHz	2.5V~5.5V	64KB	16KB	BFTM×2 SCTM×2 GPTM×1	√	2	1.8V 3.0V 5.0V	√	UART×2 SPI×1 I²C×1	CRC	21 34 36	32QFN 46QFN 48LQFP

* Under development, available in 1Q, 2022.
Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, GPTM: General-Purpose Timer.
2. SCI: ISO7816-3 Smart Card Interface.
3. USB 2.0 Full Speed device.

Smart Card Reader Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP/ ISP	I/O	Timer	ADC	RTC	Comp-arator	USB	LDO	EMVCo	Inter-face	Package
HT66F4360	16MHz	2.2V~5.5V	16K×16	3072×8	—	12	√	36	10-bit CTM×2 10-bit PTM×1 16-bit STM×1	12-bit ×8	√	2	√	1.8V 3.0V 5.0V	ISO7816-3 Class A/B/C	UART×2 SPI×2 I²C×1	48/64LQFP
HT66F4370	16MHz	2.2V~5.5V	32K×16	3072×8	—	12	√	36	10-bit CTM×2 10-bit PTM×1 16-bit STM×1	12-bit ×8	√	2	√	1.8V 3.0V 5.0V	ISO7816-3 Class A/B/C	UART×2 SPI×2 I²C×1	48/64LQFP
HT66F4390	16MHz	2.2V~5.5V	64K×16	3072×8	256×8	16	√	36	10-bit CTM×2 10-bit PTM×1 16-bit STM×1	12-bit ×8	√	2	√	1.8V 3.0V 5.0V	ISO7816-3 Class A/B/C	UART×2 SPI×2 I²C×1	48/64LQFP

Ultra-Low Power Flash MCU with LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	MDU#	Stack	IAP	I/O	Timer	ADC	LCD	RTC	Interface	Package
HT66F2560	16MHz	1.8V~5.5V	16K×16	2048×8	256×8	16-bit	16	√	42	16-bit PTM×2 16-bit STM×3	12-bit ×8	SCOM ×4	√	SPI/I²C×1 SPIA×1, UART×2	48LQFP
HT69F2562	12MHz	1.8V~5.5V	16K×16	2304×8	128×8	—	16	√	19	10-bit CTM×2 16-bit STM×1	—	32×4	√	SPI×1 SPI/I²C/UART×1	64LQFP

Note: # MDU: Multiplier Divider Unit.
The power consumption of the RTC on standby current is less than 200nA at 3V.

Ultra-Low Power Flash MCU with LCD Driver & Touch Key

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Touch Key	LCD	RTC	Interface	Package
BS67F2563	12MHz	1.8V~5.5V	16K×16	2304×8	128×8	16	√	31	10-bit CTM×2 16-bit STM×1	12-bit ×7	20	32×4	√	SPI×1 SPI/I²C/UART×1	64LQFP

Note: The power consumption of the RTC on standby current is less than 200nA at 3V.

Ultra-Low Power Flash MCU with EPD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	EPD#	RTC	Interface	Package
HT67F2567	12MHz	1.8V~5.5V	16K×16	2304×8	128×8	16	√	19	10-bit CTM×2 16-bit STM×1	12-bit ×7	SEG×64 COM×1 BG×1	√	SPI×1 SPI/I²C/UART×1	100LQFP
HT67F2567G														Gold Bump

Note: # EPD: Electronic Paper Displays.
The power consumption of the RTC on standby current is less than 200nA at 3V.

Special Purpose Flash MCU

Induction Cooker Flash MCU

Part No.	Max. Freq.	VCC (HV)	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	ADC	PPG	Comp-arator	OVP	OPA	LDO	HVO	Inter-face	Package
HT45F0004	8MHz	—	2.2V~5.5V	4K×16	208×8	32×8	8	17	8-bit ×3	12-bit ×12	9-bit ×1	4	—	1	—	—	I²C×1	16NSOP 20SOP
HT45F0058	16MHz	—	3.3V~5.5V	4K×16	256×8	32×8	8	13	8-bit ×3	12-bit ×10	9-bit ×1	4	1	1	—	—	—	16NSOP
HT45F0059	16MHz	16V~20V	3.3V~5.5V	4K×16	256×8	32×8	8	12	8-bit ×3	12-bit ×9	9-bit ×1	4	1	1	5V	1	I²C×1	16NSOP

Note: The HT45F0059 device has low power continuous heating function.

Special Purpose Flash MCU

Half-bridge Induction Cooker Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	MDU#	Stack	I/O	Timer	ADC	PWM	OPA	OVP	CRC	Inter-face	Package
HT45F0074	16MHz	4.5V~ 5.5V	8K×16	512×8	128×8	16-bit	8	20	10-bit CTM×3 10-bit PTM×1	12-bit ×8	12-bit ×1	1	7	√	SPI/I²C/ UART×1	20NSOP 24SOP

Note: # MDU: Multiplier Divider Unit.

Low Power Flash MCU

Ultra-Low Voltage & Low Current Flash MCU with LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	I/O	Timer	LCD	Power Switch	Package
HT69F3742L	8MHz	1.2V~5.5V	4K×16	128×8	128×8	4	9	10-bit STM×1	23×4 24×3	√	46QFN, Dice

Low Power A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Temp. Sensor	SCOM	RTC	Interface	Package
HT66L2540*	16MHz	1.8V~ 5.5V	4K×16	256×8	256×8	8	√	26	16-bit PTM×1 16-bit STM×1	12-bit ×8	√	4	√	SPI/I²C/UART×1	16NSOP 24/28SSOP 28QFN
HT66L2550*	16MHz	1.8V~ 5.5V	8K×16	512×8	256×8	8	√	30	16-bit PTM×2 16-bit STM×1	12-bit ×8	√	4	√	SPI/I²C/UART×1	24/28SSOP 32QFN

* Under development, available in 2Q, 2022.

Low Power A/D Flash MCU with LCD Driver

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	Temp. Sensor	LCD	RTC	Interface	Package
HT67L2540*	16MHz	1.8V~ 5.5V	4K×16	256×8	256×8	8	√	22	16-bit PTM×1 16-bit STM×1	12-bit ×8	√	24×4	√	SPI/I²C/UART×1	48LQFP
HT67L2550*	16MHz	1.8V~ 5.5V	8K×16	512×8	512×8	8	√	30	16-bit PTM×2 16-bit STM×1	12-bit ×8	√	32×4	√	SPI/I²C/UART×1	48/64LQFP

* Under development, available in 2Q, 2022.

CAN Bus Flash MCU

CAN Bus A/D Flash MCU

Part No.	Max. Freq.	VDD	Program Memory	Data Memory	Data EEPROM	Stack	IAP	I/O	Timer	ADC	SCOM	CAN Protocol	Message Objects	Message Memory	Inter-face	Package
HT66F3370H	16MHz	2.2V~ 5.5V	32K×16	3K×8	1K×8	16	√	58	10-bit PTM×2 16-bit PTM×2 16-bit STM×3	12-bit ×16	4	CAN 2.0A/B ISO11898-1	32	32×139-bit	CAN×1 SPI/I²C×1 SPIA×1 UART×3	48/64 LQFP

Note: Operating temperture rage -40°C~+125°C.
Based on BOSCH CAN IP module C_CAN.

USB Data Logger Flash MCU

Cortex-M0+ 32-Bit LCD MCU

Part No.	Max. Freq.	VDD	Flash	SRAM	PDF Create LIB	PDMA	ADC	CMP	DAC	Timers*1	Cap.*2 or PWM	RTC	SCI*3	USB*4	I²S	LCD	Inter-face	Others	I/O	Package
HT32F5828	60MHz	1.65V ~ 3.60V	128KB	16KB	√	6CH	1Msps 12-bit×10	2	500Ksps 12-bit×2	BFTM×2 SCTM×2 PWM×2 GPTM×1	14	√	2	√	√	37×4 ~ 33×8	USART×1 UART×2 SPI×2 I²C×2	AES CRC DIV	39 67	48LQFP 64LQFP 80LQFP

Note: 1. BFTM: Basic Function Timer, SCTM: Single-Channel Timer, 8-PWM: 8 Output channel PWM Timer, GPTM: General-Purpose Timer, MCTM: Motor Control Timer.
2. Cap.: Input Capture.
3. SCI: ISO7816-3 Smart Card Interface.
4. USB 2.0 Full Speed device.

RF Module

Sub-1GHz Receiver

Part No.	VDD	Band	Demod.	Symbol Rate	Current Consumption	Sensitivity	Interface	Dimension
BM2302-33-1	3.0V~5.5V	315MHz	OOK	20Ksps (Max.)	3.2mA@315MHz	-112dBm@10ksps	I²C	43×10.5×5.2 (mm)
BM2302-34-1		433MHz			3.2mA@433MHz	-112dBm@10ksps		
BM2302-38-1		868MHz			4.0mA@868MHz	-111dBm@10ksps		
BM2302-39-1		915MHz			4.0mA@915MHz	-110dBm@10ksps		
BM2302-63-1	3.0V~5.5V	315MHz	OOK	20Ksps (Max.)	3.2mA@315MHz	-112dBm@10ksps	I²C	16×15×2.6 (mm)
BM2302-64-1		433MHz			3.2mA@433MHz	-112dBm@10ksps		
BM2302-68-1		868MHz			4.0mA@868MHz	-111dBm@10ksps		
BM2302-69-1		915MHz			4.0mA@915MHz	-110dBm@10ksps		
BM2502-63-1	2.5V~5.5V	315MHz	OOK/FSK	25Ksps (OOK Max.) 50Ksps (FSK Max.)	4.1mA@315MHz	-112dBm@10ksps (OOK) -110dBm@10ksps (FSK)	I²C	16×15×2.6 (mm)
BM2502-64-1		433MHz			4.1mA@433MHz	-112dBm@10ksps (OOK) -110dBm@10ksps (FSK)		
BM2502-68-1		868MHz			5.5mA@868MHz	-109dBm@10ksps (OOK) -107dBm@10ksps (FSK)		
BM2502-69-1		915MHz			5.5mA@915MHz	-109dBm@10ksps (OOK) -107dBm@10ksps (FSK)		

Sub-1GHz Transceiver

Part No.	VDD	Band	Data Rate	Output Power	Rx Current Consumption	Sensitivity	Interface	Dimension
BM3601-03-1	2.0V~3.6V	315MHz	10~250Kbps	17dBm (Max.)	13.5mA@315MHz	-113dBm@10Kbps	SPI	15×18.5×2.5 (mm)
BM3601-04-1		433MHz			13.0mA@433MHz			
BM3601-08-1		868MHz			13.5mA@868MHz	-113dBm@10Kbps		
BM3601-09-1		915MHz			13.5mA@915MHz			
BM3602-03-1	2.0V~3.6V	315MHz	10~250Kbps	13dBm (Max.)	4.1mA@315MHz	-113dBm@10Kbps	SPI	15×18.5×2.5 (mm)
BM3602-04-1		433MHz			4.2mA@433MHz			
BM3602-08-1		868MHz			5.5mA@868MHz	-113dBm@10Kbps		
BM3602-09-1		915MHz			6.0mA@915MHz			

2.4GHz Transceiver

Part No.	VDD	Band	Data Rate	Output Power	Sensitivity	Interface	Dimension
BM5602-60-1	1.9V~3.6V	2402~2480MHz	125/250/500Kbps	7dBm (Max.)	-98dBm@125Kbps	SPI	17×16×2 (mm)

Digital Sensor & Module

PIR Module

Part No.	Supply Voltage	Current Consumption	Detection Range (Typ.)	FOV H, V	Lens Color	Interface	Dimension
HT7M2126	2.7V~5.5V	50μA	3.5~6 Meter	121°, 77°	Nature	I²C or I/O	12.8×12.9×13.3(mm)
HT7M2127			2.8~5 Meter	121°, 77°	Black		
HT7M2136			5.5~8 Meter	91°, 10°	Nature		12.8×12.9×14.4(mm)
HT7M2156			8~12 Meter	20°, 10°	Nature		
HT7M2176			5~7.5 Meter	86°, 75°	Nature		12.8×12.9×14.9(mm)

PIR Sensor

Part No.	Supply Voltage	Current Consumption	Responsivity	Noise	Opcital Window	Viewing Angle H/V	Interface	Package
BM22S4021-1*	2.7V~5.5V	2.53mA @5V	4.3kV/W (To=100ºC, 1Hz @25ºC)	33μVp-p (0.3~3Hz @25ºC)	5×4mm	127º / 127º	UART or I/O	TO-5
BM22S4022-1*						120º / 65º		
BM22S4023-1*						110º / 55º		
BM22S4024-1*						85º / 45º		

* Under development, available in 3Q, 2022.

Digital Sensor & Module

Infrared Temperature Sensor

Part No.	Supply Voltage	Current Consumption	Accuracy	Measurement Temperature	Temperature Resolution	Operating Temperature	Interface	Package
BM42S2021-1*	2.7V~3.3V	0.6mA @3.3V	±2% (@0~100°C) ±3% (@100~300°C)	-70~380°C	0.01°C	-40~+85°C	UART or I²C	TO-5

* Under development, available in 3Q, 2022.

Air Pressure Sensor

Part No.	Supply Voltage	Current Consumption	Accuracy	Pressure Range	Linearity	Operating Temperature	Interface	Pressure Type	Dimension
BM62S2201-1	2.7V~5.5V	0.8mA @5V	0.5%FS @25°C	0~1psi	0.3%FS	-20~+85°C	UART or I²C	Gauge	18×11×13(mm)

Temperature and Humidity Sensor

Part No.	Supply Voltage	Current Consumption	Relative Humidity Resolution	Relative Humidity Rang	Relative Humidity Precision	Temperature Resolution	Temperature Range	Temperature Precision	Interface	Dimension
BM25S2021-1	2.7V~5.5V	0.2mA	0.1%RH	10~95%RH	±3%RH @25°C	0.1°C	-40~+80°C	±0.5°C	I²C or One-Wire	22×12×5.8(mm)

Smoke Detector Sensor

Part No.	Supply Voltage	Current Consumption	Detection Sensitivity	Interface	Dimension
BM22S2021-1	3V~5V	10μA	0.1~0.8dB/m	UART or I/O	37×37×28.5(mm)

GAS Detector Sensor

Part No.	Supply Voltage	Current Consumption	Gas Type	Detection Range	Interface	Dimension
BM22S3021-1	5V	250mA	CH_4	300~10000ppm	UART or I/O	24×20×22(mm)
BM22S3031-1	2.5V	160mA	CH_4	500~10000ppm	UART or I/O	25×17×21(mm)
BM22S3221-1*	2.5V~5V	15μA	CO	3~1000ppm	UART or I/O	24×20×20(mm)

* Under development, available in 2Q, 2022.

Proximity Sensing Module

Part No.	Supply Voltage	Current Consumption	Detection Range	Interface	LED Indicator	Dimension
BM32S2031-1	3.3V~5V	<15μA @3.3V	1~100cm	UART or I/O	—	12.7×10×6.3(mm)
BM32S3021-1	3.3V~5V	<3mA @3.3V	5~30cm (Z Axis) ±7.5cm (X Axis) @Z=15cm	UART or I/O	—	40×20×6.7(mm)

Water Level Sensor

Part No.	Supply Voltage	Current Consumption	Accuracy	Resolution	Output Frequency Range	Sensing Range	Operating Temperature	Interface	Dimension
BM62S3201-1	2.7V~5.5V	0.88mA @5V	±0.5%FS @25°C	1mmH_2O	—	0~1500mmH_2O	-40~+85°C	UART	Ø 28×14.6(mm)
BM62S3201-5		3.75mA @5V			20~40kHz			Frequency Output	

Ultrasonic Atomization Generator

Part No.	Supply Voltage	Operating Current (Typ.)	Atomization Frequency	Atomization Ability (Typ.)	Water Detection Function	Interface	Dimension
BM52O5221-1	24V	670mA	1.7MHz	220ml/h (A Level)	√	6-wire	55×55×37(mm)

I²C EEPROM

I²C EEPROM

Part No.	Capacity	VDD	Clock Rate	Write Speed @2.4V	Operating Current @5V	Standby Current @5V	Package
HT24LC02	256×8	1.8V~5.5V	400kHz	5ms	5mA	3μA	8SOP
HT24LC02A	256×8	1.8V~5.5V	400kHz	5ms	5mA	2μA	8SOP, SOT23-5
HT24LC04	512×8	1.8V~5.5V	400kHz	5ms	5mA	3μA	8SOP
HT24LC08	1024×8	1.8V~5.5V	400kHz	5ms	5mA	3μA	8SOP
HT24LC16	2048×8	1.8V~5.5V	400kHz	5ms	5mA	3μA	8SOP
HT24LC32	4096×8	1.8V~5.5V	400kHz	5ms	5mA	3μA	8SOP
HT24LC64	8192×8	1.8V~5.5V	400kHz	5ms	5mA	3μA	8SOP

Note: Operating temperature range −40°C ~ +85°C.

General OP Amplifier

General Purpose OP Amplifier

Part No.	Description	OP No.	VDD	BW	Current/OP	Package
HT9274	Quad micropower OP amplifier	4	1.6V~5.5V	100kHz	3.0μA	14SOP
HT9291	TinyPower™ Single OP amplifier	1	1.4V~5.5V	11kHz	0.6μA	SOT23-5
HT9292	TinyPower™ Dual OP amplifier	2	1.4V~5.5V	11kHz	0.6μA	8SOP
HT9294	TinyPower™ Quad OP amplifier	4	1.4V~5.5V	11kHz	0.6μA	14SOP
HT92232	16μA, 300kHz, Rail to Rail, Dual OP amplifier	2	2.1V~5.5V	300kHz	16μA	8SOP
HT92252	40μA, 1MHz, Rail to Rail, Dual OP amplifier	2	2.1V~5.5V	1MHz	40μA	8SOP

Precision OP Amplifier

Part No.	Description	OP No.	VDD	BW	Current/OP	Package
HT92632	30μA, 300kHz, Rail to Rail, Dual OP amplifier	2	2.0V~5.5V	300kHz	30μA	8SOP
HT92652	500μA, 1.5MHz, Rail to Rail, Dual OP amplifier	2	2.0V~5.5V	1.5MHz	500μA	8SOP

Low Power OP Amplifier

Part No.	Description	OP No.	VDD	BW	Current/OP	Package
HT92112	0.6μA, 14kHz, Rail to Rail, Dual OP amplifier	2	1.4V~5.5V	14kHz	0.6μA	8SOP
HT92122	0.6μA, 100kHz, Rail to Rail, Dual OP amplifier	2	1.4V~5.5V	100kHz	0.6μA	8SOP

Audio Amplifier

Class AB Audio Amplifier

Part No.	Description	VDD	Output Power	Mute/Shutdown Function	Package
HT82V735	Stereo audio power amplifier with shutdown	2.4V~6.0V	330mW into 32Ω	√	8SOP
HT82V73A	1500mW mono audio power amplifier with shutdown	2.2V~5.5V	1500mW into 8Ω	√	8SOP-EP

Audio PWM Driver

Part No.	Description	VDD	Output Power	Mute/Shutdown Function	Package
HT82V742	Audio PWM driver	2.0V~5.5V	1.5W into 5V, 8Ω	—	8SOP

24-Bit A/D Peripheral

Enhanced 24-Bit A/D Peripheral

Part No.	Max. Freq.	VDD	ADC	ENOB	Data Rate	PGA	Interface	Package
BH45B1225	4.91MHz	2.4V~5.5V	24-bit×4	19.4@5V	5Hz~1.6kHz	1~128	I^2C×1	8SOP, 16NSOP

Advanced 24-Bit A/D Peripheral

Part No.	Max. Freq.	VDD	ADC	ENOB	Data Rate	PGA	Interface	Package
BH45B1525	4.91MHz	2.7V~5.5V	24-bit×4	20.9@5V	10Hz~1.28kHz	1~128	I^2C×1, SPI×1	20SSOP

CCD / CIS Analog Signal Processor

CCD / CIS Analog Signal Processor

Part No.	AVDD/VDD	ADC (Bit)	Input CH.	MSPS	Clamp Bias	PGA	Prog. Offset	Full Scale	Power Consumption	Package
HT82V36	3.0V~3.6V	16	1	10 (CCD:6)	2.5V/2.0V	1~5.85V/V (6-bit)	±100mV (9-bit)	1.4V	56mW/1μA	28SSOP
HT82V38	3.15V~3.45V	16	3/2/1	30/30/20	0.45V~2.7V (4-bit)	1~6.25V/V (6-bit)	±250mV (9-bit)	1.6V/2V	300mW/10μA	28SSOP 32QFN
HT82V42	3.0V~3.6V	16	1	15	0.4V~3.0V (4-bit)	0.7~7.84V/V (8-bit)	±315mV (8-bit)	2V	188mW/300μA	20SSOP
HT82V47*	3.0V~3.6V	16	1~4	60	0.4V~2.05V (6-bit)	0.67~6.02V/V (9-bit)	±350mV (8-bit)	1.2V/2V	600mW/100μA	32QFN
HT82V48	3.0V~3.6V	16×2	3×2	60×2	0.4V~3.0V (4-bit)	0.65~6.0V/V (9-bit)	±290mV (8-bit)	1.2V/2V	925mW/400μA	48LQFP-EP

* Under development, available in 2Q, 2022.

Currency Recognition Processor

CIS Analog Front End Processor

Part No.	AVDD/VDD	ADC (Bit)	Input Channel	MSPS	Clamp Bias	PGA	Prog. Offset	Full Scale	Power Consumption	Package
HT82V48	3.0V~3.6V	16×2	3×2	60×2	0.4~3.0V (4-bit)	0.65~6.0V/V (9-bit)	±290mV (8-bit)	1.2V/2V	925mW/400μA	48LQFP-EP

Miscellaneous

Timepiece

Part No.	VDD	V_{BAT}	I_{DD} (μA)	I_{BAT} (μA)	I_{STB} (μA)	External X'tal Osc.	Build in Memory (Bytes)	Oscillator Compensation	Package
HT1380A	2.0V~5.5V	—	1.0 at 5V	—	0.1	32.768kHz	—	—	8DIP
HT1381A									8SOP
HT1382	2.7V~5.5V	2.0V~5.5V	15 at 3V	1.2 at 3V	0.1	32.768kHz	4	√	8SOP, 10MSOP

Infrared / Encoder / Decoder

2^{12} Encoder / Decoder

Part No.	Encoder/Decoder	VDD	Addr. No.	Addr./Data No.	Data No.	Data Type	Trig.	Check Times	Package	Pair
HT12E	Encoder	2.4V~12V	8	4	0	—	$\overline{TE}$	—	20SOP	HT12D
HT12D	Decoder	2.4V~12V	8	0	4	Latch	—	3	20SOP	HT12E

3^{9} Encoder

Part No.	Encoder/Decoder	VDD	Addr. No.	Addr./Data No.	Trig.	Package
HT6026	Encoder	4V~18V	0	9	$\overline{TE}$	16NSOP

Learning Encoder

Part No.	VDD	Addr. No.	Data No.	Trig.	Package
HT6P20B	2V~12V	22	2	Data Low	8SOP
HT6P20D		20	4		16NSOP

IR Remote Controller

Part No.	VDD	Addr. No.	Data No.	Key No.	Signal Gap Time	38kHz Carrier	Package
HT6220A	2.0V~3.6V	16	8	6	—	√	8SOP
				30			16NSOP
HT6221A	2.0V~3.6V	16	8	32	—	√	20SOP
HT6222A	2.0V~3.6V	16	8	64	—	√	24SOP, Chip, Wafer

32-Bit MCU Programming Tools

Holtek is fully aware that the success of their microcontroller device range also depends upon the availability of high quality development tools. As a result, Holtek has developed a full suite of professional hardware and software tools to provide designers with an excellent set of development resources to ensure their application are designed and debugged as efficiently as possible.

In this section can be found details regarding which set of tools should be used for the HT32 series microcontrollers.

HT32 Series MCU				
Device Part No.	**Debug Adapter**	**Development Kit**	**Writer**	**e-Socket32**
HT32F0008	e-Link32 Pro	ESK32-30508, ESK32-20001, ESK32-21001	e-Writer32	ESKT3224QFN3B, ESKT3233QFN4B, ESKT3246QFNB, ESKT3248LQFPB, ESKT32ICPB
HT32F12345	e-Link32 Pro	ESK32-30106, ESK32-20001, ESK32-21001	e-Writer32	ESKT3246QFNB, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT32ICPB
HT32F12364	e-Link32 Pro	ESK32-30107, ESK32-20001, ESK32-21001	e-Writer32	ESKT3240QFNB, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT32ICPB
HT32F12365, HT32F12366	e-Link32 Pro	ESK32-30105, ESK32-20001, ESK32-21001	e-Writer32	ESKT3246QFNB, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT32100LQFPB, ESKT32ICPB
HT32F22366	e-Link32 Pro	N/A	e-Writer32	ESKT3246QFNB, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT32100LQFPB, ESKT32ICPB
HT32F50220, HT32F50230	e-Link32 Pro	ESK32-30506, ESK32-20001, ESK32-21001	e-Writer32	ESKT3228SSOPB, ESKT3228SOPC, ESKT3224QFN3B, ESKT3233QFN4B, ESKT3244LQFPB, ESKT3248LQFPB, ESKT32ICPB
HT32F50231, HT32F50241	e-Link32 Pro	ESK32-30507, ESK32-20001, ESK32-21001	e-Writer32	ESKT3228SSOPB, ESKT3228SOPC, ESKT3224QFN3B, ESKT3233QFN4B, ESKT3244LQFPB, ESKT3248LQFPB, ESKT32ICPB
HT32F50343	e-Link32 Pro	ESK32-30515, ESK32-20001, ESK32-21001	e-Writer32	ESKT3233QFN4B, ESKT3246QFNB, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT32ICPB
HT32F52220, HT32F52230	e-Link32 Pro	ESK32-30504, ESK32-20001, ESK32-21001	e-Writer32	ESKT3228SSOPB, ESKT3233QFN4B, ESKT32ICPB
HT32F52231, HT32F52241	e-Link32 Pro	ESK32-30503, ESK32-20001, ESK32-21001	e-Writer32	ESKT3228SSOPB, ESKT3233QFN4B, ESKT3248LQFPB, ESKT32ICPB
HT32F52243, HT32F52253	e-Link32 Pro	ESK32-30505, ESK32-20001, ESK32-21001	e-Writer32	ESKT3233QFN4B, ESKT3246QFNB, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT32ICPB
HT32F52331, HT32F52341	e-Link32 Pro	ESK32-30502, ESK32-20001, ESK32-21001	e-Writer32	ESKT3233QFN4B, ESKT3248LQFPB, ESKT32ICPB
HT32F52342, HT32F52352	e-Link32 Pro	ESK32-30501, ESK32-20001, ESK32-21001	e-Writer32	ESKT3233QFN4B, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT32ICPB
HT32F52344, HT32F52354	e-Link32 Pro	ESK32-30509, ESK32-20001, ESK32-21001	e-Writer32	ESKT3233QFN4B, ESKT3246QFNB, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT32ICPB
HT32F52357, HT32F52367	e-Link32 Pro	ESK32-30510, ESK32-20001, ESK32-21001	e-Writer32	ESKT3246QFNB, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT3280LQFPB, ESKT32ICPB
HT32F57331, HT32F57341	e-Link32 Pro	ESK32-30512, ESK32-20001, ESK32-21001	e-Writer32	ESKT3246QFNB, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT32ICPB
HT32F57342, HT32F57352	e-Link32 Pro	ESK32-30511, ESK32-20001, ESK32-21001	e-Writer32	ESKT3246QFNB, ESKT3248LQFPB, ESKT3264LQFP7B, ESKT3280LQFPB, ESKT32ICPB
HT32F59041, HT32F65230, HT32F65240	e-Link32 Pro	N/A	e-Writer32	ESKT3248LQFPB, ESKT32ICPB
HT32F59741	e-Link32 Pro	N/A	e-Writer32	ESKT3264LQFPB, ESKT32ICPB
HT32F61355, HT32F61356, HT32F61357	e-Link32 Pro	ESK32-30615, ESK32-30616, ESK32-30617	e-Writer32	ESKT3248LQFP, ESKT3264LQFP
HT32F65232	e-Link32 Pro	N/A	e-Writer32	ESKT3248LQFPB, ESKT3233QFN4B
HT32F67741	e-Link32 Pro	N/A	e-Writer32	ESKT3246QFN

Hardware		
ICE		
Model	**Function**	**Support Software**
e-Link32 Pro	On Chip Debug Support (OCDS) new debug adapter for HT32 series	Keil µVision, IAR EWARM
Programmer		
Model	**Function**	**Support Software**
e-Writer32	HT32 series MCU Dedicated Writer	HOPE3000 For HT32 series MCU
e-Socket32	Adaptors used together with e-Writer32	HOPE3000 For HT32 series MCU
Development Kit		
Model	**Function**	**Note**
ESK32-20001	HT32 Series Expansion Board Basic	Expansion Board for ESK32-30xxx
ESK32-21001	HT32 Series Expansion Board Plus	Expansion Board for ESK32-30xxx
ESK32-300SK	32-bit Arm® Cortex®-M3 HT32F1656 Starter Kit	This board has a built-in e-Link32 USB debug adapter
ESK32-30105	32-bit Arm® Cortex®-M3 HT32F12366 Starter Kit	This board has a built-in e-Link32 Pro USB debug adapter
ESK32-30106	32-bit Arm® Cortex®-M3 HT32F12345 Starter Kit	This board has a built-in e-Link32 Pro USB debug adapter
ESK32-30107	32-bit Arm® Cortex®-M3 HT32F12364 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30501	32-bit Arm® Cortex®-M0+ HT32F52352 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30502	32-bit Arm® Cortex®-M0+ HT32F52341 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30503	32-bit Arm® Cortex®-M0+ HT32F52241 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter

Hardware		
ESK32-30504	32-bit Arm® Cortex®-M0+ HT32F52230 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
Development Kit		
Model	**Function**	**Note**
ESK32-30505	32-bit Arm® Cortex®-M0+ HT32F52253 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30506	32-bit Arm® Cortex®-M0+ HT32F50230 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30507	32-bit Arm® Cortex®-M0+ HT32F50241 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30508	32-bit Arm® Cortex®-M0+ HT32F0008 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30509	32-bit Arm® Cortex®-M0+ HT32F52354 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30510	32-bit Arm® Cortex®-M0+ HT32F52367 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30511	32-bit Arm® Cortex®-M0+ HT32F57352Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30512	32-bit Arm® Cortex®-M0+ HT32F57341 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30515	32-bit Arm® Cortex®-M0+ HT32F50343 Starter Kit	This board has a built-in e-Link32Pro USB debug adapter
ESK32-30615	32-bit Arm® Cortex®-M0+ HT32F61355 Starter Kit	This board has a built-in e-Link32Pro USB debug adaptor
ESK32-30616	32-bit Arm® Cortex®-M0+ HT32F61356 Starter Kit	This board has a built-in e-Link32Pro USB debug adaptor
ESK32-30617	32-bit Arm® Cortex®-M0+ HT32F61357 Starter Kit	This board has a built-in e-Link32Pro USB debug adaptor
ESK32-A2A31	2.8 inches TFT-LCD Module	2.8 inches SPI / EBI LCD Module * This module can be used with the ESK32-20001 / ESK32-21001 providing a complete development kit.

Software		
Software		
Model	**Function**	**Support Hardware**
HOPE3000 or 32Bits	e-Writer32 programmer software for HT32 series MCUs	e-Writer32
HT32 Flash Programmer	In-System / In-Application programmer software for HT32 series MCUs	All series of HT32 Development Board or Starter Kit. ESK32-xxx, ESK32-xxxSK, ESK32-30xxx
HT32 Keil Support Package	Integrated Keil development environment software for HT32 series MCUs	
HT32 IAR Support Package	Integrated IAR development environment software for HT32 series MCUs	
HT32 Virtual COM Driver	HT32 USB Virtual COM Driver setup program	e-Link32 Pro. All series of HT32 Development Board or Starter Kit with USB Virtual COM example.

e-Link32 Pro Debug Adapter

The e-Link32 Pro is a new generation debug adapter for Holtek's 32-bit microcontrollers allowing users to program and debug their programs on their target boards. By using the e-Link32 Pro together with the Keil µVision IDE or IAR EWARM IDE, users are provided with a suite of development tools for rapid MCU product development.

The e-Link32 Pro package includes the e-Link32 Pro debug adapter, flat cable and USB cable.

8-Bit MCU Programming Tools

Holtek is fully aware that success of their microcontroller device range also depends upon the availability of high quality development tools. As a result Holtek has developed a full suite of professional hardware and software tools to provide designers with an excellent set of development resources to ensure their applications are designed and debugged as efficiently as possible. In this section can be found details regarding which set of tools should be used for each microcontroller device.

Hardware		
ICE		
Model	**Function**	**Support Software**
HT-ICE	LPT Type in-circuit emulator	HT-IDE3000
e-ICE	USB Type in-circuit emulator	HT-IDE3000
e-Link	On Chip Debug Support(OCDS) Type MCU debug adapter	HT-IDE3000
	On Chip Debug Support (OCDS) debug adapter for HT85 series	Keil C51 Development Tools
e-FPCB (e-Link selected item)	OCDS EV Flex Cable Converter	—
Programmer		
Model	**Function**	**Support Software**
e-WriterPro	Universal Writer for OTP/Flash MCU	HOPE3000
e-Socket	Adaptors used together with e-WriterPro	HOPE3000
EIC-300	Slimmed-down ICP programmer for Flash MCU	HOPE3000
Development Kit		
Model	**Function**	**Note**
ESK-66F-A01	HT66F50 Development Board (Starter Kit for HT66F50)	(ESK-200 + ESK-201 + e-Link + M1001D + D1003C + mini USB cable + e-cable1225A)
Development Platform		
Model	**Function**	**Note**
Holtek USB Workshop	Development Platform for USB MCU	This board can be used with the ESK66FB-200 + e-Link.

Software*		
Software		
Model	**Function**	**Support Hardware**
HT-IDE3000	Integrated development Environment software for all series of Holtek MCU	HT-ICE, e-ICE, e-Link
HOPE3000	Integrated software for Holtek e-Writer series Programmers.	e-WriterPro, e-Writer plus
HOPE3000 for e-Link	Engineering programmer for HT8 Flash MCU	e-Link
Holtek USB Workshop	Holtek USB MCU Library Generator	ESK66FB-200 + e-Link
Holtek Touch Key Workshop	Touch Key development platform	e-Link, e-Isolator
I3000	HT8 Flash MCU with Bootloader ISP Programming Tool (Program MCU by Bootloader)	

Note: It is strongly recommended to download the latest version.

HT-IDE3000 Development Environment

The HT-IDE3000 is a fully integrated development system for the Holtek range of microcontrollers. Working in conjunction with the Holtek ICE hardware emulator, the HT-IDE3000 system provides a user friendly workbench to ensure the process of application program development and debug is as efficient and trouble free as possible. By combining all software tools, such as editor, cross assembler, linker, library manager, symbolic debuggers as well as hardware tools, application designers have all the tools required at their disposal to ensure rapid development and debug of their new designs. An HT-IDE3000 User's Guide is available for download from the Holtek website, which provides much more detailed information on the HT-IDE3000 development system.

The HT-IDE3000 development system software is available for free download from the Holtek website. To ensure that users are provided with the latest modifications and enhancements to the system and to support new device releases, Service Packs are regularly provided.

HT-ICE – Holtek In-Circuit Emulator

The HT-ICEs are multi-featured hardware emulators to assist designers with the rapid development of their Holtek MCU applications. Their expansive integrated hardware and software features, provide designers with a full suite of tools for rapid and easy product development. At the heart of the system is the hardware emulator, which can fully emulate Holtek 8-bit MCU devices in real time as well as providing full debug and trace integrated functions. The HT-ICE package includes the hardware mainboard platform, CD, flat cables, power adapter, power cord and printer cable.

HT-ICE USB cable allowing customers to connect the HT-ICE LPT connector to the computer USB port. The part number of this USB cable is CUSBICECABLE4A. Please contact us for purchasing details.

e-ICE

The e-ICE is Holtek's new generation of MCU in-circuit emulators that uses a real chip EV for device emulation. In this way a more accurate emulation of device function and characteristics can be implemented. Together with the HT-IDE3000 software development system the user is provided with a suite of development tools for rapid MCU product development.

Holtek New Universal Writer – e-WriterPro

The e-WriterPro can be used not only as a programming tool for all of Holtek's OTP and Flash devices during the development stage but can also be used for small to medium volume production purposes.

The e-WriterPro must be used together with a corresponding e-Socket according to the package type of the MCU that is to be programmed. Devices with the same package type require only a single e-Socket, thus reducing the problem of changing different adaptors for different IC part numbers.

For all available Holtek devices, the following e-Socket table shows which one should be used with which device package type.

e-Socket

No.	Product Name	Supported Package	Suggested Programming Times
1	ESKT6SOTC	SOT23-6	10,000
2	ESKT6DFNC	6DFN(2mm×2mm×0.75mm)	10,000
3	ESKT6DFNC-35	6DFN(2mm×2mm×0.35mm)	10,000
4	ESKT8SOP-RF	8SOP-EP(for BC2102, BC2161 only)	10,000
5	ESKT8SOP-RF2.4G	8SOP-EP(Dedicated for 2.4G RF IC)	10,000
6	ESKT8ICPL	ICP Adapter board	N/A
7	ESKT10SOPC	10SOP	10,000
8	ESKT10MSOPC	8MSOP, 10MSOP	10,000
9	ESKT10DFNC	10DFN(3mm×3mm×0.75mm)	10,000
10	ESKT16NSOP-RF	16NSOP-EP(for BC2161 only)	10,000
11	ESKT16NSOPC	8SOP, 8SOP-EP, 14SOP, 16NSOP(Applicable beside the HT48RA0-6 series MCU)	10,000
12	ESKT16NSOPHIRCA	16NSOP(for HT48RA0-6 only)	10,000
13	ESKT16QFN-RF2.4G	16QFN(Dedicated for 2.4G RF IC)	5,000
14	ESKT16QFN4C	16QFN(4mm×4mm×0.75mm)	5,000
15	ESKT16QFN3C	16QFN(3mm×3mm×0.75mm)	5,000
16	ESKT16QFN-RF	16QFN(3*3mm;lead 0.25mm) (RF e-Socket for BC2161	5,000
17	ESKT16WLCSPC	16WLCSP(1.545mm×1.618mm×0.4mm)	5,000
18	ESKT20NSOPC	20NSOP	10,000
19	ESKT20QFN3C	20QFN(3mm×3mm×0.75mm)	5,000
20	ESKT20QFN4A	20QFN(4mm×4mm×0.75mm)	5,000
21	ESKT20QFN5A	20QFN(5mm×5mm×0.75mm)	5,000
22	ESKT20TSSOPA	16TSSOP, 20TSSOP	10,000
23	ESKT24QFN3C	24QFN(3mm×3mm×0.55mm)	5,000
24	ESKT24QFN4C	24QFN(4mm×4mm×0.75mm)	5,000
25	ESKT28QFN4C	28QFN (4mm×4mm×0.75mm)	5,000
26	ESKT28SSOPC	16SSOP(150mil), 20SSOP(150mil), 24SSOP(150mil), 28SSOP(150mil) (Applicable beside the HT48RA0-6 series MCU)	10,000
27	ESKT28SSOPHIRCA	20SSOP(for HT48RA0-6 only)	10,000
28	ESKT28SOPD	16SOP, 18SOP, 20SOP, 24SOP, 28SOP	10,000
29	ESKT30SSOPA	20SSOP(209mil), 24SSOP(209mil), 28SSOP(209mil)	10,000
30	ESKT32QFNA	32QFN(5mm×5mm×0.75mm)	5,000
31	ESKT32QFN4C	32QFN(4mm×4mm×0.75mm)(4mm×4mm×0.55mm)	5,000
32	ESKT32LQFPC	32LQFP	10,000
33	ESKT40DIPC	8DIP, 16DIP, 18DIP, 20DIP, 22SKDIP, 24SKDIP, 28SKDIP, 40DIP	25,000

e-Socket			
No.	**Product Name**	**Supported Package**	**Suggested Programming Times**
34	ESKT40QFN6A	40QFN(6mm×6mm×0.75mm)	5,000
35	ESKT44QFPA	44LQFP(FP3.2mm), 44QFP(10mm×10mm)	10,000
36	ESKT44LQFPC	44LQFP(FP2.0mm)	10,000
37	ESKT46QFNC	46QFN(6.5mm×4.5mm×0.75mm)	5,000
38	ESKT48LQFPC	48LQFP(7mm×7mm)(Applicable beside the HT48RA0-6 series MCU)	10,000
39	ESKT48LQFPHIRCA	48LQFP(7mm×7mm)(for HT49RA0-6 only)	10,000
40	ESKT48LQFPC_67F2132	48LQFP(7mm×7mm)(for BH67F2132 only)	10,000
41	ESKT52QFPA	52QFP(14mm×14mm)	10,000
42	ESKT52LQFPA	52LQFP(14mm×14mm)	10,000
43	ESKT56SSOPC	48SSOP, 56SSOP	10,000
44	ESKT64LQFP7C	64LQFP(7mm×7mm)	5,000
45	ESKT64LQFP10A	64LQFP(10mm×10mm)	10,000
46	ESKT80LQFPC	80LQFP(10mm×10mm)	10,000
47	ESKT100QFPC	100QFP(14mm×20mm)	5,000
48	ESKT100LQFPA	100LQFP(14mm×14mm)	5,000
49	ESKT128QFPC	128QFP(14mm×20mm)	10,000
50	ESKT128LQFPC	128LQFP(14mm×14mm)	10,000
51	ESKT144LQFPA	144LQFP(20mm×20mm)	5,000

Note: 1. Data in parentheses next to each package type shows the actual width of the IC package.
2. ESKxxxxxC is completely compatible with ESKxxxxxxA.

8-Bit MCU Tools Indexing Table

The following table allows the correct tools to be quickly located against a device part number. In instances where tools are not listed for specific devices, this may infer that such tools are not required. Note that the "HT-ICE(S)" ICE type stands for the HT-ICE set and the corresponding I/O card.

8-Bit MCU Tools					
Device Part No.	**ICE Type**	**Tool Part No.**	**Programming Timing**	**ICP Type / ICPDA / ICPCK**	**OCDSDA / OCDSCK**
BA45F5241	e-Link	e-Link + BA45V5241	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F0096	Demo Board	e-Link + DM20180501-BA45F0096	Flash Type-9	ICP-2C / PA0 / PA2	—
BA45F5220	e-Link	e-Link + BA45V5220 + (e-FADP08N3 or e-FADP10N3)	Flash Type-23	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BA45F5240		e-Link + BA45V5240	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5240-2		e-Link + BA45V5240-2	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5250		e-Link + BA45V5250	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5260		e-Link + BA45V5260	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5320	e-Link	BA45V5320	Flash Type-23	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BA45F5340		BA45V5340	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5350		BA45V5350	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5360		BA45V5360	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5420	e-Link	e-Link + BA45V5420	Flash Type-23	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BA45F5440		e-Link + BA45V5440	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5450		e-Link + BA45V5450	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5460		e-Link + BA45V5460	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5541	e-Link	e-Link + BA45V5541	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5542	e-Link	e-Link + BA45V5542	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5542-2		e-Link + BA45V5542-2	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5552		e-Link + BA45V5552	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5562		e-Link + BA45V5562	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5640	e-Link	e-Link + BA45V5640	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5650		e-Link + BA45V5650	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5660		e-Link + BA45V5660	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5740	e-Link	e-Link + BA45V5740	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5750		e-Link + BA45V5750	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F5760		e-Link + BA45V5760	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6630	e-Link	e-Link + BA45V6630	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6622		e-Link + BA45V6622	Flash Type-23	ICP-2C / PA0 / PA2	PA0 / PA2

8-Bit MCU Tools					
Device Part No.	**ICE Type**	**Tool Part No.**	**Programming Timing**	**ICP Type / ICPDA / ICPCK**	**OCDSDA / OCDSCK**
BA45F6720	e-Link	e-Link + BA45V6720 + (e-FADP08N3 or e-FADP10N3)	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BA45F6730		e-Link + BA45V6730	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6740		e-Link + BA45V6740	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6746		e-Link + BA45V6746	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6742	e-Link	e-Link + BA45V6742	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6748		e-Link + BA45V6748	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6752		e-Link + BA45V6752	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6753		e-Link + BA45V6753	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6758		e-Link + BA45V6758	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6830	e-Link	e-Link + BA45V6830	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6840		e-Link + BA45V6840	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6846		e-Link + BA45V6846	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6850		e-Link + BA45V6850	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BA45F6856		e-Link + BA45V6856	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BC45F7930	e-Link	e-Link + BC45V7930	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BC45F7940		e-Link + BC45V7940	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BC66F2235	e-Link	e-Link + BC66F2235	Flash Type-16	ICP-2C / PA0 / PA2	PA0/PA2
BC66F2245		e-Link + BC66F2245	Flash Type-16	ICP-2C / PA0 / PA2	PA0/PA2
BC66F2255		e-Link + BC66F2255	Flash Type-16	ICP-2C / PA0 / PA2	PA0/PA2
BC66F2332	e-Link	e-Link + DEV-BC66F2332	Flash Type-9	ICP-2C / PA0 / PA7	OCDSDA / OCDSCK
BC66F2342	e-Link	e-Link + BC66V2342	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
BC66F3652	e-Link	e-Link + BC66V3652	Flash Type-31	ICP-2C / PA0 / PA2	PA0/PA2
BC66F3662		e-Link + BC66F3662	Flash Type-31	ICP-2C / PA0 / PA2	PA0/PA2
BC66F5132	e-Link	e-Link + BC66V5132	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
BC66F5652	e-Link	e-Link + BC66V5652	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
BC66F5662		e-Link + BC66F5662	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
BC66F2123	e-Link	e-Link + BC66V2123	Flash Type-9	ICP-2C / PA0 / PA2	PA0/PA2
BC66F2133		e-Link + BC66V2133	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
BC68F2123		e-Link + BC68V2123	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BC68F2130		e-Link + BC68F2130	Flash Type-16	ICP-2C / PA0 / PA2	PA0 / PA2
BC68F2140		e-Link + BC68F2140	Flash Type-16	ICP-2C / PA0 / PA2	PA0 / PA2
BC68F2150		e-Link + BC68F2150	Flash Type-16	ICP-2C / PA0 / PA2	PA0 / PA2
BC68F3132	e-Link	e-Link + BC68V3132	Flash Type-9	ICP-2C / PA0 / PA2	PA0/PA2
BH45F68	e-Link	e-Link + BH45V68	Flash Type-9C	ICP-2C / PA0 / RESB	PA0 / RESB
BH67F2260	e-Link	e-Link + BH67V2260	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2261		e-Link + BH67V2261	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2262		e-Link + BH67V2262	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2265		e-Link + BH67V2265	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2270		e-Link + BH67V2270	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F2470	e-Link	e-Link + BH66V2470	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2470		e-Link + BH67V2470	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2472		e-Link + BH67F2472	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2480		e-Link + BH67V2480	Flash Type-9D	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F2632	e-Link	e-Link + BH66V2632	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F2650		e-Link + BH66V2650	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F2652, BH66F2652-2		e-Link + BH66V2652	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F2662, BH66F2662-2		e-Link + BH66V2662	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F2660		e-Link + BH66V2660	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2662		e-Link + BH67V2662	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F2742	e-Link	e-Link + BH66V2742	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BH66F5232	e-Link	e-Link + BH66V5232-10 + e-FADP10N3	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BH66F5233		e-Link + BH66V5233	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
		e-Link + BH66V5233-10 + e-FADP10N3	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BH66F5242		e-Link + BH66V5242	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F5235		e-Link + BH67V5235	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F5245		e-Link + BH67V5245	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F5250		e-Link + BH66V5250	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F5250		e-Link + BH67V5250	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F5260		e-Link + BH67V5260	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F5270		e-Link + BH67V5270	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F5362	e-Link	e-Link + BH66F5362	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2

8-Bit MCU Tools					
Device Part No.	**ICE Type**	**Tool Part No.**	**Programming Timing**	**ICP Type / ICPDA / ICPCK**	**OCDSDA / OCDSCK**
BH66F71652	e-Link	e-Link + BH66V71652	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F71662		e-Link + BH66V71662	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2132	e-Link	e-Link + BH67V2132	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2485	e-Link	e-Link + BH67V2485	Flash Type-9D	ICP-2C / PA0 / PA2	PA0 / PA2
BH66F2663		e-Link + BH66V2663	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2742	e-Link	e-Link + BH67V2742	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2752		e-Link + BH67V2752	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F2762		e-Link + BH67V2762	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BH67F5362	e-Link	e-Link + BH67F5362	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F0044	e-Link	e-Link + BP45V0044	Flash Type-21	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F1120	e-Link	e-Link + BP45V1120	Flash Type-23	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F1130		e-Link + BP45V1130	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F1132		e-Link + BP45V1132	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F1320		e-Link + BP45V1320	Flash Type-23	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F1322		e-Link + BP45V1322	Flash Type-23	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F1330		e-Link + BP45V1330	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F1332		e-Link + BP45V1332	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F1430		e-Link + BP45V1430	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F1632		e-Link + BP45V1632	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F4MB	e-Link	e-Link + BP45V4MB	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BP45F4NB		e-Link + BP45V4NB	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BP45FH4NB		e-Link + BP45VH4NB	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BP45FH6N	e-Link	e-Link + BP45VH6N	Flash Type-9B	ICP-2C / PA0 / PA7	PA0 / PA7
BP66FW1242	e-Link	e-Link + BP66VW1242	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
BS45F3232	e-Link	e-Link + BS45V3232	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS45F3235		e-Link + BS45V3235	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS45F3332		e-Link + BS45V3332	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS45F3335		e-Link + BS45V3335	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS45F3336		e-Link + BS45V3336	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS45F3337		e-Link + BS45V3337	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS45F3340		e-Link + BS45V3340	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS45F3345		e-Link + BS45V3345	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS45F3346		e-Link + BS45V3346	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS45F3832	e-Link	e-Link + BS45V3832-10 + (e-FADP08N3 or e-FADP10N3)	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS45F3833		e-Link + BS45V3833	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS45F3843		e-Link + BS45V3843	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS45F5830	e-Link	e-Link + BS45V5830	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS45F5831		e-Link + BS45V5831	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS45F5832		e-Link + BS45V5832	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS45F5833		e-Link + BS45V5833	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS66F340	e-Link	e-Link + BS66V340	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS66F350		e-Link + BS66V350	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BS66F360		e-Link + BS66V360	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BS66F370		e-Link + BS66V370	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BS66F340C	e-Link	e-Link + BS66V340C	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS66F350C		e-Link + BS66V350C	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BS66F360C		e-Link + BS66V360C	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BS67F2563	e-Link	e-Link + BS67V2563	Flash Type-10C	ICP-2C / PA0 / PA2	PA0 / PA2
BS67F340	e-Link	e-Link + BS67V340	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS67F350		e-Link + BS67V350	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BS67F360		e-Link + BS67V360	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BS67F370		e-Link + BS67V370	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BS67F350C	e-Link	e-Link + BS67V350C	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BS82B12A-3	e-Link	e-Link + BS82BV12A-3	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS82C16A-3		e-Link + BS82CV16A-3	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS82D20A-3		e-Link + BS82DV20A-3	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2

8-Bit MCU Tools					
Device Part No.	**ICE Type**	**Tool Part No.**	**Programming Timing**	**ICP Type / ICPDA / ICPCK**	**OCDSDA / OCDSCK**
BS83A02A-4	e-Link	e-Link + BS83AV02A + (Optional e-FADP06T)	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS83A04A-3, BS83A04A-4		e-Link + BS83V04A + (Optional e-FADP08N-BS or e-FADP10M-BS)	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS83B04A-4		e-Link + BS83BV04A + (Optional e-FADP08N-BS or e-FADP10M-BS)	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS83B08A-3, BS83B08A-4		e-Link + 83V08AV15	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS83B12A-3, BS83B12A-4		e-Link + BS83V12A	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS83B16A-3, BS83B16A-4		e-Link + BS83V16A	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS83A01C	e-Link	e-Link + BS83AV01C	Flash Type-23	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS83A02C		e-Link + BS83AV02C	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS83A04C		e-Link + BS83AV04C	Flash Type-24	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS83B04C		e-Link + BS83BV04C + (Optional e-FADP08N-BS or e-FADP10M-BS)	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS83B08C		e-Link + BS83BV08C	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS83B12C		e-Link + BS83BV12C	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS83B16C		e-Link + BS83BV16C	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS83B24C		e-Link + BS83BV24C	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS83C40C		e-Link + BS83CV40C	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS83A02L	e-Link	e-Link + BS83AV02L	Flash Type-23	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS83B04L		e-Link + BS83BV04L + (Optional e-FADP08N-BS or e-FADP10M-BS)	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
BS84B06A-3	e-Link	e-Link + BS84BV06A-3	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS84B08A-3		e-Link + BS84V08A	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS84C12A-3		e-Link + BS84V12A	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS84B08C	e-Link	e-Link + BS84BV08C	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS84C12C		e-Link + BS84CV12C	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS86C16A-3	e-Link	e-Link + BS86CV16A-3	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS86D20A-3		e-Link + BS86DV20A-3	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BS86C08C	e-Link	e-Link + BS86CV08C	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS86D12C		e-Link + BS86DV12C	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BS86D20C		e-Link + BS86DV20C	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
BS86D20CA		e-Link + BS86DV20CA	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
BS86E16C		e-Link + BS86EV16C	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
BS87B12A-3	e-Link	e-Link + BS87BV12A	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS87C16A-3		e-Link + BS87CV16A	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
BS87D20A-3		e-Link + BS87DV20A	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F0004	e-Link	e-Link + HT45V0004	Flash Type-9B	ICP-2C / PB0 / PB3	PB0 / PB3
HT45F0058		e-Link + HT45V0058	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F0059		e-Link + HT45V0059	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F0060	e-Link	e-Link + HT45V0060 + (optional e-FADP08N3 or e-FADP10N3)	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F0062		e-Link + HT45V0062	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F0063		e-Link + HT45V0063	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F0074	e-Link	e-Link + HT45V0074	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F3230	e-Link	e-Link + HT45V3230	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F3630	e-Link	e-Link + HT45V3630	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F4630	e-Link	e-Link + HT45V4630	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F4830	e-Link	e-Link + HT45V4830	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
HT45F4840		e-Link + HT45V4840	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F4842		e-Link + HT45V4842	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F4MA	e-Link	e-Link + HT45V4MA	Flash Type-9	ICP-2C / PA6 / PA7	PA6 / PA7
HT45FH4MA		e-Link + HT45VH4MA	Flash Type-9	ICP-2C / PA6 / PA7	PA6 / PA7
HT45FH4MA-1		e-Link + HT45VH4MA-1	Flash Type-9	ICP-2C / PA6 / PA7	PA6 / PA7
HT45F4N		e-Link + HT45V4N	Flash Type-9	ICP-2C / PA6 / PA7	PA6 / PA7
HT45FH4N		e-Link + HT45VH4N	Flash Type-9	ICP-2C / PA6 / PA7	PA6 / PA7
HT45F5N		e-Link + HT45V5N	Flash Type-9	ICP-2C / PA6 / PA7	PA6 / PA7
HT45FH5N		e-Link + HT45VH5N	Flash Type-9	ICP-2C / PA6 / PA7	PA6 / PA7
HT45F56	e-Link	e-Link+HT45V56 + (Optional FPCB)	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2

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Device Part No.	**ICE Type**	**Tool Part No.**	**Programming Timing**	**ICP Type / ICPDA / ICPCK**	**OCDSDA / OCDSCK**
HT45F5Q-1	e-Link	e-Link + HT45V5Q-1	Flash Type-23	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F5Q-2		e-Link + HT45V5Q-2	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F5Q-2A		e-Link + HT45F5Q-2A	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F5Q-3		e-Link + HT45V5Q-3	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F5V	e-Link	e-Link + HT45V5V	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F67	e-Link	e-Link + HT45V67	Flash Type-9C	ICP-2C / PA0 / RES	PA0 / RES
HT45F8550	e-Link	e-Link + HT45V8550	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT45F8560		e-Link + HT45F8560	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F002	e-Link	e-Link + HT66V002 + (Optional e-FADP08N or e-FADP10M2)	Flash Type-9	ICP-2C / PA0 / PA7	OCDSDA / OCDSCK
HT66F0021		e-Link + HT66V0021 + e-FADP08N	Flash Type-23	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
HT66F0025		e-Link + HT66V0025 + (Optional e-FADP08N or e-FADP10N2)	Flash Type-9	ICP-2C / PA0 / PA7	OCDSDA / OCDSCK
HT66F007		e-Link + HT66V007 + (Optional e-FADP08D or e-FADP08N or e-FADP10M)	Flash Type-9	ICP-2C / PA0 / PA1	OCDSDA / OCDSCK
HT66F008		e-Link + HT66V008 + (Optional e-FADP08D or e-FADP08N or e-FADP10M)	Flash Type-9	ICP-2C / PA0 / PA1	OCDSDA / OCDSCK
HT66F003	e-Link	e-Link + HT66V003	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F0031		e-Link + HT66V0031	Flash Type-23	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F004		e-Link + HT66V004	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F0041		e-Link + HT66V0041	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2030		e-Link + HT66V2030, e-Link + HT66V2030-10	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2040		e-Link + HT66V2040, e-Link + HT66V2040-10	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2050		e-Link + HT66V2050, e-Link + HT66V2050-10	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F0042	e-Link	e-Link + HT66V0042	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F0082		e-Link + HT66V0082		ICP-2C / PA0 / PA2	PA0 / PA2
HT66F017	e-ICE	M1001D + D1070A	Flash Type-6A	ICP-2B	
HT66F0172, HT66F0174	e-Link	e-Link + HT66V0174	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F0175		e-Link + HT66V0175	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F0176		e-Link + HT66V0176	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F0181		e-Link + HT66V0181	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F0186		e-Link + HT66V0186	Flash Type-14	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F019		e-Link + HT66V019	Flash Type-9B	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
HT66F3185		e-Link + HT66V3185	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F3195		e-Link + HT66V3195	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2350	e-Link	e-Link + HT66V2350	Flash Type-10B	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2360		e-Link + HT66V2360	Flash Type-10C	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2362		e-Link + HT66F2362	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2370		e-Link + HT66V2370	Flash Type-10C	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2372		e-Link + HT66F2372	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2390		e-Link + HT66V2390	Flash Type-10D	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2630	e-Link	e-Link + HT66V2630	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2730	e-Link	e-Link + HT66V2730	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2740		e-Link + HT66V2740	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F302	e-Link	e-Link + HT66V302 + (Optional e-FADP08N or e-FADP10N2)	Flash Type-9	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
HT66F303		e-Link + HT66V303	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F317	e-Link	e-Link + HT66V317	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F318		e-Link + HT66V318	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F319		e-Link + HT66V319	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F31A5	e-Link	e-Link + HT66V31A5	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F3370H	e-Link	e-Link + HT66V3370H	Flash Type-10C	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F4360	e-Link	e-Link + HT66V4360	Flash Type-7C	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F4370		e-Link + HT66V4370	Flash Type-7C	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F4390		e-Link + HT66V4390	Flash Type-15J	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F4530	e-Link	e-Link + HT66V4530	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F4540		e-Link + HT66V4540	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F4550		e-Link + HT66V4550	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F4560		e-Link + HT66V4560	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2

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Device Part No.	**ICE Type**	**Tool Part No.**	**Programming Timing**	**ICP Type / ICPDA / ICPCK**	**OCDSDA / OCDSCK**
HT66FB540	e-Link	e-Link + HT66VB540	Flash Type-7A	ICP-2C / UDN / $\overline{\text{RES}}$	PA0 / $\overline{\text{RES}}$
HT66FB542		e-Link + HT66VB542	Flash Type-7A	ICP-2C / UDN / $\overline{\text{RES}}$	PA0 / $\overline{\text{RES}}$
HT66FB550		e-Link + HT66VB550	Flash Type-7A	ICP-2C / UDN / $\overline{\text{RES}}$	PA0 / $\overline{\text{RES}}$
HT66FB560		e-Link + HT66VB560	Flash Type-7B	ICP-2C / UDN / $\overline{\text{RES}}$	PA0 / $\overline{\text{RES}}$
HT66FB570		e-Link + HT66VB570	Flash Type-7E	ICP-2C / UDN / $\overline{\text{RES}}$	PA0 / $\overline{\text{RES}}$
HT66FB582		e-Link + HT66VB582	Flash Type-15N	ICP-2C / UDN / $\overline{\text{RES}}$	PA0 / $\overline{\text{RES}}$
HT66FB572	e-Link	e-Link + HT66VB572	Flash Type-15A	ICP-2C / UDN / $\overline{\text{RES}}$	PA0 / $\overline{\text{RES}}$
HT68FB541		e-Link + HT68VB541	Flash Type-22A	ICP-2C / PA0 / PA2	PA0 / PA2
HT68FB571		e-Link + HT68VB571	Flash Type-22A	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FM5230	e-Link	e-Link + HT66VM5230	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FM5240		e-Link + HT66VM5240	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FM5440		e-Link + HT66VM5440	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FM5340	e-Link	e-Link + HT66VM5340	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FV130	e-Link	e-Link + HT66VV130	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FV140		e-Link + HT66VV140	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FV150		e-Link + HT66VV150	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FV160		e-Link + HT66VV160	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FV240	e-Link	e-Link + HT66VV240	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FW2230	e-Link	e-Link + HT66VW2230	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT66FW2350		e-Link + HT66VW2350	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F2350	e-Link	e-Link + HT67V2350	Flash Type-10B	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F2360		e-Link + HT67V2360	Flash Type-10C	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F2362		e-Link + HT67F2362	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F2370		e-Link + HT67V2370	Flash Type-10C	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F2390		e-Link + HT67V2390	Flash Type-10D	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F2355	e-Link	e-Link + HT67V2355	Flash Type-31	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F2432	e-Link	e-Link + HT67V2432	Flash Type-24	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F2567	e-Link	e-Link + HT67V2567	Flash Type-10C	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F40	e-ICE	M1001D + D2004C	Flash Type-6	ICP-2B	
HT67F50		M1001D + D2004D	Flash Type-6	ICP-2B	
HT67F60A	e-Link	e-Link + HT67V60A	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F489	e-Link	e-Link + HT67V489	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
HT67F4892		e-Link + HT67V4892	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
HT68F0017	e-Link	e-Link + HT68V0017 (Optional e-FADP08N3 or e-FADP10N3)	Flash Type-20	ICP-2C / PA0 / PA2	OCDSDA / OCDSCK
HT68F002		e-Link + HT68V002 + (Optional e-FADP08N or e-FADP10M2)	Flash Type-9	ICP-2C / PA0 / PA7	OCDSDA / OCDSCK
HT68F003		e-Link + HT68V003	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT68F0036		e-Link + HT68V0036	Flash Type-23	ICP-2C / PA0 / PA2	PA0 / PA2
HT68F2420	e-Link	e-Link + HT68V2420	Flash Type-21	ICP-2C / PA0 / PA2	PA0 / PA2
HT68FB550	e-Link	e-Link + HT68VB550	Flash Type-7A	ICP-2C / UDN / $\overline{\text{RES}}$	PA0 / $\overline{\text{RES}}$
HT68FB560		e-Link + HT68VB560	Flash Type-7B	ICP-2C / UDN / $\overline{\text{RES}}$	PA0 / $\overline{\text{RES}}$
HT67F370	e-Link	e-Link + HT67V370	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
HT69F340		e-Link + HT69V340	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT69F350		e-Link + HT69V350	Flash Type-9B	ICP-2C / PA0 / PA2	PA0 / PA2
HT69F360		e-Link + HT69V360	Flash Type-9C	ICP-2C / PA0 / PA2	PA0 / PA2
HT66F2560	e-Link	e-Link + HT66V2560	Flash Type-10C	ICP-2C / PA0 / PA2	PA0 / PA2
HT69F2562		e-Link + HT69V2562	Flash Type-10C	ICP-2C / PA0 / PA2	PA0 / PA2
HT69F3742	e-Link	e-Link + HT69V3742	Flash Type-9	ICP-2C / PA0 / PA2	PA0 / PA2
HT69F3742L					

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