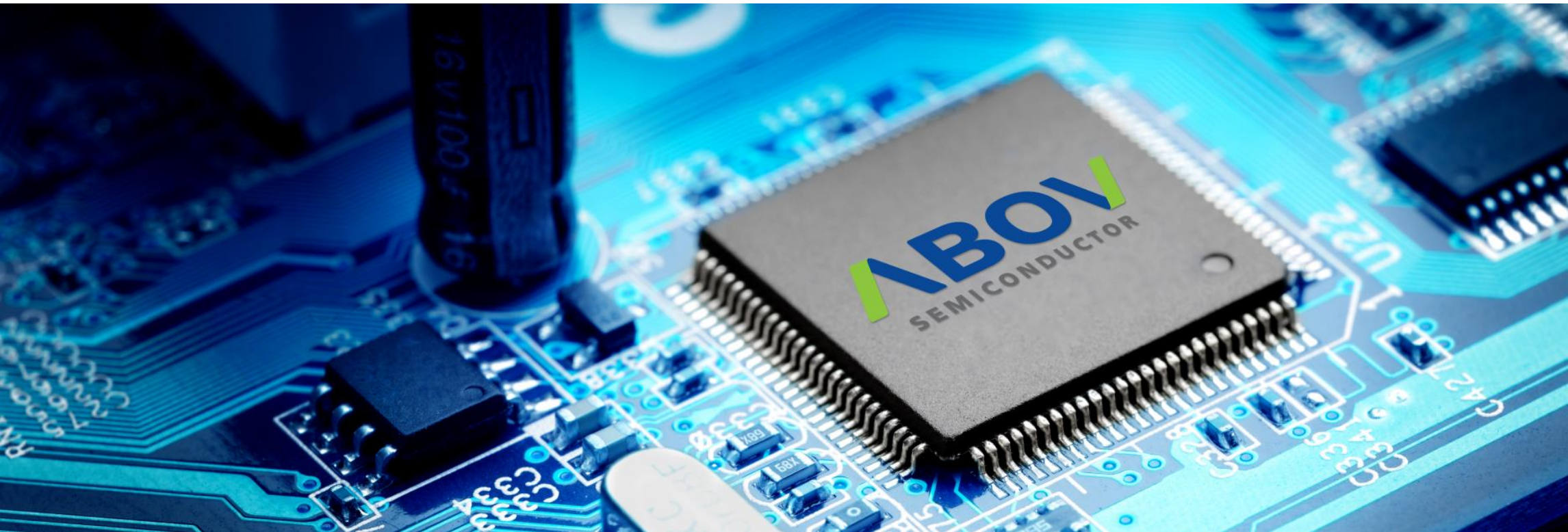


Microcontrollers

Global Top Smart MCU Innovator



March 2018



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ABOV Introduction

ABOV（现代单片机）公司是集设计和生产于一体的半导体行业领导者，其产品主要是微控制器、先进的非易失性存储器和各种半导体解决方案。凭其独特的 IP（知识产权）组合，能够为客户提供完整的解决方案,我们专注于工业和消费类电子产品市场。ABOV（现代单片机）的各种技术已经在数千种主流产品上得到成功应用。

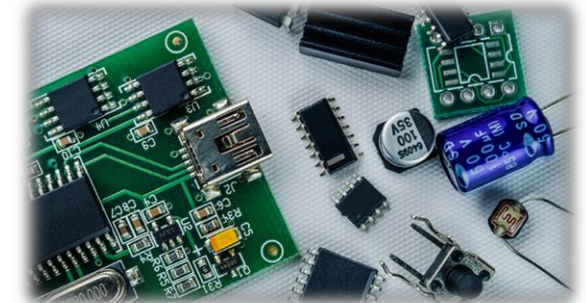
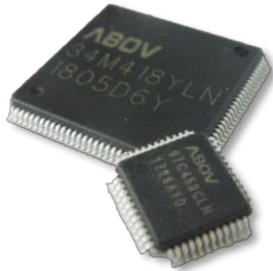
ABOV（现代单片机）解决方案能够为客户提供无限的可能性，引导客户创造更强大、更智能、更节能、更灵活、更低成本、更容易应用的产品。



CORE
Competency

- 1 In-house design capability for high performance analog IPs
- 2 Outstanding immunity to noise sources, such as ESD, EFT, etc.
- 3 Over 30 years of experience in the MCU industry, having shipped more than 5 billion units to date
- 4 Dedicated FAE support for every supported applications

ABOV Product Tree



General Purpose MCU

8-bit (M8051) GP MCU

32-bit GP MCU

Cortex®-M0/M0+

Cortex®-M3

Cortex®-M4F

Application Specific Standard Products (ASSP)

Remote Control MCU

Capacitive Touch Solution

Multimedia MCU

Customized MCU

Bluetooth Low Energy

Audio Solution

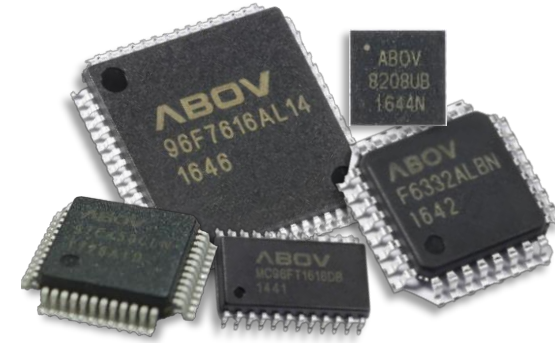
Optic Sensor

Peripherals

General Purpose MCU

8-bit (M8051) GP MCU

此产品是在M8051指令集的基础上开发具有丰富功能的8位单片机系列产品，该系列产品十分方便客户的设计和开发。尽管其他供应商已经退出了这个市场，但是我们一定会不断拓展我们的设计，为客户提供有竞争力的解决方案，不断的扩大我们的产品阵容。



32-bit MCU – Cortex-M0/M0+/M3/M4F

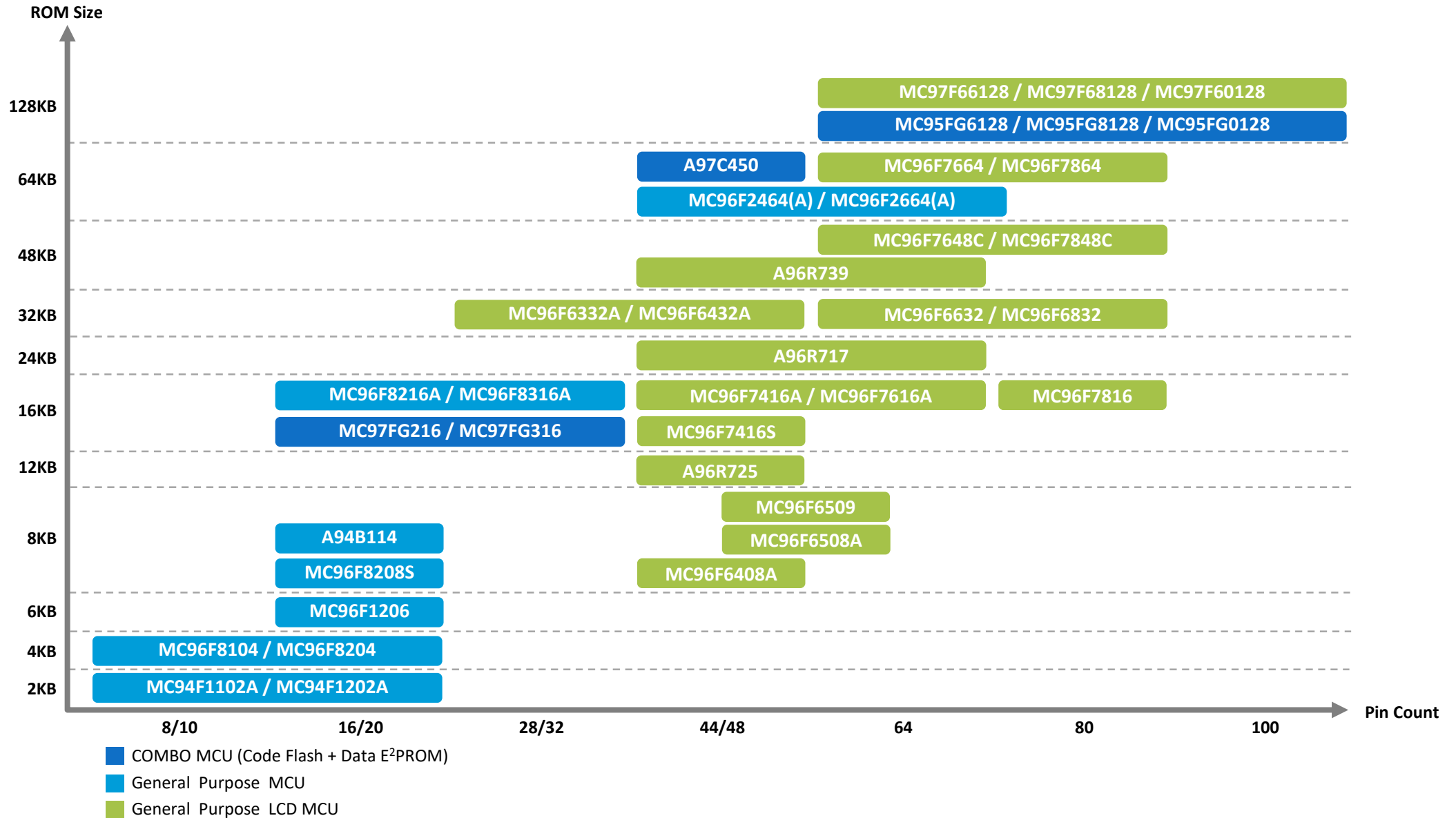
ABOV（现代单片机）的32位 MCU 是基于Cortex-M 内核的产品。

Cortex-M系列产品包括2个产品阵容。一是高性能产品阵容：主要是应用于变频电机控制和物联网（IOT）设备，另一个产品阵容：主要应用通用（GP）小封装尺寸市场、低功耗市场和具有价格竞争力的市场。ABOV的Cortex-M 系列产品采用Cortex-M0、Cortex-M0+和Cortex-M3内核，并会扩展到新的高性能cortex-M4F 系列。它们都支持 CMSIS 标准库、驱动程序和示例应用程序的开发。



8-bit (M8051) GP MCU

Product Line-up



8-bit (M8051) GP MCU

Selection Guide

General Purpose 8-bit Flash MCU

Product	Core	ROM	E2P	RAM		I/O		Package	Timer / Counter	PWM	ADC		LCD	USI* [ch]	UART [ch]	SIO [ch]	SPI [ch]	I2C [ch]	Internal OSC		Sub. X-tal [MHz]	Ext. X-tal [MHz]	Op. Volt. [V]	Op. Temp. [°C]	Remarks	Avail.
											Bit	ch							Freq. [MHz]	Err. [%]						
MC94F1102A MC94F1202A	cm8051	2KB	-	256B	iRAM	6 8 14	8 10 16	SOP SSOP SOPN	8-bit x 1 16-bit x 2	16-bit x 2	12	6 8 14	-	-	-	-	-	-	32	±3.0	-	-	2.2 to 5.5	-40 to 85	POR, BOD, LVR	Now
MC96F8104 MC96F8204	M8051	4KB	-	256B	iRAM	6 8 14 18	8 10 16 20	SOP SSOP SOPN SOP/TSSOP	8-bit x 1 16-bit x 2	16-bit x 2	12	6 8 8 8	-	-	1	-	1	1	8	±4.0	-	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, WT 200kHz IRC (±3% at -20~85°C)	Now
MC96F1206	M8051	6KB	-	256B	iRAM	14 18	16 20	SOPN TSSOP/QFN	16-bit x 2	16-bit x 2	12	13 15	-	-	-	-	-	-	32	±5.0	-	-	2.2 to 5.5	-40 to 85	POR, BOD, LVR Internal 2.5V(2%) LDO	Now
MC95FG208 MC95FG308	M8051	8KB	512B	256B 256B	iRAM xRAM	14 18 26 30	16 20 28 32	SOP/TSSOP SOP/TSSOP/PDIP SOP/TSSOP SOP/LQFP/QFN	8-bit x 4 (16-bit x 2) 16-bit x 1	HS PWM 6 10-bit x 1	12	8 10 12 15	-	-	1 2	-	1	1	8	±3.0	Y	1.0 to 12.0	1.8 to 5.5	-40 to 85	POR, BOD, Buzzer, 1 Comparator, 128MHz PLL for PWM	Now
MC97FG216 MC97FG316	M8051	16KB	512B	256B 768B	iRAM xRAM	14 18 26 30	16 20 28 32	TSSOP TSSOP TSSOP LQFP/QFN	8-bit x 4 (16-bit x 2) 16-bit x 1	HS PWM 6 10-bit x 1	12	8 10 12 15	-	-	1 2	-	1	1	16	±3.0	Y	1.0 to 16.0	1.8 to 5.5	-40 to 105	POR, BOD, Buzzer, 1 Comparator, 128MHz PLL for PWM, OCD2 Debugger	Now
MC96F8208S	M8051	8KB	-	256B 256B	iRAM xRAM	14 18	16 20	SOP SOP/PDIP/QFN/TSSOP	8-bit x 1 16-bit x 2	8-bit x 1 16-bit x 2	12	8 9	-	-	1	-	1	1	16	±3.5	-	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer	Now
A94B114	cm8051	8KB	-	256B 256B	iRAM xRAM	14 18	16 20	SOP TSSOP/SOP	8-bit x 1 16-bit x 2	16-bit x 2 dead zone	12	8 10	-	-	1	-	1	1	32	±3.0	Y	1.0 to 16.0	2.0 to 5.5	-40 to 85	Analog Comparator 256kHz internal LFO POR, LVR, CRC, 2.5V LDO	Now
MC96F8216(S) MC96F8316(S)	M8051	16KB	-	256B 512B	iRAM xRAM	18 22 26 30	20 24 28 32	SOP/PDIP QFN SOP/TSSOP/SDKIP SOP/QFN	8-bit x 1 16-bit x 2	8-bit x 1 16-bit x 2	12	8 11 12 15	-	-	1	-	-	1	16	±3.5	-	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, I _{OL} 160mA Port 6ea "S" Version Available	Now
MC96F8216A MC96F8316A	M8051	16KB	-	256B 512B	iRAM xRAM	18 26 30	20 28 32	SOP SOP SOP/LQFP	8-bit x 1 16-bit x 2	8-bit x 1 16-bit x 2	12	8 12 15	-	-	1	-	1	1	16	±3.5	-	0.4 to 12.0	2.2 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, I _{OL} 160mA Port 6ea	Now
MC96F6332(S) MC96F6432(S)	M8051	32KB	-	256B 768B	iRAM xRAM	26 30 42 46	28 32 44 48	SOP SOP MQFP LQFP	8-bit x 1 16-bit x 1 (8-bit x 2) 16-bit x 2	8-bit x 1 16-bit x 2 10-bit Motor PWM	12	11 12 16	10 x 4 14 x 4 21 x 8	2	-	-	0 1	-	16	±3.0	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, HS 8-bit PWM 6, "S" Version Available	Now
MC96F6332A MC96F6432A	M8051	32KB	-	256B 768B	iRAM xRAM	26 30 42 46	28 32 44 48	SOP SOP/LQFP MQFP QFP	8-bit x 1 16-bit x 1 (8-bit x 2) 16-bit x 2	8-bit x 1 16-bit x 2 10-bit Motor PWM	12	11 12 16	10 x 4 14 x 4 21 x 8	2	-	-	0 1	-	16	±3.5	Y	0.4 to 8.0	2.2 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, HS 8-bit PWM 6	Now

* USI : Universal Serial Interface (UART + SPI + I2C)

8-bit (M8051) GP MCU

Selection Guide

General Purpose 8-bit Flash MCU

Product	Core	ROM	E2P	RAM		I/O	Package	Timer / Counter	PWM	ADC		LCD	USI* [ch]	UART [ch]	SIO [ch]	SPI [ch]	I2C [ch]	Internal OSC		Sub. X-tal	Ext. X-tal [MHz]	Op. Volt. [V]	Op. Temp. [°C]	Remarks	Avail.	
				Bit	ch					Freq. [MHz]	Err. [%]															
MC96F6408A MC96F6508A	M8051	8KB	-	256B	iRAM	45 49	48 52	LQFP Pellet	8-bit x 4 (16-bit x 2)	-	-	20 x 8 24 x 8	-	1	1	-	-	16	±3.5	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, LCD Contrast, 16MHz PLL, REMout	Now	
MC96F6509	M8051	9KB	-	256B	iRAM	45 49	48 52	LQFP Pellet	8-bit x 4 (16-bit x 2) 16-bit x 1	8-bit x 1	10	8	24 x 8 28 x 8	-	1	1	-	-	16	±3.5	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, LCD Contrast, 16MHz PLL, REMout	Now
A97C450	M8051	64KB	2KB	256B 4KB	iRAM xRAM	45	48	LQFP	8-bit x 2 16-bit x 5	10-bit x 2 16-bit x 3	12	10	-	-	2	-	2	2	16	±3.5	Y	0.4 to 16.0	2.7 to 5.5	-40 to 85	POR, BOD, H/W CEC, IR Filter, RTC, Comparator 2-ch	Now
MC96F6632(S) MC96F6832	M8051	32KB	-	256B 1KB	iRAM xRAM	54 70	64 80	LQFP LQFP/MQFP	8-bit x 2 16-bit x 2	8-bit x 1 16-bit x 1	12	5 8	24 x 8 34 x 8	-	1	1	-	-	8	±3.5 (S) ±10.0	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer	Now
MC97F2464 MC97F2664	M8051	64KB	-	256B 4KB	iRAM xRAM	41 61	44 64	MQFP LQFP14, QFN	8-bit x 4 16-bit x 6	8-bit x 4 16-bit x 1	12	10 15	-	2	2 3	-	1 2	-	16	±3.5	Y	0.4 To 16.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, OCD2 Debugger	Now
MC97F2464A MC97F2664A	M8051	64KB	-	256B 4KB	iRAM xRAM	41 61	44 64	MQFP LQFP14, QFN	8-bit x 4 16-bit x 6	8-bit x 4 16-bit x 1	12	10 15	-	2	2 3	-	1 2	-	16	±3.5	Y	0.4 To 16.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, OCD2 Debugger	Now
MC96FC664A MC96FC864A	M8051	64KB	-	256B 3KB	iRAM xRAM	52 66	64 80	LQFP/LQFP14 LQFP	8-bit x 2 (16-bit x 1) 16-bit x 4	10-bit x 1 16-bit x 4	12	15	-	-	4	-	2	1	16	±3.0	Y	1.0 to 16.0	2.0 to 5.5	-40 to 85	POR, BOD, Buzzer, 16x16 Multiplier, 32/16 Divider, 14.75MHz PLL	Now
MC96F7416A(S) MC96F7616A	M8051	16KB	-	256B 256B	iRAM xRAM	41 57	48 64	LQFP 0707 LQFP 1010	8-bit x 2 16-bit x 2	- 8-bit x 1	12	4 8	18 x 6 22 x 8	-	1	-	-	-	4	±3.5	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer (64-pin), LCD Booster, REMout, 8MHz FLL (MC96F7416S)	Now
MC96F7616 MC96F7816	M8051	16KB	-	256B 256B	iRAM xRAM	57 71	64 80	TQFP LQFP	8-bit x 2 16-bit x 2	8-bit x 1	12	8	22 x 8 30 x 8	-	- 1	1	-	-	4	±3.5	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, LCD Booster, REMout	Now

8-bit (M8051) GP MCU

Selection Guide

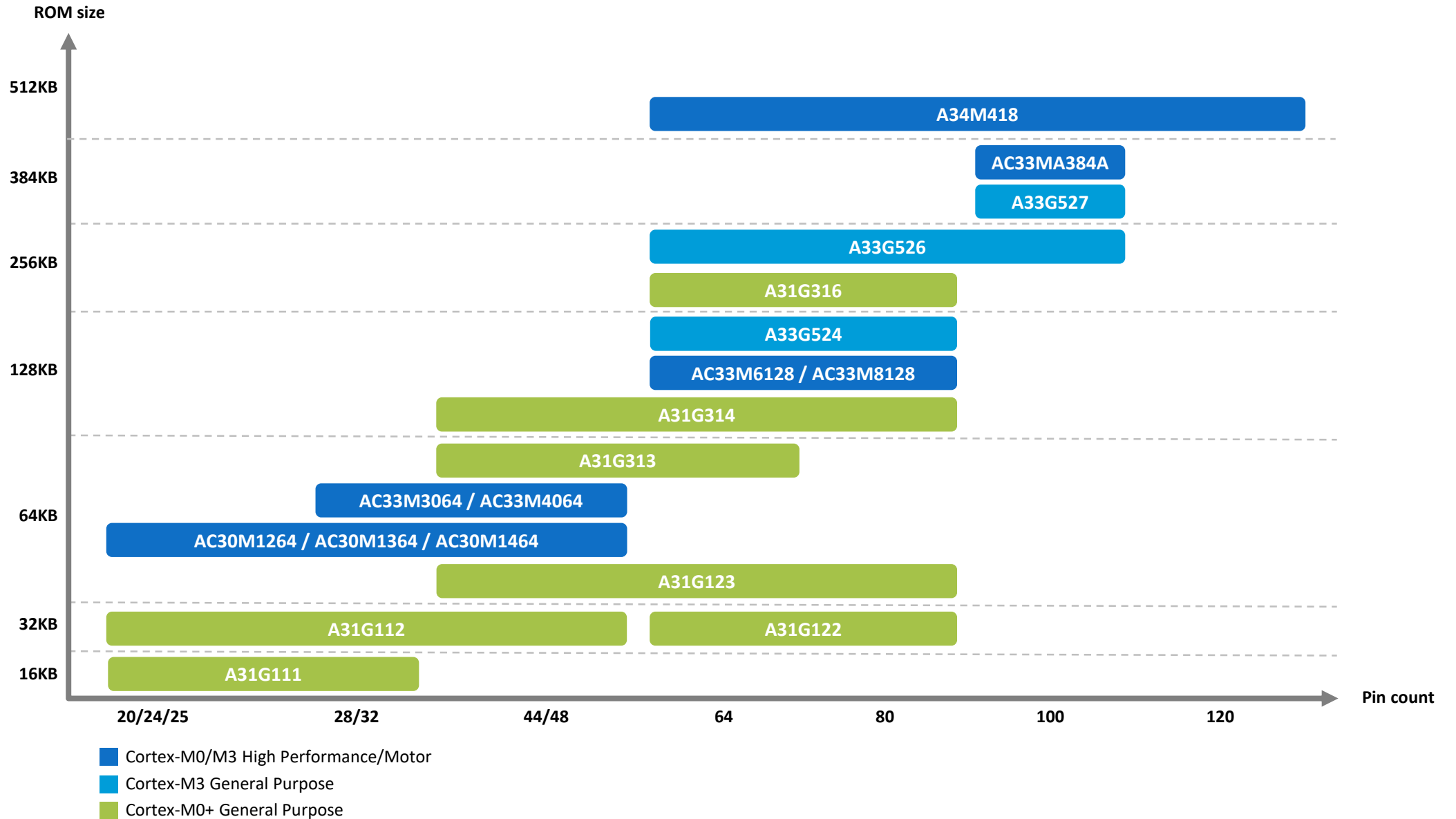
General Purpose 8-bit Flash MCU

Product	Core	ROM	E2P	RAM		I/O		Package	Timer / Counter	PWM	ADC		LCD	USI* [ch]	UART [ch]	SIO [ch]	SPI [ch]	I2C [ch]	Internal OSC		Sub. X-tal	Ext. X-tal [MHz]	Op. Volt. [V]	Op. Temp. [°C]	Remarks	Avail.
											Bit	ch							Freq. [MHz]	Err. [%]						
MC96F7848C	M8051	48KB	-	256B 1KB	iRAM xRAM	74	80	LQFP	8-bit x 2 16-bit x 4	8-bit x 1 16-bit x 4	12	8	36 x 8	2	1	1	-	-	8	±3.5	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, LCD Booster, REMDRV, 8MHz FLL	Now
MC96F7664 MC96F7864	M8051	64KB	-	256B 3KB	iRAM xRAM	55 71	64 80	LQFP MQFP	8-bit x 5 16-bit x 4	8-bit x 3 16-bit x 4 10-bit Motor PWM	12	10 12	22 x 8 36 x 8	2	3	-	2	-	16	±3.5	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, LCD Booster, 16MHz PLL, Flash Parity Bit	Now
MC97F66128 MC97F68128 MC97F60128	M8051	128KB	-	256B 8KB	iRAM xRAM	54 70 88	64 80 100	LQFP/LQFP14 LQFP/LQFP14 LQFP	8-bit x 3 16-bit x 5	8-bit x 3 16-bit x 4 10-bit Motor PWM	12	12	33 x 8 47 x 8 60 x 8	2 2 3	3 3 3	-	1 2 2	-	16	±4.0	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, OCD2 Debugger, 16MHz PLL, LCD Contrast, Flash Parity Bit, ADPCM, 12-bit DAC	Now
A96R725	M8051	12KB	-	256B	iRAM	43	48 50	TQFP Pellet	8-bit x 2 16-bit x 2	16-bit x 2	10	8	26 x 8	-	-	-	-	-	8 32kHz	±1 ±5	Y	0.4 To 12.0	1.8 to 5.5	-40 To 85	POR, LVR/LVI, Buzzer, LCD Booster, REMDRV CRC/Checksum 3-ch Inverter Amplifier	Q2 '18
A96R717	M8051	24KB	-	256B 512B	iRAM xRAM	43 59	48 64	LQFP LQFP/TQFP	8-bit x 2 16-bit x 2	8-bit x 1 16-bit x 2	12	2 5	22 x 6 32 x 8	-	1	-	-	-	8 32kHz	±1 ±5	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, LCD Booster, REMDRV CRC/Checksum	Now
A96R739	M8051	48KB	-	256B 1KB	iRAM xRAM	43 59	48 64	LQFP/QFN LQFP/QFN	8-bit x 2 16-bit x 2	8-bit x 1 16-bit x 2	12	5	22 x 6 32 x 8	-	1	-	-	-	8 32kHz	±1 ±5	Y	0.4 to 12.0	1.8 to 5.5	-40 to 85	POR, LVR/LVI, Buzzer, LCD Booster, REMDRV CRC/Checksum	Now

* USI : Universal Serial Interface (UART + SPI + I2C)

32-bit GP MCU

Product Line-up



32-bit GP MCU

Selection Guide

■ Cortex-M3 General Purpose MCU

Product	Core	Op. Freq. [MHz]	Code Flash	Data Flash	RAM	I/O	Package	Timer /Counter	FRT	PWM	ADC		ADC Speed	UART [ch]	SPI [ch]	I2C [ch]	Internal OSC		Sub. X-tal	Ext. X-tal [MHz]	Op. Volt. [V]	Op. Temp. [°C]	Remarks	Avail.	
											Bit	ch					Freq. [MHz]	Err. [%]							
A33G524	Cortex-M3	75	128KB	32KB	24KB	60 71	64 80	LQFP LQFP	16-bit x 10	Y	8	12	10	70ksps	4	2	2	16	±3	Y	1.0 to 10.0	3.0 to 5.5	-40 to 85	POR, BOD, PLL, 1MHz Ring-OSC	Now
A33G526	Cortex-M3	75	256KB	32KB	24KB	60 71 90	64 80 100	LQFP LQFP LQFP/MQFP	16-bit x 10	Y	8	12	10 10 16	70ksps	4	2	2	16	±3	Y	1.0 to 10.0	3.0 to 5.5	-40 to 85	POR, BOD, PLL, 1MHz Ring-OSC	Now
A33G527	Cortex-M3	75	384KB	32KB	24KB	90	100	LQFP/MQFP	16-bit x 10	Y	8	12	16	70ksps	4	2	2	16	±3	Y	1.0 to 10.0	3.0 to 5.5	-40 to 85	POR, BOD, PLL, 1MHz Ring-OSC	Now

32-bit GP MCU

Selection Guide

■ Cortex-M0+ General Purpose MCU

Product	Core	Op. Freq. [MHz]	ROM	RAM	I/O	Package	Timer /Counter	3-phase PWM	ADC		ADC Speed	LCD	*USART (SPI) [ch]	UART [ch]	I2C [ch]	Internal OSC		Sub. X-tal	Ext. X-tal [MHz]	Op. Volt. [V]	Op. Temp. [°C]	Remarks	Avail.	
									Bit	ch						Freq. [MHz]	Err. [%]							
A31G111	Cortex-M0+	40	16KB	4KB	21 25 29	24 28 32	QFN TSSOP LQFP/QFN	16-bit x 4 32-bit x 2	1ea	12	5	60ksps	20x4 16x8	2 (2)	2	2	40	±3.5	Y	2.0 to 16.0	2.0 to 5.5	-40 to 105	6 FND Driver, 32x32 Multiplier, 96-bit Unique ID, CRC16	Now
A31G112	Cortex-M0+	40	32KB	4KB	21 25 29 41 45	24 28 32 44 48	QFN TSSOP LQFP/QFN MQFP LQFP	16-bit x 4 32-bit x 2	1ea	12	11	60ksps	27x4 23x8	2 (2)	2	2	40	±3.5	Y	2.0 to 16.0	2.0 to 5.5	-40 to 105	6 FND Driver, 32x32 Multiplier, 96-bit Unique ID, CRC16	Now
A31G122	Cortex-M0+	40	32KB	6KB	61 77	64 80	LQFP10/12 LQFP12/14	16-bit x 8 32-bit x 2	1ea	12	14	60ksps	43x4 39x8	4 (4)	2	3	40	±3.5	Y	2.0 to 16.0	2.0 to 5.5	-40 to 85	8 FND Driver, 32x32 Multiplier, 96-bit Unique ID, CRC16	Now
A31G123	Cortex-M0+	40	64KB	6KB	41 45 61 77	44 48 64 80	MQFP LQFP LQFP10/12 LQFP12/14	16-bit x 8 32-bit x 2	1ea	12	14	60ksps	43x4 39x8	4 (4)	2	3	40	±3.5	Y	2.0 to 16.0	2.0 to 5.5	-40 to 85	8 FND Driver, 32x32 Multiplier, 96-bit Unique ID, CRC16	Now
A31G313	Cortex-M0+	48	64KB	16KB	39 43 58	44 48 64	LQFP10 LQFP/QFN LQFP12	16-bit x 7 32-bit x 2	1ea	12	9 11 14	150ksps	46x4 42x8	2 2 3	2 2 3	2 2 3	48	±3	Y	2.0 to 16.0	1.8 to 5.5	-40 to 85	USB2.0 FS Device, 11x27 LED Driver, 11~20-ch Cap. Touch, 12-bit DAC, 48MHz PLL	Q2 '18
A31G314	Cortex-M0+	48	128KB	16KB	39 43 58 74	44 48 64 80	LQFP10 LQFP/QFN LQFP12 LQFP14	16-bit x 7 32-bit x 2	1ea	12	9 11 14 14	150ksps	46x4 42x8	2 2 3 4	2 2 3 3	2 2 3 3	48	±3	Y	2.0 to 16.0	1.8 to 5.5	-40 to 85	USB2.0 FS Device, 11x27 LED Driver, 11~24-ch Cap. Touch, 12-bit DAC, 48MHz PLL	Q2 '18
A31G316	Cortex-M0+	48	256KB	16KB	58 74	64 80	LQFP12 LQFP14	16-bit x 7 32-bit x 2	1ea	12	14 14	150ksps	46x4 42x8	3 4	2	3 3	48	±3	Y	2.0 to 16.0	1.8 to 5.5	-40 to 85	USB2.0 FS Device, 11x27 LED Driver, 20~24-ch Cap. Touch, 12-bit DAC, 48MHz PLL	Q2 '18

* USART : (UART or SPI)

32-bit Motor MCU

Selection Guide

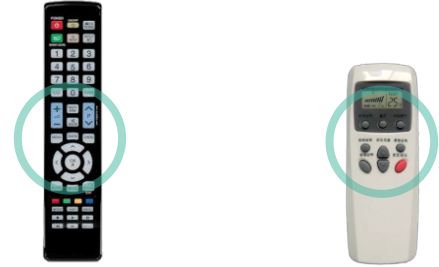
■ Cortex-M0/M3/M4F High Performance/Motor MCU

Product	Core	Op. Freq. [MHz]	ROM	RAM	I/O	Package		Timer /Counter	FRT	3-phase PWM	ADC		ADC Speed	UART [ch]	SPI [ch]	I2C [ch]	Internal OSC		Sub. X-tal	Ext. X-tal [MHz]	Op. Volt. [V]	Op. Temp. [°C]	Remarks	Avail.
											Bit	ch					Freq. [MHz]	Err. [%]						
AC30M1332	Cortex-M0	40	32KB	4KB	30 30	32 32	QFN LQFP	16-bit x 4	Y	1	12	10	1.0MSPS	2	1	1	40	±3	Y	4.0 to 16.0	2.2 to 5.5	-40 to 105	POR, BOD, Adaptive IRC, CRC16, LSI 40kHz	Now
AC30M1364 AC30M1464	Cortex-M0	40	64KB	4KB	30 30 44	32 32 48	QFN LQFP LQFP	16-bit x 4	Y	1	12	10 10 12	1.0MSPS	2	1	1	40	±3	Y	4.0 to 16.0	2.2 to 5.5	-40 to 105	POR, BOD, Adaptive IRC, CRC16, LSI 40kHz	Now
AC33M3064 AC33M4064	Cortex-M3	48	64KB	8KB	28 44	32 48	LQFP LQFP	16-bit x 6	-	1	12	7 11	1.5MSPS	2	1	1	-	-	-	4.0 to 8.0	3.0 to 5.5	-40 to 85	POR, BOD, PLL, CRC16, 1MHz Ring-OSC	Now
AC33M6128 AC33M8128	Cortex-M3	72	128KB	12KB	48 64	64 80	LQFP LQFP	16-bit x 6	-	2	12	16	1.5MSPS	2 4	2	1 2	20	±3	-	4.0 to 8.0	3.0 to 5.5	-40 to 85	POR, BOD, PLL, Analog Comparator 4ea, OP-AMP 4ea, 1MHz Ring-OSC	Now
A34M418	Cortex-M4F	120	512KB	64KB	51 89 107	64 100 120	LQFP	16-bit x 10	Y	2	12	16 24 24	1.5MSPS	6 6 3	1 2 3	1 2 2	32	±3	Y	4.0 to 16.0	2.7 to 5.5	-40 to 85	POR, BOD, PLL, Analog Comparator 4ea, PGA 3ch, CAN, CRC16, 500kHz Ring-OSC	Q2 '18

Application Specific Standard Products (ASSP)

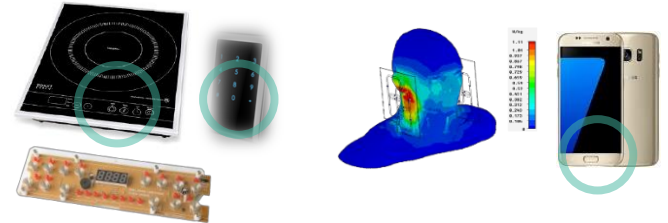
Remote Controller MCU

遥控器MCU是4/8位MCU适用于低成本低功耗遥控解决方案。单功能遥控器MCU建议应用于简易的遥控应用。通用遥控器解决方案的客户可以设计控制多种设备的遥控器，比如机顶盒、电视、CD和DVD播放器只使用一个通用遥控器。



Touch Key MCU

ABOV（现代单片机）触摸按键解决方案通过测量多电极的电容值来达到按键监测功能, ABOV（现代单片机）的触摸MCU能够满足客户的高标准性能和低功耗要求, 使客户方便的应用于智能化和差异化产品上。另一个特殊应用领域是特定吸收率(SAR)传感器, SAR应用于便携式电子设备的接近程度检测, 用以减少人体接近时RF的发射功率。



Multimedia MCU

BLU MCU 提供高集成，低系统成本和小尺寸的LED背光控制解决方案，内部寄存器通过I2C总线由主芯片调节PWM调光频率和占空比。

Voice MCU内部集成了模拟信号和数字信号相互转换的解码器，MCU处理系统级控制和用户接口功能，可编程DSP处理编解码等数据压缩功能。



Customized Applications

ABOV（现代单片机）定制的高集成度的MCU，给客户在各种领域提供了选择性广、扩展性高、低功耗、小封装以及RAM大小结合外设功能丰富的特点，广泛应用于各个领域。

我们目前已经提供包括BLDC电机MCU、烟感探测MCU、以及完整的Turnkey TA方案(包括AD-DC、二级接口协议IC和最新的PD3.0部分)等客户订制服务。



Application Specific Standard Products (ASSP)

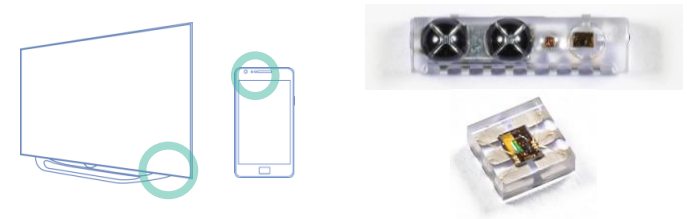
Audio Solution

ABOV（现代单片机）DDC (Digital-to-Digital Converter)是一个高度集成的支持多通道PWM调节的系统级芯片方案。音频SoC是一个高度集成的芯片方案，可以简化高级音频系统的开发流程。ABOV（现代单片机）的音频SoC支持无损数字接口和信号放大，让用户获得真实的hi-fi音频体验。拥有完整的D级数字音频放大器，支持双通道全桥或者四通道半桥，其中全桥可以被像立体声单端放大器那样被单独驱动，或者设置为互补BTL(Bridge-Tied Load)放大器。



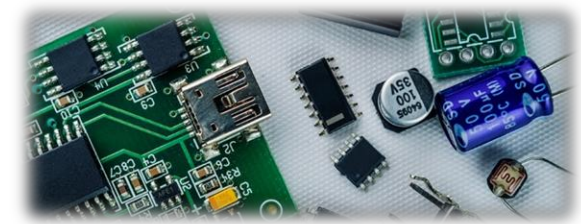
Optic Sensor

ABOV（现代单片机）环境光传感器（ALS）类似于人眼响应各种照明条件下的光。该设备广泛的性能允许照明环境从低亮度光到明亮的阳光下进行准确的ALS测量。ALS可以满足显示管理调光和亮度控制以及降低功耗的目地，延长电池寿命并在不同的照明条件下提供最佳的体验。除了ALS之外,ABOV（现代单片机）还提供RGB颜色传感器,并且正在研发一个集感应光线, RGB, IR和距离于一体的传感器。



Peripherals

ABOV（现代单片机）提供段式LED/LCD/VFD驱动IC扩大可能的应用范围，为客户提供灵活多样的高质量显示解决方案。I/O 扩展提供了通用并行输入/输出为双线双向总线协议进行扩展。在需要额外的 I/O 开关、传感器、按钮、LED 灯、风扇和其它类似的设备的时候提供了简便的解决方案。



Remote Control MCU

Selection Guide

Single Remote Control MCU

Product	Core	Op. Freq. [MHz]	Mem. Type	ROM	RAM	Timer /Counter	I/O	Input	Output	Package	T-Key	WDT	ISP	POR	LVD	Internal OSC		Tr	Serial Interface	Fosc	Op. Volt. [V]	Op. Temp [°C]	Remarks	Avail.	
																Freq. [MHz]	Err. [%]								
ADAM24P16 ADAM24P20	4-bit	3.64	OTP	4KB	32 x 4-bit	-	2 2	4 6	8 10	16 20	SOPN SOPN/TSSOP	-	Y	Y	Y	Y	3.64	±2.0	Y	-	Fosc/48	1.8 to 3.6	-20 to 70	Fosc/64,88,92,96, MTP Support	Now
ADAM26P20 ADAM26P24	4-bit	2.4 to 4.0	OTP	4KB	32 x 4-bit	-	2	6 6	8 11	16	SOPN	-	Y	Y	Y	Y	-	-	Y	-	Fosc/48	1.3 to 3.6	-20 to 70	Fosc/64,88,96, MTP Support	Now
ADAM27P16	4-bit	3.64	OTP	2KB	32 x 4-bit	-	13	-	1	16	SOPN/TSSOP	Y	Y	Y	Y	Y	3.64	±2.0	Y	-	Fosc/48	1.8 to 3.6	-20 to 70	Fosc/64,88,91,96,101, MTP Support, Mask Version Available	Now
ADAM28P16	4-bit	3.64	OTP	3KB	32 x 4-bit	-	13	-	1	16	SOPN	Y	Y	Y	Y	Y	3.64	±1.5	Y	-	Fosc/48	1.8 to 3.6	-20 to 70	MTP Support Carrier Freq. Gen.	Now
ADAM29P16	4-bit	3.64	OTP	1KB	32 x 4-bit	-	13	-	1	16	SOPN	Y	Y	Y	Y	Y	3.64	±1.5	Y	-	Fosc/48	1.8 to 3.6	-20 to 70	-	Now

Remote Control MCU

Selection Guide

■ Universal Remote Control MCU

Product	Core	Op. Freq. [MHz]	Mem. Type	ROM	RAM		Timer /Counter	I/O	Input	Output	Package	T-Key	WDT	USART [ch]	I2C [ch]	ISP	IAP	LVD	LVI [Lv.]	Internal OSC		Tr	Op. Volt. [V]	Op. Temp [°C]	Remarks	Avail.	
					256B	iRAM														Freq. [MHz]	Err. [%]						
ADAM41P2723 ADAM41P2727	4-bit	4.0	OTP	48KB	256 x 4-bit		8-bit x 2	8	4	10 14	24 28	SOP	-	Y	-	-	Y	-	Y	2	4	±2	Y	1.8 to 3.6	-20 to 70	MTP Support	Now
ADAM85F2316	8-bit	4.0 to 16.0	Flash	16KB	768B		16-bit x 2	13	-	1	16	SOP/TSSOP	Y	Y	-	-	Y	-	Y	4	16	±2	Y	1.8 to 3.6	-20 to 70	Supports IR Learning	Now
A96R136	M8051	1.0 to 12.0	Flash	16KB	256B 2KB	iRAM XRAM	8-bit x 2 16-bit x 2	13	-	-	16	QFN SOP	Y	Y	1	1	Y	Y	Y	5	12	±1	Y	1.71 To 3.6	-20 To 70	Enhanced IR Learning AMP, Supports Boot Lock Mask	Q2 '18
MC96FR116C	M8051	1.0 to 12.0	Flash	16KB	256B 2KB	iRAM xRAM	8-bit x 2 16-bit x 2	9 9 16	-	-	16 16 20	QFN WLCSP TSSOP	-	Y	2	1	Y	Y	Y	4	12	±2	Y	1.8 to 3.6	-20 to 70	Supports IR Learning, Supports Boot Lock Mask	Now
MC96FR332B	M8051	1.0 to 12.0	Flash	32KB	256B 1.75KB	iRAM xRAM	8-bit x 2 16-bit x 2	23	-	-	28	TSSOP	-	Y	2	1	Y	Y	Y	4	-	-	-	1.7 to 3.6	-20 to 70	Supports IR Learning, Supports Boot Lock Mask	Now
MC96FR364B	M8051	1.0 to 12.0	Flash	64KB	256B 1.75KB	iRAM xRAM	8-bit x 2 16-bit x 2	23	-	-	28	TSSOP	-	Y	2	1	Y	Y	Y	4	-	-	-	1.7 to 3.6	-20 to 70	Supports IR Learning, Supports Boot Lock Mask	Now
MC96FR364C	M8051	1.0 to 12.0	Flash	64KB	256B 1KB	iRAM xRAM	8-bit x 2 16-bit x 2	17 25	-	-	20 28	QFN TSSOP	-	Y	1	1	Y	Y	Y	6	12	±1	Y	1.6 to 3.6	-20 to 70	Supports IR Learning, Supports Boot Lock Mask	Now

Capacitive Touch Solution

Selection Guide

Capacitive Touch Solution

Product	Touch Key / SAR	Core	ROM	RAM		I/O		Package	Timer /Counter	PWM	ADC		USART [ch]	UART [ch]	I2C [ch]	IAP	Internal OSC		Ext. OSC	Sub. X-tal	Op. Volt. [V]	Op. Temp [°C]	Remarks	Avail.
				Flash	iRAM	14	16				Bit	ch					Freq. [MHz]	Err. [%]						
A96T316	8-key 16-key SAR	M8051	16KB Flash	256B 1792B	iRAM xRAM	14 22	16 24	SOPN/QFN SOP/QFN	16-bit x 2	16-bit x 2	-	-	-	1	1	Y	16	±3	-	-	2.7 to 5.5	-40 to 85	POR, BOD, 8-bit WDT, Self Capacitive ADC Type Touch, Sleep Current 20uA at 400ms Scan 2-ch LED Current Dimming	Now
A96T336	8-key 16-key SAR	M8051	16KB Flash	256B 1792B	iRAM xRAM	14 22	16 24	SOPN/QFN SOP/QFN	16-bit x 2	16-bit x 2	10	8 16	-	1	1	Y	16	±3	-	-	2.7 to 5.5	-40 to 85	POR, BOD, 8-bit WDT, Self Capacitive ADC Type Touch, Sleep Current 40uA at 400ms Scan 2-ch LED Current Dimming	Now
A96T346	8-key 5-key 3-key SAR	M8051	16KB Flash	256B 1792B	iRAM xRAM	11 8 6	16 10 8	QFN DFN WLCSP	16-bit x 1	16-bit x 1	12	8 5 3	-	-	1	Y	16	±5	-	-	2.7 to 3.6	-40 to 85	POR, BOD, 8-bit WDT, Self Capacitive ADC Type Touch, Sleep Current 20uA at 400ms Scan 3-ch LED Current Dimming	Now
A96T356	SAR Only	M8051	16KB Flash	256B 1792B	iRAM xRAM	6	8	DFN WLCSP	16-bit x 1	16-bit x 1	-	-	-	-	1	Y	16	±5	-	-	2.7 to 3.6	-40 to 85	POR, BOD, 8-bit WDT, 3-ch SAR Sensor Sleep Current 20uA at 400ms Scan	Q2 '18
A96T218 A96T228	20-key 24-key 24-key	M8051	32KB Flash	256B 1792B	iRAM xRAM	26 30 40	28 32 34	SOP SOP/LQFP QFN	8-bit x 1 16-bit x 2	16-bit x 3	12	8	2	-	1	Y	16	±3	-	Y	2.0 to 5.5	-40 to 85	POR, BOD, Buzzer, 8-bit WDT, Self Capacitive ADC Type Touch, 8-com x 14/18/20-seg (by PKG) LED Port (Touch Share)	Now
AT3108 AT3212	8-key 12-key	-	-	-	-	1 4	16 24	SOPN/QFN SOP/QFN	-	-	-	-	-	-	1	-	-	-	-	-	2.3 to 5.5	-40 to 85	Logic Touch IC Self Capacitive Touch, ADC type Touch sensing, Sleep Current 20uA at 300ms Scan	Now

Multimedia MCU

Selection Guide

■ Voice MCU

Product	Core	Output	Decoder	Memory Type	Interface	Operating Voltage [V]	Operating Temperature [°C]	Package	Avail.
MC93CV402	M8051 + DSP	15-bit DAC + Digital AMP (PWM) 240mA at 8Ω (≒0.8W)	SPEEX (1.5-bit/sample) ADPCM (4-bit/sample)	External Serial Flash (SPI)	SPI	2.7 to 3.6	-40 to 85	20 28 44 SOP QFN MQFP	Now

■ LED BLU MCU

Product	Core	Op. Freq. [MHz]	ROM	Mem. Type	RAM	I/O	Package	Timer /Counter	PWM	ADC		SPI [ch]	UART [ch]	I2C [ch]	ISP [ch]	IAP [ch]	Internal OSC		Op. Volt. [V]	Op. Temp. [°C]	Remarks	Avail.
										Bit	ch						Freq. [MHz]	Err. [%]				
MC93F5516	M8051 + DSP	5 to 20	16KB	Flash	3.0KB	22	24 QFN 24 SSOP	16-bit x 1 8-bit x 1	12-bit x 6	8	3	2	-	1	Y	Y	20	±2	2.7to 3.6	-40 to 85	VSYNC Synchronizer, DMA	Now

Custom Applications

Selection Guide

Customized MCU

Field	Product	Core	ROM	RAM	I/O	Package	Timer /Counter	PWM	ADC		USI* [ch]	UART [ch]	SPI [ch]	SIO [ch]	I2C [ch]	IAP	Internal OSC		Ext. OSC [MHz]	Sub. X-tal	Op. Volt. [V]	Op. Temp. [°C]	Specific Function	Remarks	Avail.
									Bit	ch							Freq. [MHz]	Err. [%]							
IH Cooker	MC97F6108A	M8051	8KB Flash	256B 256B	iRAM xRAM	14 16 18 20	SOP SOP/TSSOP	16-bit x 4	16-bit x 4	12 8	-	1	-	-	1	Y	16	±3	-	-	2.7 to 5.5	-40 to 85	Zero-cross Detection and OVP/OCV, 2-stage OPAMP, Analog Comparator 5ea, 16-bit PPG Timer 1ch	POR, LVR, BOD, Buzzer, 8-bit WDT, OCD2 Debugger	Now
BLDC Motor	MC96FD316	M8051	16KB Flash	256B 256B	iRAM xRAM	20 24 28 28 32	SSOP TSSOP LQFP/QFN	8-bit x 1 16-bit x 2	16-bit x 2 Motor PWM	10 8	1	-	-	-	-	Y	20	±3	0.4 to 16.0	-	2.0 to 5.5	-40 to 105	3 phase 6-ch Motor PWM 1ea 16x16 Multiplier 32/16 Divider, 1 OPAMP Analog Comparator 4ea 220ksps 10-bit ADC H/W Calculator	POR, LVR/LVI, 17-bit WDT	Now
Smoke Detector	A96L312	M8051	4KB Flash	256B	iRAM	14 16	SOPN	16-bit x 2	-	10 8	-	-	1	-	-	Y	1	±3.5	-	-	1.8 to 5.5	-40 to 85	128B EEPROM 1kHz RC-WDT, S&H ADC OP-AMP 2-ch	POR, LVR Buzzer	Now

* USI : Universal Serial Interface (UART + SPI + I2C)

Travel Adaptor Solution

Product	Core	ROM	RAM	I/O	Package	Timer /Counter	ADC		LDO	Fast Charge			CCCV	NMOS Gate Control	SR Gate Control	VCONN	IAP	Internal OSC Freq. [MHz]	Op. Volt. [V]	Op. Temp. [°C]	Specific Function	Remarks	Avail.
							Bit	ch		BC1.2	PD2.0	PD3.0											
A94B316	cm8051	16KB Flash	256B 1024B	iRAM xRAM	5 20	QFN	16-bit x 1 8-bit x 3	10 3	5.15Vout	O	DFP	DFP	15V, 20mV/step 5A, 10mA/step	O	O	2-ch 20mA	Y	16	3 to 15	-30 to 105	Secondary-side IC, Discharge, Bleeder DAC + CMP for Proprietary Interface	POR, 8-bit WDT, OCD2 Debugger	Now

Product	Package	Power Stage Operation mode	Switching Control	High Voltage Start-Up Circuit	Max Voltage of HV Pin	Protection						ACOFF Detection	Op. Temp. [°C]	Specific Function	Remarks	Avail.		
						VS UVP	VS UVP Extended Auto Restart	VCC OVP	VS OVP	Brown-Out	OTP							
AB7440	8	SOP	DCM only	Hybrid PWM-PFM-Valley control	O	650V	O	O	O	O	O	O	O	O	-30 to 125	Primary-side IC		Now

Bluetooth® Low Energy SoC

ABOV（现代单片机）的低功耗BLE MCU是具备物联网必须的优秀能效比和安全性能的产品，它内置了一个ARM Cortex-M0+内核，一个性能显著增强的大容量Flash记忆体，并且支持最先进的Bluetooth V4.2协议。

该产品提供了杰出的BLE性能比如超低功耗，更强的安全性能，mesh 网络和加强的定位灵敏度主要的应用于各种物联网产品比如遥控器，手机周边，Beacons，PC外设，消费电子产品和医疗产品。



Product	Core	Operating Freq. [MHz]	Memory Type	ROM	SRAM	Active Mode (Tx / Rx) [mA]	Sleep mode [uA]	Sensitivity [dBm]	Output Power [dBm]	Operating Voltage [V]	Package	Avail.
A31R112	Cortex-M0+	32	PROM	32KB	48KB	7 / 7	0.90	-94	8 / 0	1.1 to 3.6	48 QFN 60 WLP	Q2 '18
A31R114	Cortex-M0+	32	Flash	128KB	48KB	9.0 / 7.5	0.90	-94	8 / 0	1.8 to 3.6	56 QFN	Q2 '18
A31R118	Cortex-M0+	32	Flash	512KB	48KB	7.5 / 7.5	0.90	-94	8 / 0	1.8 to 3.6	48 QFN 60 WLP	Q2 '18

Audio & Optic Sensor

Selection Guide

▪ DDC (Digital to Digital Converter) : PWM Audio Processor

Product	Operating Voltage [V]	Input Type	Audio Input [ch]	I2S Output [ch]	PWM Output [ch]	SNR [dB]	Data Resolution [bit]	Fs [kHz]	EQ Filter [EA]	Master Volume [dB]	Control Interface	Op. Temp. [°C]	Package	Remarks	Avail.
PS9860	2.97 to 3.63	I2S	8	8	8	<-100	24	13 to 192	69	+18 to -70dB (0.50dB/step)	I2C	-40 to 85	68 QFN	13 to 192kHz Async. SRC	Now
AS9400	2.97 to 3.63	I2S	6	6	4 (BTL)	>110	24	13 to 192	74	+24 to -103dB (0.125dB/step)	I2C	-20 to 85	48 QFN 7x7	13 to 192kHz Async. SRC	Q3 '18

▪ Class-D Audio Amplifier

Product	Supply Voltage [PVDD]	Input Type	Max. Power to Bridge Tied Load (@f=1kHz, THD+N 10%)	SNR [dB]	THD+N [%]	Speaker Channels (Max)	Max. PWM Carrier Freq. [kHz]	Protection Functions	Op. Temp. [°C]	Package	Remarks	Avail.
AS2250	10 to 30	PWM	2 x 60W (@4Ω, PVDD=25V)	>108	0.01 (@1W, 1kHz)	2 (BTL)	768	UVP, OCP, OTP, SCP, PPSC	-20 to 85	28TSSOP Top ePAD	Selectable Closed Loop MOSFET R _{DS(on)} =90mΩ	Q3 '18

▪ Optic Sensor

Product	Descriptions	Sensitivity [lx]	ALS Detection Range [lx]	Proximity Sensor	ADC	I2C	Active Current [uA]	Stop Current [uA]	Operating Voltage [V]	Operating Temperature [°C]	Package	Avail.
MC8121	2-ch Ambient Light Sensor (Visible Ray + IR)	0.77 @ 100ms	65,536	-	16-bit	Y	180	1	2.4 to 3.6	-40 to 85	Wafer	Now
MCRS8841	RGB Color Sensor (W + R + G + B + IR)	0.035 @ 1380ms	65,536	-	16-bit	Y	270	1	1.7 to 3.6	-20 to 85	Wafer	Now
AL8843	RGB Color + Proximity Sensor (W + R + G + B + IR + PS)	0.002 @ 400ms	200,000	10-bit	16-bit	Y	250	1	2.4 to 3.6	-40 to 85	Wafer	Q3 '18

■ Segment LED Driver IC

Product	LED driving (Segment x Grid)	Key scan	Dimmer [Step]	Driving Type	SIO	Operating Voltage [V]	Operating Temperature [°C]	Package	Remarks	Avail.
MC2002	6 x 7 (9 x 4)	6 x 1	8	Common cathode	Y	2.7 to 5.5	-40 to 85	20 PDIP 20 TSSOP	-	Now
MC2003	8 x 5 (9 x 4)	8 x 2	8	Common cathode	Y	2.7 to 5.5	-40 to 85	20 SOP	-	Now
MC2102	10 x 7 (13 x 4)	10 x 2	8	Common cathode	Y	2.7 to 5.5	-40 to 85	24 SOP	-	Now
MC2202	11 x 7 (14 x 4)	11 x 3	8	Common cathode	Y	2.7 to 5.5	-40 to 85	28 SKDIP 28 SOP	-	Now
MC2204	10 x 7 (13 x 4)	10 x 2	8	Common cathode	Y	2.7 to 5.5	-40 to 85	28 SOP	-	Now
MC2302	11 x 7 (14 x 4)	11 x 3	8	Common cathode	Y	2.7 to 5.5	-40 to 85	32 SOP	-	Now
MC2701	8 x 7	8 x 2	8	Common anode	Y	4.5 to 5.5	-40 to 85	24 SOP	Interrupt Generator, Segment Current Control	Now

■ Segment LCD Driver IC

Product	Display (Segment x COM)	Operating Voltage [V]	Operating Temperature [°C]	Package	Remarks	Avail.
MC5502	52 x 3 (51 x 4)	3.0 to 5.5	-40 to 85	64 LQFP	Power Saving Mode, Segment OFF Function	Now
MC5601	60 x 8 (58 x 10)	3.0 to 5.5	-40 to 85	80 LQFP 80 MQFP	Internal 5 x 9 x 240-bit Character ROM Supports 12 (5 x 7 dots) Characters or Supports 11 (5 x 8 dots, 5 x 9 dots) Characters	Now
MC5701	105 x 4 (106 x 3)	3.0 to 5.5	-40 to 85	COB/COG	Built-in Display Contrast Adjustment Circuit, Serial Interface for Clock, Data I/O Strobe Pins, Low-Power Consumption	Now

▪ Segment VFD Driver IC

Product	Display (Segment x Grid)	Key Scan	Dimmer [Step]	Operating Voltage [V]	Operating Temperature [°C]	Package	Remarks	Avail.
MC3401A	16 x 12 (24 x 4)	2 x 16	8	2.7 to 5.5	-40 to 85	44 LQFP	Serial Interface for Clock, Data I/O Strobe Pins, Low-Power Consumption	Now
MC3411A	16 x 12 (24 x 4)	2 x 16	8	2.7 to 5.5	-40 to 85	48 QFN	Serial Interface for Clock, Data I/O Strobe Pins, Low-Power Consumption	Now
MC3501A	24 x 16	2 x 16	8	2.7 to 5.5	-40 to 85	52 LQFP	Serial Interface for Clock, Data I/O Strobe Pins, Low-Power Consumption	Now

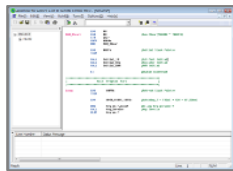
▪ I/O Expander

Product	Operating Voltage [V]	Operating Temperature [°C]	Package	Remarks	Avail.
MC5587	1.65 to 3.60	-40 to 85	25 WLCSP 24 QFN	18-GPIO Port Expander or 10 x 8 Keypad Matrix, I2C Interface with Auto Increment	Now
AL5524	1.80 to 5.50	-40 to 85	24 TSSOP / QFN 16 TSSOP / SOP	16-GPIO(10-GPIO) Port Expander I2C / SMBus Interface	Now

MCU Development System

Compiler / Assembler / Code Generator / Simulator

ABOV's compiler and assembler can help users generate right results to match target applications. These processor-specific development systems create, configure, optimize, migrate, and deliver software components that converts source code to hexadecimal file.



SR Magic Assembler

- Supported product : G400
- Generates hexadecimal file
- Manages project & library
- IDE environment



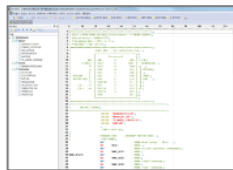
SR Tools

- Supported product : G400
- Converts remote controller signal to patterned data
- Generates hexadecimal file



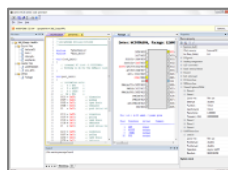
ADAM2 Series Simulator

- Supported product : ADAM2X
- Simulates in various run modes
- Variable key matrices
- Real-time tracing



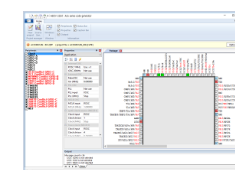
ADAM4 Assembler/Linker

- Supported product : ADAM4x
- Supports local label in MACRO
- Standalone execution file
- Uses structured command



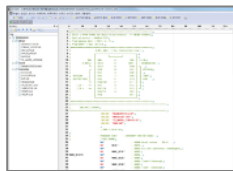
CodeGen8 (VPE)

- Code generator for M8051 MCU
- Automatically generates C-based frame source program
- Very user-friendly UI



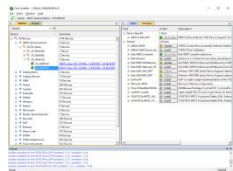
CodeGen32

- Code generator for ARM series
- Automatically generates C-base frame source program
- Very user-friendly UI



ADAM8 Assembler/Linker

- Supported product : ADAM8x
- Supports local label in MACRO
- Standalone execution file
- Uses structured command



KEIL MDK5 S/W Pack for 32-bit ARM

- Additional software components and support for ABOV 32-bit devices
- Source code, header files, and software libraries
- Documentation and source code templates
- Device parameters along with startup code and programming algorithms
- Board descriptions and support files
- Example projects

MCU Development System

Emulator / Debugger

ABOV's emulator, debugger and simulator development studios are IDEs (Integrated Development Environment) for ABOV'S 8-bit and 32-bit microcontroller products. The emulator and debugger IDEs provide project & text editors for code entry, accurate cycle simulation, and OCD (On Chip Debugger). Our IDEs support Windows OS.



ADAM 4/8-bit MDS

- Supported product : ADAM4/8x
- Supports local label in MACRO
- Standalone execution file
- Uses structured command



OCD-I/II (On Chip Debugger)

- Supported product : M8051
- OCD ISP function included
- 2-pin interface : OCD clock & data
- Real-time emulation & debugging



A-Link (CMSIS-DAP)

- Supported product : Cortex series
- Uses SWD interface
- Real-time emulation & debugging
- Works with KEIL, IAR, CooCox GUI



OCD-I/II (KEIL debugging DLL)

- Supports KEIL M8051 environment
- All-in-one : Compiler, Editor, Debugger
- Full symbolic debugging



A-Link Pro (CMSIS-DAP)

- Includes all features of A-Link
- Supports Standalone programming without host PC
- OLED display to show status

ROM Writer

ABOV's ROM writer supports dual environments — PC mode for development and standalone mode for production. It is easy to use, setup and update with user downloadable software available on ABOV's website. All of our ROM writers operate on PC-based hardware with a USB connector.



E-PGM+

- PC / Standalone type
- 65k color TFT-LCD (320 x 240)
- PC interface : USB



E-GANG4

- PC / Standalone type
- E-PGM+ array x4
- Same usage as E-PGM+
- PC interface : USB



E-GANG6

- PC / Standalone type
- E-PGM+ array x6
- Same usage as E-PGM+
- PC interface : USB



PGM+LC2

- IDE environment
- Supports high voltage up to 18V
- Transmission speed : 64KB/s
- PC interface : USB



Hand Writer

- Standalone type programmer
- Supports PC host mode
- Battery operated



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