

Memory Size (Bytes)			I/O Pins	Timer/Counters 8/16-bit	Serial Communication	PWM Channels	A/D	Internal OSC	Clock Speed	ISP	JTAG/Debug-WIRE	VCC	Operating Temp.▲	Package	Digi-Key Part No.	Price Each		
Program	RAM	EEPROM														1	25	100
128K	8K	4K	54	2/4	2 (USART), SPI, TWI	10	8-ch/10-bit	Y	8MHz	Y	JTAG	1.8 - 5.5V	Ind.	64-TQFP 64-QFN	ATMEGA1281V-8AU-ND◆	14.36	10.62	9.49
						8	8-ch/10-bit	Y	16MHz	Y	JTAG	2.7 - 5.5V	Ind.	64-QFN 64-TQFP 64-QFN	AT90USB1286-16MU-ND◆ AT90USB1287-16AU-ND◆ AT90USB1287-16MU-ND◆	13.98 15.05 15.05	9.75 10.50 10.50	8.67 9.34 9.34
			22	1/1	1 (USART), SPI	5	—	Y	16MHz	Y	JTAG	2.7 - 5.5V	Ind.	32-QFN	AT90USB82-16MU-ND◆	3.23	2.33	2.18
															ATMEGA2560-16AU-ND◆ ATMEGA2560-16CU-ND◆ ATMEGA2560V-8AU-ND◆ ATMEGA2560V-8CU-ND◆	16.77 18.17 16.77 18.17	11.70 12.68 11.70 12.68	10.40 11.27 10.40 11.27
256K	8K	4K	86	2/4	4 (USART), SPI, TWI	16	16-ch/10-bit	Y	16MHz	Y	JTAG	4.5 - 5.5V	Ind.	100-TQFP 100-CBGA	ATMEGA2561-16AU-ND◆	15.91	11.10	9.87
															ATMEGA2561-16MU-ND◆	15.91	11.10	9.87
			51	2/4	2 (USART), SPI, TWI	10	16-ch/10-bit	Y	16MHz	Y	JTAG	4.5 - 5.5V	Ind.	64-TQFP 64-QFN	ATMEGA2561V-8AU-ND◆	15.91	11.10	9.87
															ATMEGA2561V-8MU-ND◆	15.91	11.10	9.87

◆ RoHS Compliant ▲ Operating Temperature: Industrial: -40°C ~ 85°C Commercial: 0°C ~ 70°C High: -40°C ~ 125°C Extended: -40°C ~ 105°C ‡ Cut Tape † Tape and Reel

**NEW! AVR® XMEGA High Performance Low Power Flash Microcontrollers**



Operating Temperature: Industrial: -40°C ~ 85°C

Memory Size (Bytes)			DMA Channels	I/O Pins	Frequency Max. (MHz)	VCC (V)	16-bit Timers	PWM Channels	SPI	TWI	USART	12-bit A/D Channels	12-bit D/A Channels	Package	Digi-Key Part No.	Price Each		
Flash	EEPROM	SRAM														1	25	100
16K	1K	2K	4	36	32	1.6 - 3.6	5	16	2	2	5	12	2	44-TQFP 44-QFN	ATXMEGA16A4-AU-ND	4.30	3.20	2.80
															ATXMEGA16A4-MU-ND	4.30	3.20	2.80
32K	2K	4K	4	36	32	1.6 - 3.6	5	16	2	2	5	12	2	44-TQFP 44-QFN	ATXMEGA32A4-AU-ND	4.73	3.52	3.08
															ATXMEGA32A4-MU-ND	4.73	3.52	3.08
64K	2K	4K	4	78	32	1.6 - 3.6	8	24	4	4	8	16	4	100-TQFP 100-CBGA	ATXMEGA64A4-AU-ND	7.53	5.60	4.90
															ATXMEGA64A4-CU-ND	8.92	6.64	5.81
				50	32	1.8 - 3.6	7	22	4	4	7	16	2	64-TQFP 64-QFN	ATXMEGA64A3-AU-ND	7.10	5.28	4.62
															ATXMEGA64A3-MU-ND	7.10	5.28	4.62
128K	2K	8K	4	36	32	1.6 - 3.6	5	16	2	2	5	12	2	44-TQFP 44-QFN	ATXMEGA64A4-AU-ND	5.38	4.00	3.50
															ATXMEGA64A4-MU-ND	5.38	4.00	3.50
				78	32	1.6 - 3.6	8	24	4	4	8	16	4	100-TQFP 100-CBGA	ATXMEGA128A1-AU-ND	8.06	6.00	5.25
															ATXMEGA128A1-CU-ND	9.46	7.04	6.16
192K	2K	16K	4	50	32	1.8 - 3.6	7	22	4	4	7	16	2	64-TQFP 64-QFN	ATXMEGA128A3-AU-ND	7.53	5.60	4.90
															ATXMEGA128A3-MU-ND	7.53	5.60	4.90
				36	32	1.6 - 3.6	5	16	2	2	5	12	2	44-TQFP 44-QFN	ATXMEGA128A4-AU-ND	6.45	4.80	4.20
															ATXMEGA128A4-MU-ND	6.45	4.80	4.20
256K	4K	16K	4	78	32	1.6 - 3.6	8	24	4	4	8	16	4	100-TQFP 100-CBGA	ATXMEGA192A1-AU-ND	9.68	7.20	6.30
															ATXMEGA192A1-CU-ND	11.07	8.24	7.21
				50	32	1.8 - 3.6	7	22	4	4	7	16	2	64-TQFP 64-QFN	ATXMEGA192A3-AU-ND	8.60	6.40	5.60
															ATXMEGA192A3-MU-ND	8.60	6.40	5.60
78	32	1.6 - 3.6	8	24	4	4	8	16	4	100-TQFP 100-CBGA	ATXMEGA256A1-AU-ND	10.75	8.00	7.00				
											ATXMEGA256A1-CU-ND	12.15	9.04	7.91				
50	32	1.8 - 3.6	7	22	4	4	7	16	2	64-TQFP 64-QFN	ATXMEGA256A3-AU-ND	9.68	7.20	6.30				
											ATXMEGA256A3-MU-ND	9.68	7.20	6.30				

**ATAVRFBKIT Ballast Demo Kit**



The ATAVRFBKIT is a Dimmable Fluorescent Ballast kit which is used to demonstrate the ability of the AT90PWM2 to control all the main functions of a DALI Fluorescent Ballast. C code is provided to speed-up development time.

ATAVRFBKIT-ND ..... \$199.00

**NEW! ATAVRDB101 Display Module**



The DB101 is a display module including a 128x64 pixel graphical LCD with RGB backlight. The menu system can be operated via a joystick. This lets the user display system information, adjust the backlight, operate in VT100 terminal mode, play sounds and music, and much more.

ATAVRDB101-ND ..... \$79.00

**ATAVRMC100 BLDC Motor Control**



The ATAVRMC100 BLDC motor control kit includes an evaluation board, a 3-phase BLDC motor and demonstration software. Fully featured driver board for BLDC motors with hardware over-current detection. Interface for sensor and sensorless BLDC, sensor and sensorless software included. Onboard AT90PWM3 AVR microcontroller. Header connectors for external driver inputs. Onboard LIN transceiver ATA6661.

ATAVRMC100-ND ..... \$199.00

**NEW! ATAVRUSBRF01 Quick Start**



The ATAVRUSBRF01 is based on Atmel AT90USB162 microcontroller, which allows connection to PC through USB and nRF24L01 transceiver from Nordic VLSI. The kit contains two identical AVR USB RF modules. They can connect to two different USB ports to establish wireless communication and evaluate the solution.

ATAVRUSBRF01-ND ..... \$69.00

**ATAVRMC200 AC Induction Motor Control**



The ATAVRMC200 is an evaluation kit dedicated to AC induction motor control. The kit includes an evaluation board and demonstration software. It allows users to quickly evaluate the capability of the AT90PWM3 AVR microcontroller to control a three phase asynchronous induction motor.

ATAVRMC200-ND ..... \$299.00

**NEW! ATAVRONEKIT Debugger/Programmer**



The AVR® ONE! is a powerful development tool for on-chip debugging and programming of all AVR32 devices. In the future, AVR® ONE! will also support all AVR devices. Supported debug interfaces are JTAG (IEEE 1149.1), debugWire, PDI and the Nexus (IEEE-ISTO 5001(TM)-2003) auxiliary interface for high-speed trace. Supported programming interfaces are ISP, JTAG and PDI. Interfaces with AVR32 Studio 2 and newer.

ATAVRONEKIT-ND ..... \$599.00

**Adapters**

The AVR® ICE50 is a top-of-the-line development tool for complete in-circuit emulation of most AVR 8-bit RISC microcontrollers. The ICE50 and the AVR Studio4 user interface give the user complete control of the internal resources of the microcontroller, helping to reduce development time by making debugging easier.

Description	Digi-Key Part No.	Price Each
ICE50 Extension Memory Card	ATICE50MEM-ND	246.05
Replacement POD for ICE40, ICE50	ATICE50POD-ND	465.50
Probe with Flex Cables	ATICE50PROBE-ND	81.13
Personality Adapter for ATmega169	ATADAP169_TOP-ND	199.50
Personality Adapter for ATmega8	ATADAPMEGA8-ND	41.23
Personality Adapter for ATmega32	ATADAPMEGA32-ND	41.23
Personality Adapter for ATmega162	ATADAPMEGA162-ND	41.23
Personality Adapter for ATtiny2313	ATADAPT2313-ND	41.23
Personality Adapter for ATtiny13	ATADAPTINY13-ND	41.23
Personality Adapter for ATtiny26	ATADAPTINY26-ND	41.23
ICE50 Adapter Test	ATADAPTEST-ND	41.23

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

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## ATSTK500 Starter Kit

The ATSTK500 is a starter kit and development system for Atmel's AVR flash microcontrollers. The ATSTK500 gives designers a quick start to develop code on the AVR combined with features for using the starter kit to develop prototypes and test new designs. The ATSTK500 interfaces with AVR Studio®, Atmel's Integrated Development Environment (IDE) for code writing and debugging.

ATSTK500-ND ..... \$79.00

Description	Digi-Key Part No.	Price Each
Module for STK501	ATSTK501-ND	79.00
Module for STK502	ATSTK502-ND	99.00
Module for STK503	ATSTK503-ND	119.00
Module for STK504	ATSTK504-ND	119.00
Module for STK505	ATSTK505-ND	79.00
Module for STK520	ATSTK520-ND	79.00
CAN Extension for STK500/501	ATADAPCAN01-ND	19.00
Starter Kit for AT90USB	ATSTK525-ND	199.00
Starter Kit for AT90USB82/162	ATSTK526-ND	199.00
Extension Board Kit for STK525	ATEVK525-ND	150.00

## BC100 Development Kit

The BC100 is a reference design/development kit that targets battery charging. The kit can be used to charge various battery types, as long as the requirements to charging voltage and currents are within the output range that the kit offers (1.2V - 38V, 5A Max.)

The kit can be used to develop applications such as battery chargers, battery backup, un-interruptible power supply and switch mode power supply.

ATAVRBC100-ND ..... \$99.00

## AVR®32 32-Bit Microcontrollers

Features: • Core Power Supply Voltage: 1.65V - 1.95V • I/O Power Supply Voltage: 3.0V - 3.6V  
• Operating Temperature: -40°C - 85°C

MIPS	SRAM (KBytes)	Flash (KBytes)	Cache (Inst/Data)	I/O Pins	USB	Ethernet MAC 10/100	Ext. Bus Interface	UART	Frequency Max. (MHz)	Package	Digi-Key Part No.	Price Each		
												1	25	100
210	32	—	16KB/16KB	160	High-Speed	2	Yes	4	150	256-CBGA	AT32AP7000-CTUT-ND	21.82	16.14	14.42
	32	—	16KB/16KB	90	High-Speed	—	Yes	4	150	208-LQFP	AT32AP7001-ALUT-ND	19.14	13.80	12.69
	32	—	16KB/16KB	85	High-Speed	—	Yes	4	150	196-CBGA	AT32AP7002-CTUT-ND	18.49	11.43	11.14
80	32	128	—	109	Full-Speed + OTG	1	Yes	4	66	144-LQFP	AT32UC3A0128-ALUT-ND	13.65	10.16	9.21
	32	128	—	69	Full-Speed + OTG	1	No	4	66	100-TQFP	AT32UC3A1128-AUT-ND	12.26	9.30	8.27
	64	256	—	109	Full-Speed + OTG	1	Yes	4	66	144-LQFP	AT32UC3A0256-ALUT-ND	15.59	11.60	10.52
	64	256	—	69	Full-Speed + OTG	1	No	4	66	100-TQFP	AT32UC3A1256-AUT-ND	14.30	10.64	9.65
	64	512	—	109	Full-Speed + OTG	1	Yes	4	66	144-LQFP	AT32UC3A0512-ALUT-ND	20.00	14.42	13.26
	64	512	—	69	Full-Speed + OTG	1	No	4	66	100-TQFP	AT32UC3A0512-ALUR-ND <b>NEW!</b>	18.71	13.49	12.40
72	16	64	—	44	Full-Speed + OTG	—	—	3	60	64-TQFP	AT32UC3B064-A2UT-ND	9.78	7.42	6.83
	16	64	—	44	Full-Speed + OTG	—	—	3	60	64-QFN	AT32UC3B064-Z2UT-ND	9.78	7.42	6.83
	16	64	—	28	Full-Speed	—	—	2	60	48-TQFP	AT32UC3B164-AUT-ND	9.03	6.85	6.30
	16	64	—	28	Full-Speed	—	—	2	60	48-QFN	AT32UC3B164-Z1UT-ND	9.03	6.85	6.30
	32	128	—	44	Full-Speed + OTG	—	—	3	60	64-TQFP	AT32UC3B0128-A2UT-ND	10.64	8.07	7.43
	32	128	—	44	Full-Speed + OTG	—	—	3	60	64-QFN	AT32UC3B0128-Z2UT-ND	10.64	8.07	7.43
	32	128	—	28	Full-Speed	—	—	2	60	48-TQFP	AT32UC3B1128-AUT-ND	9.89	7.50	6.90
	32	128	—	28	Full-Speed	—	—	2	60	48-QFN	AT32UC3B1128-Z1UT-ND	9.89	7.50	6.90
	32	256	—	44	Full-Speed + OTG	—	—	3	60	64-TQFP	AT32UC3B0256-A2UT-ND	12.26	9.30	8.27
	32	256	—	44	Full-Speed + OTG	—	—	3	60	64-QFN	AT32UC3B0256-Z2UT-ND	12.26	9.30	8.27
	32	256	—	28	Full-Speed	—	—	2	60	48-TQFP	AT32UC3B1256-AUT-ND	11.50	8.73	7.76
	32	256	—	28	Full-Speed	—	—	2	60	48-QFN	AT32UC3B1256-Z1UT-ND	11.50	8.73	7.76

## ATEVK1100 Evaluation Kit

The ATEVK1100 is an evaluation kit and development system for the AVR32 AT32UC3A microcontroller. It is equipped with a rich set of peripherals, memory, and makes it easy to try the full potential of the AVR32 devices.

ATEVK1100-ND ..... \$129.00

## ATEVK1101 Evaluation Kit

The ATEVK1101 is an evaluation kit and development system for the AVR32 AT32UC3B microcontroller. It is equipped with a rich set of peripherals, memory, and makes it easy to try the full potential of the AVR32 devices.

ATEVK1101-ND ..... \$79.00

## ATSTK1000 Starter Kit

The ATSTK1000 provides a complete AT32AP7000 development environment. The kit comes with a pre-installed Linux® image on a 256MB SD card.

The ATSTK1000 has options that will help in development such as, two ethernet ports, high quality QVGA LCD, a loudspeaker, PS/2, VGA, and an expansion header for prototyping.

ATSTK1000-ND ..... \$499.00

## ATNGW100 Network Gateway Kit

The ATNGW100 is an ideal development board for the AT32AP7000. The ATNGW100 has two Ethernet ports, SD and MMC card reader and connectors for USB and JTAG. The board is preloaded with Linux® and shipped with I/O interface drivers that can be called from your own code.

ATNGW100-ND ..... \$89.00

## USB Development Kits

Description	Digi-Key Part No.	Price Each
USB Host/Function Development Kit for AT43USB380 OTG/Host FunctionProcessor	AT43DK380-PDC2-ND	1328.67
Development Kit for AT90CAN128 MCU	ATDVK90CAN1-ND	115.00

◆ RoHS Compliant

## Evaluation Kits

Description	Digi-Key Part No.	Price Each
Butterfly Evaluation Kit	ATAVRBFLY-ND	19.99
Evaluation Kit for AT90USB	AT90USBKEY-ND	29.99

## Programmer/Emulator

Description	Digi-Key Part No.	Price Each
ISP In-System Programmer	ATAVRISP2-ND	34.00
JTAGICE Emulator for AVR® 2/OCD	ATJTAGICE2-ND	299.00
Probe JTAGICE with Flex Cables	ATJTAGPROBE-ND	39.00

## AVR® Dragon™

The AVR Dragon supports all programming modes for the AVR device family. The Dragon is also capable of full emulation support for devices with 32KB or less flash memory. Firmware for the device is easily upgraded using AVR Studio® to support new devices.

ATAVRDRAGON-ND ..... \$49.00

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