Atmel AVR ATtiny comparison chart

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Atmel is a manufacturer of semiconductors, founded in 1984. One of its main products is microcontrollers. The smallest in their AVR family of microcontrollers are the ATtiny series (8-bit core and fewer features, fewer I/O pins, and less memory than other AVR series).

This table sums up the most interesting features of the current line-up of ATtiny microcontrollers, for easy comparison.

Device (family)[1]	First issued (datasheet)	I/O pins	Packages	Flash (KiB)	RAM (bytes)	EEPROM (bytes)	TWI	USI	SPI	UART	counters 8/16-bit	PWM[a]	ADC	Max[b] clock (MHz)	GCC architecture identifier[2]
ATtiny28l	March 2005	11	PDIP-28 TQFP/QFN/MLF-32	2	32	-	-	-	-	-	1 / 0	1 x 1	-	4	avr1
ATtiny26	February 2003	16	PDIP-20 SOIC-20 QFN/MLF-32	2	128	128	-	1	-	-	2 / 0	1 x 2	11	16	avr2
ATtiny13 / ATtiny13a	June 2003 / May 2008(a)	6	PDIP-8 SOIC-8 MLF-10 MLF-20	1	64	64	-	-	-	-	1 / 0	1 x 2	4	9.6 / 20	avr25
ATtiny25 / ATtiny45 / ATtiny85	February 2005	6	PDIP-8 SOIC-8 QFN/MLF-20 TSSOP-8	2 / 4 / 8	128 / 256 / 512	128 / 256 / 512	-	1	-	-	2 / 0	2 x 2 (sharing 3 pins)[c]	4	16 / 20	avr25
ATtiny24 / ATtiny24a / ATtiny44 / ATtiny44a / ATtiny84 / ATtiny84a	December 2005 / December 2008(a)	12	PDIP-14 SOIC-14 QFN/MLF/VQFN-20 UFBGA-15	2 / 4 / 8	128 / 256 / 512	128 / 256 / 512	-	1	-	-	1 / 1	2 x 2	8	20	avr25
ATtiny441 / ATtiny841	September 2012	12	SOIC-14 QFN/MLF/VQFN-20	4 / 8	256 / 512	256 / 512	slave	-	1	2	1 / 2	2 x 2	17	16	avr25
ATtiny261 / ATtiny261a / ATtiny461 / ATtiny461a / ATtiny861 / ATtiny861a	October 2006 / October 2009(a)	16	PDIP-20 SOIC-20 TSSOP-20 MLF-32	2 / 4 / 8	128 / 256 / 512	128 / 256 / 512	-	1	-	-	1 / 1	1 x 3	11	20	avr25
ATtiny43u	February 2009	16	SOIC-20 MLF/VQFN-20	4	256	64	-	1	-	-	2 / 0	2 x 2	4	8	avr25
ATtiny87 / ATtiny167	August 2010	16	SOIC-20 VQFN-32 TSSOP-20	8 / 16	512	512	-	1	1	1	1 / 1	1 x 1	11	16	avr25 / avr35
ATtiny2313 / ATtiny2313a / ATtiny4313	September 2003 / November 2009(a)	18	PDIP-20 SOIC-20 MLF/VQFN-20	2 / 4	128 / 256	128 / 256	-	1	1	1	1 / 1	1 x 4	-	20	avr25
ATtiny48 / ATtiny88	June 2008	24 / 28	PDIP-28 QFN-28 TQFP-32 QFN-32 UFBGA-32	4 / 8	256 / 512	64	1	-	1	-	1 / 1	1 x 2	6/8	12	avr25
ATtiny4 / ATtiny5 / ATtiny9 / ATtiny10	April 2009	4	sot-23 udfn	0.5 / 1	32	-	-	-	-	-	0 / 1	1 x 2	4[d]	12	avrtiny10

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ATtiny20	March 2010	12	SOIC-14 UFBGA-15 VQFN-20	2	128	-	slave	-	1	-	1 / 1	2 x 2	8	12	avrtiny10
ATtiny40	August 2010	18	SOIC/TSSOP-20 VQFN/MLF-20	4	256	-	slave	-	1	-	1 / 1	1 x 2	12	12	avrtiny10
ATtiny828	August 2012	28	TQFP-32 VQFN/MLF-32	8	512	256	slave	-	1	1	1 / 1	2 x 2	28	20	avr25
ATtiny1634	November 2011	18	MLF(WFQN)-20 SOIC (300 mil)-20	16	1024	256	slave	1	-	2	1 / 1	2 x 2	12	12	avr35
ATtiny102 / ATtiny104	February 2016	6 / 12	UDFN-8 SOIC150-8 / SOIC150-14	1	32	-	-	-	1	1	0 / 1	2 x 2	5 / 9	12	avrtiny
Device (family)	**First issued (datasheet)**	**I/O pins**	**Packages**	**Flash (KiB)**	**RAM (bytes)**	**EEPROM (bytes)**	**TWI**	**USI**	**SPI**	**UART**	**counters 8/16-bit**	**PWM[e]**	**ADC**	**Max[f] clock (MHz)**	**GCC architecture identifier**

a. timers x waveform generators
b. internal/external
c. 4 pins are usable, but only 3 unique generators can be attached. The 4th pin would be the inverse of OC1B on the 3rd pin.
d. ADC only on ATtiny5/10, and channels are 8 bits instead of 10
e. timers x waveform generators
f. internal/external

Abbreviations

- TWI: Many of Atmels microcontrollers contain built-in support for interfacing to a two-wire bus, called Two-Wire Interface. This is essentially the same thing as the I²C interface by Philips, but that term is avoided in Atmel's documentation due to trademark issues.
- USI: Universal Serial Interface (not to be confused with USB). The USI is a multi-purpose hardware communication module. With appropriate software support, it can be used to implement an SPI,[3] I²C[4][5] or UART[6] interface.

References

1. atmel.com (http://www.atmel.com/products/microcontrollers/avr/tinyavr.aspx)
2. nongnu.org (http://www.nongnu.org/avr-libc/user-manual/using_tools.html)
3. "AVR319: Using the USI module for SPI communication" (http://www.atmel.com/images/doc2582.pdf) (PDF). Atmel. 2004. Retrieved 10 June 2014.
4. "Atmel AVR310: Using the USI Module as a I^2C Master" (http://www.atmel.com/images/atmel-2561-using-the-usi-module-as-a-i2c-master_ap-note_avr310.pdf) (PDF). Atmel. 2013. Retrieved 10 June 2014.
5. "AVR312: Using the USI module as a I^2C slave" (http://www.atmel.com/Images/doc2560.pdf) (PDF). Atmel. 2005. Retrieved 10 June 2014.
6. "AVR307: Half Duplex UART Using the USI Module" (http://www.atmel.com/Images/doc4300.pdf) (PDF). Atmel. 2003. Retrieved 10 June 2014.

External links

- ATMEL tinyAVR product selector (http://www.atmel.com/products/microcontrollers/avr/tinyavr.aspx?tab=parameters)
- All tinyAVR parts in a spreadsheet (http://www.edn.com/electronics-blogs/the-workbench/4434330/All-tinyAVR-parts-in-a-spreadsheet) - EDN Magazine, September 8, 2014.