

## **ATtiny Microcontrollers Collection Guide**

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### **Abstract:**

Due to existence of various Attiny microcontroller versions with wide variety of their properties, so it became important to find a paper that reviewed their characteristics for better selection one of them in specified needed of many projects. This paper, listed most attiny properties memories, pins, packages, speed(MHZ), counter/timer, serial interface, interrupt, Q-touch property, Analog comparator, ADC, DAC converters, etc. with recent price. This review used as a reference to help designers for choosing better version that due a specific purpose.

Keywords— Microcontroller, Attiny.

Part No.	Approx. Price 2019 in US\$	In Year	Pins	Vcc(V)	Packages	Speed (MHz)	On-chip Debug	Self-prog. (S)	I/O	Flash(KB)	SRAM(B)	EEPROM (B)	Timer-bit	AC	ADC , DAC No.[Channel bit]	Serial Interface				Interrupts	Q-Touch	Sleep mode	WDT	Ref
																USI	USART	SPI	TWI					
ATtiny49	0.278-0.341 0.2936-0.3248	09	6/ 8	1.8-5.5	SOT6, UDFN8	10-12	-	I	4	0.51 1	32	-	1-16 2PWMM	Y	-	N	N	N	N	11	Y	N	Y	1
ATtiny510	0.27-0.351 0.295-0.431	09	6/ 8	1.8-5.5	SOT6, UDFN8	10-12	-	I	4	0.51 1	32	-	1-16 2PWMM	Y	[4-10]	N	N	N	N	11	Y	N	Y	1
ATtiny111	1.74-1.7491 2.02-2.91	09	8	4-5.5 2.7-5.5	PDIP/SOIC8	0-6 0-2	-	I	5+1In	1	-	-	1-8	Y	-	N	N	N	6	N	N	Y	2	
ATtiny121 12V	1.0084-1.09551 1.0533-1.221 0.957-1.15	09	8	4-5.5 2.7-5.5 1.8-5.5	PDIP/SOIC8	0-8 0-4 0-1.2	-	I	6	1	-	64	1-8	Y	-	N	N	N	6	N	N	Y	2	
ATtiny131 ATtiny13V	1.0529-1.16961 0.985-1.01	03	8/ 10/ 20	2.7-5.5 1.8-5.5	PDIP8/SOIC8, QFN/MLF10, QFN/MLF20	0-10 0-20 0-4 0-10	DW	S	6	1	64	64	1-8 2PWMM	Y	[4-10]	N	N	N	10	N	Y	Y	3	
ATtiny13A	0.304-0.602,	08	8/ 10/ 20	1.8-5.5 2.7-5.5 4.5-5.5	PDIP8/SOIC8, QFN/MLF10, QFN/MLF20	0-4 0-10 0-20	DW	S	6	1	64	64	1-8 2PWMM	Y	[4-10]	N	N	N	10	N	Y	Y	4	
ATtiny15L	1.72-2.43	02	8	2.7-5.5	PDIP/SOIC88	0-1.6	-	I	6	1	-	64	2-8	Y	[4-10]	N	N	N	9	N	Y	Y	5	
ATtiny20*	0.41-1.122	10	14/ 12/ 15/ 20	1.8-5.5 2.7-5.5 4.5-5.5	SOIC/TSSOP14, WCCSP12, UFPGA15, VQFN20	0-4 0-8 0-12	-	I	12/ 10/ 12/ 12	2	128	N	1-8 1-16 2PWMM	Y	[8-10]	N	N	M/S	17	Y	Y	Y	6	
ATtiny221 Attiny22L		99	8	4-6 2.7-6	8-PDIP 8-SOIC	0-8 0-4	-	I	5	2	128	128	1-8	N	-	N	N	N	3	N	Y	Y	7	
ATtiny24* 24V* 44* 44V* 84* 84V*	1.358-1.639 1.35-1.75 1.48-1.81 1.45-1.76 1.787-1.985 1.72-2.9		14/ 14/ 20	2.7-5.5 4.5-5.5 1.8-3.6	SOIC14, QFN/MLF20	0-8 0-16 4-8	DW	I	12	2/ 4/ 8	128/ 256/ 512	128/ 256/ 512	1-8 1-16 2PWMM	Y	[1(8S+ 12DG20)-10]	Y	N	N	17	N	Y	Y	8/ 9	
ATtiny24A* 44A* 84A*	0.51-1.53 0.55-2.11 0.6-1.44	08	14/ 20	1.8-5.5 2.7-5.5 4.5-5.5	PDIP/SOIC14 QFN/MLF/ VQFN20 UFPGA15-ball	0-4 0-10 0-20	DW	I	12	2/ 4/ 8	128/ 256/ 512	128/ 256/ 512	1-8 1-16 2PWMM	Y	[1(8S+ 12DG20)-10]	Y	N	N	17	N	Y	Y	10/ 11	
ATtiny25* 25V* ATtiny45* ATtiny45*	0.649-2.59 0.84-1.92 0.64-1.57	05	8/ 20	2.7-5.5 1.8-5.5	PDIP/SOIC8, QFN/MLF-20 TSSOP8(45/45V)	0-10 0-4	DW	I	6	2/ 4/ 8	128/ 256/ 512	128/ 256/ 512	2-8 2PWMM	Y	[1(4S- 2DG20)-10]	Y	N	N	15	Y	Y	Y	12	



											S(1.8-5.5)													
ATtiny202* 402*	0.31-0.62 0.31-0.847	18	8	1.8-5.5 2.7-5.5 4.5-5.5	SOIC8	0-5 0-10 0-20	UPDI	I(S)	6	24	128 256	64 128	TCAB 1-16RTC 1-SPWM 2-DPWM	Y	I[(6)-10]	N	Y	N	16	N	Y	W	25	
ATtiny204* 404* 804* 1604*	0.38-1.12 0.38-0.77 0.51-0.697 0.53-0.87	18	14	1.8-5.5 2.7-5.5 4.5-5.5	14-SOIC150	0-5 0-10 0-20	UPDI	I	12	21 41 81 162	128 256 512 1024	64 128 128 256	1-16 TCAB 1-16 RTC	Y	I[(10)-10]	N	1	M/S	M/S	30	N	3	Y	26
ATtiny212* 412*	0.33-0.68 0.34-0.67	17	8	1.8-5.5 2.7-5.5 4.5-5.5	8-SOIC150	0-5 0-10 0-20	UPDI	I	6	21 4	128 256 B	64 128 B	1-16 TCAB 1-16RTC 1-12TCD	Y	I[(6)-10], I[DAC-8]	N	1	M/S	M/S	25	N	3	W	27
ATtiny214* 414* 814*	0.37-.45 0.473-0.57 0.545-0.69	17	14	1.8-5.5 2.7-5.5 4.5-5.5	14-SOIC150	0-5 0-10 0-20	UPDI	I(S)	12	21 41 8	128 256 512	64 128 128	1-16 TCAB 1-16RTC 1-12TCD	Y	I[(10)-10], I[DAC-8]	N	1	M/S	M/S	25	Y	3	W	28
ATtiny406* 806* 1606*	0.515-0.79 0.556-0.71 0.576-0.89	18	20	1.8-5.5 2.7-5.5 4.5-5.5	20-VQF, 20-SOIC	0-5 0-10 0-20	UPDI	I(S)	18	41 81 162	256 512 1024	128 128 256	1-16 TCAB 1-16RTC	Y	I[(12)-10]	N	Y	M/S	M/S	30	Y	3	Y	29
ATtiny416* 816*	0.525-0.85 0.597-0.91	17	20	1.8-5.5 2.7-5.5 4.5-5.5	20-VQFN3x3, 20-SOIC300	0-5 0-10 0-20	UPDI	I(S)	18	41 8	256 512	128	1-16 TCAB 1-16RTC 1-12TCD	Y	I[(12)-10], I[DAC-8]	N	Y	M/S	M/S	25	Y	3	Y	31
ATtiny417* 817* 816* 814*	0.6-1.09 0.68-41.8 0.54-1.35 0.49-1.17	24 24 16 14	24 20 20 14	1.8-5.5 1.8-5.5 2.7-5.5 4.5-5.5	24-QFN4x4 24-QFN4x4 20-(QFN3x3, SOIC300) 14-SOIC150	0-5 0-5 0-10 0-20	UPDI	I(S)	221 221 181 12	41 81 512 512	256 512 128	1-16 TCAB 1-16RTC 1-12TCD	Y	I[(12)-10] I[(12)-10] (12)-10] (10)-10], I[DAC-8]	N	1	M/S	M/S	25	Y	3	W	32	
ATtiny828*	0.82-1.67	12	32	1.7-1.8 1.8-5.5 2.7-5.5 4.5-5.5	32-lead TQFP 32-pad QFN/MLF	0-2 0-4 0-10 0-20	DW	I	28	8	512	256	1-8 1-16 2PWM	Y	I[(12)-10]	N	M/S	S	y	26	N	Y	Y	33
ATtiny807* 1607*	0.62-0.953 0.65-1.61	18	24	1.8-5.5 2.7-5.5 4.5-5.5	24-VQFN4x4	0-5 0-10 0-20	UPDI	I(S)	22	81 162	512 1024	128 256	1-16 TCAB 1-16RTC	Y	I[(12)-10]	N	1	M/S	M/S	30	Y	3	Y	34
1614* 1616* 1617*	0.54-1.44 0.638-1.79 0.69-1.73	17 17 17	14 20 212	1.8-5.5 2.7-5.5 4.5-5.5	14-SOIC150 20-(QFN3x3, SOIC300) 24-QFN4x4	0-5 0-10 0-20	UPDI	I(S)	121 181 22	16 2K	256	1-16TCA 2-16TCB 1-16RTC 1-12TCD	3	2I(10+4)-10I 2(12+8)-10I 2(12+12)-10I, 3[DAC+1E]-8	N	1	M/S	M/S	30	Y	3	W	35	

a b(a or b) , a/b(a and b) , a\b( a , b) * Temperature Sensor	ATtiny1616  3216	0.638-1.79  0.77-1.77	18	20	1.8-5.5 2.7-5.5 4.5-5.5	20-VQFN3x3, SOIC300	0-5 0-10 0-20	(DW)Debug Wire (UPDI)Unified Program Debug Interface	I(S)	18	16  32	2K	256	1-16TCA 2-16TCB 1-16RTC 1-12TCD	3	2 [(12+8)-10], 3 [(DAC+1E)-8]	N	Y	M/S	M/S	30	Y	3	W	36
	ATtiny1634*  3217*	0.78-2.53	11	20	1.8-5.5 2.7-5.5 4.5-5.5	20-SOIC 20-QFN/MLF	0-2 0-8 0-12	DW	S	18	16	256	1	1-8 1-16 2PWM	Y	1 [(12+12)-10], 3 [(DAC+1E)-8]	Y	2	ISP	S	18	Y	Y	Y	37
	ATtiny1617*  3217*	0.69- 2.71 0.75-54.285	18	24	1.8-5.5 2.7-5.5 4.5-5.5	24-VQFN	0-5 0-10 0-20	UPDI	S	22	16  32	2	256	1-16TCA 2-16TCB 1-16RTC 1-12TCD	3	2 [(12+12)-10], 3 [(DAC+1E)-8]	N	1	M/S	M/S	30	Y	Y	W	38

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