

Table 3.23 Pentium Processor Model 1 (60/66MHz Version) Steppings

Type	Family	Model	Stepping	Mfg. Stepping	Speed	Comments Specification	Number
0	5	1	3	B1	50	Q0399	ES
0	5	1	3	B1	60	Q0352	
0	5	1	3	B1	60	Q0400	ES
0	5	1	3	B1	60	Q0394	ES, HS
0	5	1	3	B1	66	Q0353	5v1
0	5	1	3	B1	66	Q0395	ES, HS, 5v1
0	5	1	3	B1	60	Q0412	
0	5	1	3	B1	60	SX753	
0	5	1	3	B1	66	Q0413	5v2
0	5	1	3	B1	66	SX754	5v2
0	5	1	5	C1	60	Q0466	HS
0	5	1	5	C1	60	SX835	HS
0	5	1	5	C1	60	SZ949	HS, BOX
0	5	1	5	C1	66	Q0467	HS, 5v2
0	5	1	5	C1	66	SX837	HS, 5v2
0	5	1	5	C1	66	SZ950	HS, BOX, 5v2
0	5	1	7	D1	60	Q0625	HS
0	5	1	7	D1	60	SX948	HS
0	5	1	7	D1	60	SX974	HS, 5v3
0	5	1	7	D1	60	— *	HS, BOX
0	5	1	7	D1	66	Q0626	HS, 5v2
0	5	1	7	D1	66	SX950	HS, 5v2
0	5	1	7	D1	66	Q0627	HS, 5v3
0	5	1	7	D1	66	SX949	HS, 5v3
0	5	1	7	D1	66	— *	HS, BOX, 5v2

Tables 3.24, 3.25, 3.26, and 3.28 show all the different variations of Pentium 75/90/100/120/133/150/166/200/233/266MHz, classic and MMX processors. Table 3.24 lists classic (non-MMX) desktop models. Table 3.25 lists MMX desktop models. Explanations of all the specifications and the comments in the comments column follow Table 3.26, the listing of Pentium OverDrive models.

Table 3.24 Pentium Processor Versions and Steppings

Type	Family	Model	Stepping	Core Stepping	Speed (MHz) Core-Bus	S-Spec	Comments
0	5	2	1	B1	75-50	Q0540	ES
2	5	2	1	B1	75-50	Q0541	ES
0	5	2	1	B1	90-60	Q0542	STD
0	5	2	1	B1	90-60	Q0613	VR
2	5	2	1	B1	90-60	Q0543	DP
0	5	2	1	B1	100-66	Q0563	STD
0	5	2	1	B1	100-66	Q0587	VR
0	5	2	1	B1	100-66	Q0614	VR
0	5	2	1	B1	90-60	SX879	STD
0	5	2	1	B1	90-60	SX885	STD, MD
0	5	2	1	B1	90-60	SX909	VR
2	5	2	1	B1	90-60	SX874	DP, STD
0	5	2	1	B1	100-66	SX886	STD, MD
0	5	2	1	B1	100-66	SX910	VR, MD
0	5	2	2	B3	90-60	Q0628	STD
0/2	5	2	2	B3	90-60	Q0611	STD
0/2	5	2	2	B3	90-60	Q0612	VR
0	5	2	2	B3	100-66	Q0677	VRE
0	5	2	2	B3	90-60	SX923	STD
0	5	2	2	B3	90-60	SX922	VR
0	5	2	2	B3	90-60	SX921	STD
2	5	2	2	B3	90-60	SX942	DP, STD
2	5	2	2	B3	90-60	SX943	DP, VR
2	5	2	2	B3	90-60	SX944	DP, MD
0	5	2	2	B3	90-60	SZ951	BOX, STD
0	5	2	2	B3	100-66	SX960	VRE, MD
0/2	5	2	4	B5	75-50	Q0666	STD
0/2	5	2	4	B5	90-60	Q0653	STD
0/2	5	2	4	B5	90-60	Q0654	VR
0/2	5	2	4	B5	90-60	Q0655	STD, MD
0/2	5	2	4	B5	100-66	Q0656	STD, MD
0/2	5	2	4	B5	100-66	Q0657	VR, MD
0/2	5	2	4	B5	100-66	Q0658	VRE, MD
0	5	2	4	B5	120-60	Q0707	VRE

Type	Family	Model	Stepping	Core Stepping	Speed (MHz) Core-Bus	S-Spec	Comments
0	5	2	4	B5	120-60	Q0708	STD
0/2	5	2	4	B5	75-50	SX961	STD
0/2	5	2	4	B5	75-50	SZ977	BOX, STD
0/2	5	2	4	B5	90-60	SX957	STD
0/2	5	2	4	B5	90-60	SX958	VR
0/2	5	2	4	B5	90-60	SX959	STD, MD
0/2	5	2	4	B5	90-60	SZ978	BOX, STD
0/2	5	2	4	B5	100-66	SX962	VRE, MD
0/2	5	2	5	C2	75-50	Q0700	STD
0/2	5	2	5	C2	75-50	Q0749	STD, MD
0/2	5	2	5	C2	90-60	Q0699	STD
0/2	5	2	5	C2	100-50/66	Q0698	VRE, MD
0/2	5	2	5	C2	100-50/66	Q0697	STD
0	5	2	5	C2	120-60	Q0711	VRE, MD
0	5	2	5	C2	120-60	Q0732	VRE, MD
0	5	2	5	C2	133-66	Q0733	STD, MD
0	5	2	5	C2	133-66	Q0751	STD, MD
0	5	2	5	C2	133-66	Q0775	VRE, MD
0/2	5	2	5	C2	75-50	SX969	STD
0/2	5	2	5	C2	75-50	SX998	STD, MD
0/2	5	2	5	C2	75-50	SZ994	BOX, STD
0/2	5	2	5	C2	75-50	SU070	BOXF, STD
0/2	5	2	5	C2	90-60	SX968	STD
0/2	5	2	5	C2	90-60	SZ995	BOX, STD
0/2	5	2	5	C2	90-60	SU031	BOXF, STD
0/2	5	2	5	C2	100-50/66	SX970	VRE, MD
0/2	5	2	5	C2	100-50/66	SX963	STD
0/2	5	2	5	C2	100-50/66	SZ996	BOX, STD
0/2	5	2	5	C2	100-50/66	SU032	BOXF, STD
0	5	2	5	C2	120-60	SK086	VRE, MD
0	5	2	5	C2	120-60	SX994	VRE, MD
0 MD	5	2	5	C2	120-60	SU033	BOXF, VRE,
0	5	2	5	C2	133-66	SK098	STD, MD
0/2	5	2	B	cB1	120-60	Q0776	STD, No, STP
0/2	5	2	B	cB1	133-66	Q0772	STD, No, STP
0/2	5	2	B	cB1	133-66	Q0773	STD, STP
0/2 MD	5	2	B	cB1	133-66	Q0774	VRE, No, STP,
0/2	5	2	B	cB1	120-60	SK110	STD, No, STP

Table 3.24 Continued

Type	Family	Model	Stepping	Core Stepping	Speed (MHz) Core-Bus	S-Spec	Comments
0/2	5	2	B	cB1	133-66	SK106	STD, No, STP
0/2	5	2	B	cB1	133-66	S106J	STD, No, STP
0/2	5	2	B	cB1	133-66	SK107	STD, STP
0/2	5	2	B	cB1	133-66	SU038	BOXF, STD, No, STP
0/2	5	2	C	cC0	133-66	Q0843	STD, No
0/2	5	2	C	cC0	133-66	Q0844	STD
0/2	5	2	C	cC0	150-60	Q0835	STD
0/2	5	2	C	cC0	150-60	Q0878	STD, PPGA
0/2	5	2	C	cC0	150-60	SU122	BOXF, STD
0/2	5	2	C	cC0	166-66	Q0836	VRE, No
0/2	5	2	C	cC0	166-66	Q0841	VRE
0/2	5	2	C	cC0	166-66	Q0886	VRE, PPGA
0/2	5	2	C	cC0	166-66	Q0890	VRE, PPGA
0	5	2	C	cC0	166-66	Q0949	VRE, PPGA
0/2	5	2	C	cC0	200-66	Q0951F	VRE, PPGA
0	5	2	C	cC0	200-66	Q0951	VRE, PPGA
0	5	2	C	cC0	200-66	SL25H	BOXF, VRE, PPGA
0/2	5	2	C	cC0	120-60	SL22M	BOXF, STD
0/2	5	2	C	cC0	120-60	SL25J	BOX, STD
0/2	5	2	C	cC0	120-60	SY062	STD
0/2	5	2	C	cC0	133-66	SL22Q	BOXF, STD
0/2	5	2	C	cC0	133-66	SL25L	BOX, STD
0/2	5	2	C	cC0	133-66	SY022	STD
0/2	5	2	C	cC0	133-66	SY023	STD, No
0/2 No	5	2	C	cC0	133-66	SU073	BOXF, STD,
0/2	5	2	C	cC0	150-60	SY015	STD
0/2	5	2	C	cC0	150-60	SU071	BOXF, STD
0/2 MAXF	5	2	C	cC0	166-66	SL24R	VRE, No,
0/2	5	2	C	cC0	166-66	SY016	VRE, No
0/2	5	2	C	cC0	166-66	SY017	VRE
0/2	5	2	C	cC0	166-66	SU072	BOXF, VRE, No
0	5	2	C	cC0	166-66	SY037	VRE, PPGA
0/2	5	2	C	cC0	200-66	SY044	VRE, PPGA
0	5	2	C	cC0	200-66	SY045	BOXUF, VRE, PPGA
0	5	2	C	cC0	200-66	SU114	BOX, VRE, PPGA

Type	Family	Model	Stepping	Core Stepping	Speed (MHz) Core-Bus	S-Spec	Comments
0	5	2	C	cC0	200-66	SL24Q	VRE, PPGA, No, MAXF
0/2	5	2	6	E0	75-50	Q0837	STD
0/2	5	2	6	E0	90-60	Q0783	STD
0/2	5	2	6	E0	100-50/66	Q0784	STD
0/2	5	2	6	E0	120-60	Q0785	VRE
0/2	5	2	6	E0	75-50	SY005	STD
0/2	5	2	6	E0	75-50	SU097	BOX, STD
0/2	5	2	6	E0	75-50	SU098	BOXF, STD
0/2	5	2	6	E0	90-60	SY006	STD
0/2	5	2	6	E0	100-50/66	SY007	STD
0/2	5	2	6	E0	100-50/66	SU110	BOX, STD
0/2	5	2	6	E0	100-50/66	SU099	BOXF, STD
0/2	5	2	6	E0	120-60	SY033	STD
0/2	5	2	6	E0	120-60	SU100	BOXF, STD

Table 3.25 Pentium MMX Processor Versions and Steppings

Type	Family	Model	Stepping	Core Stepping	Core Speed (MHz)	S-Spec	Comments
0/2	5	4	4	xA3	150	Q020	ES, PGA
0/2	5	4	4	xA3	166	Q019	ES, PGA
0/2	5	4	4	xA3	200	Q018	ES, PGA
0/2	5	4	4	xA3	166	SL23T	BOXF, SPGA
0/2	5	4	4	xA3	166	SL23R	BOX, PGA
0/2	5	4	4	xA3	166	SL25M	BOXF, PGA
0/2	5	4	4	xA3	166	SY059	PGA
0/2	5	4	4	xA3	166	SL2HU	BOX, SPGA
0/2	5	4	4	xA3	166	SL239	SPGA
0/2	5	4	4	xA3	166	SL26V	SPGA, MAXF
0/2	5	4	4	xA3	166	SL26H	PGA, MAXF
0/2	5	4	4	xA3	200	SL26J	BOXUF, PGA, MAXF
0/2	5	4	4	xA3	200	SY060	PGA
0/2	5	4	4	xA3	200	SL26Q	BOX, PGA, MAXF
0/2	5	4	4	xA3	200	SL274	BOXF, PGA, MAXF
0/2	5	4	4	xA3	200	SL23S	BOX, PGA
0/2	5	4	4	xA3	200	SL25N	BOXF, PGA
0/2	5	4	3	xB1	166	Q125	ES, PGA
0/2	5	4	3	xB1	166	Q126	ES, SPGA
0/2	5	4	3	xB1	200	Q124	ES, PGA
0/2	5	4	3	xB1	233	Q140	ES, PGA
0/2	5	4	3	xB1	166	SL27H	PGA
0/2	5	4	3	xB1	166	SL27K	SPGA
0/2	5	4	3	xB1	166	SL2HX	BOX, SPGA
0/2	5	4	3	xB1	166	SL23X	BOXF, SPGA
0/2	5	4	3	xB1	166	SL2FP	BOX, PGA
0/2	5	4	3	xB1	166	SL23V	BOXF, PGA
0/2	5	4	3	xB1	200	SL27J	PGA
0/2	5	4	3	xB1	200	SL2FQ	BOX, PGA
0/2	5	4	3	xB1	200	SL23W	BOXF, PGA
0/2	5	4	3	xB1	233	SL27S	PGA
0/2	5	4	3	xB1	233	SL2BM	BOX, PGA
0/2	5	4	3	xB1	233	SL293	BOXF, PGA
0	5	4	3	mxB1	120	Q230	ES, TCP
0	5	4	3	mxB1	133	Q130	ES, TCP
0	5	4	3	mxB1	133	Q129	ES, PGA

Table 3.25 Continued

Type	Family	Model	Stepping	Core Stepping	Core Speed (MHz)	S-Spec	Comments
0	5	4	3	mxB1	150	Q116	ES, TCP
0	5	4	3	mxB1	150	Q128	ES, PPGA
0	5	4	3	mxB1	166	Q115	ES, TCP
0	5	4	3	mxB1	166	Q127	ES, PPGA
0	5	4	3	mxB1	200	Q586	PPGA
0	5	4	3	mxB1	133	SL27D	TCP
0	5	4	3	mxB1	133	SL27C	PPGA
0	5	4	3	mxB1	150	SL26U	TCP
0	5	4	3	mxB1	150	SL27B	PPGA
0	5	4	3	mxB1	166	SL26T	TCP
0	5	4	3	mxB1	166	SL27A	PPGA
0	5	4	3	mxB1	200	SL2WK	PPGA
0	5	8	1	myA0	166	Q255	TCP
0	5	8	1	myA0	166	Q252	TCP
0	5	8	1	myA0	166	SL2N6	TCP
0	5	8	1	myA0	200	Q146	TCP
0	5	8	1	myA0	233	Q147	TCP
0	5	8	1	myA0	200	SL28P	TCP
0	5	8	1	myA0	233	SL28Q	TCP
Type	Family	Model	Stepping	Core Stepping	Core Speed (MHz)	S-Spec	Comments
0	5	8	1	myA0	266	Q250	TCP
0	5	8	1	myA0	266	Q251	TCP
0	5	8	1	myA0	266	SL2N5	TCP
0	5	8	1	myA0	266	Q695	TCP
0	5	8	1	myA0	266	SL2ZH	TCP
0	5	8	2	myB2	266	Q766	TCP
0	5	8	2	myB2	266	Q767	TCP
0	5	8	2	myB2	266	SL23M	TCP
0	5	8	2	myB2	266	SL23P	TCP
0	5	8	2	myB2	300	Q768	TCP
0	5	8	2	myB2	300	SL34N	TCP

All the Pentium MMX processors listed in this table run on a 66MHz bus except for 150MHz models, which run on a 60MHz bus.

The following list explains all the entries in the Comments columns of these Tables 3.22–3.24.

**These chips have no specification number.*

ES = Engineering Sample. These chips were not sold through normal channels but were designed for development and testing purposes.

HS = Heat Spreader Package. This indicates a chip with a metal plate on the top, which is used to spread heat away from the center part of the chip. The heat spreader helps the chip run cooler; however, most later chips use a smaller, more powerful and efficient die, and Intel has been able to eliminate the heat spreader from these.

DP = Dual Processor version where Type 0 is primary only, Type 2 is secondary only, and Type 0 or 2 is either.

MD = Minimum Delay timing restrictions on several processor signals.

STD = Standard voltage range. The range for the C2 and subsequent steppings of the Pentium processor is 3.135v to 3.6v. The voltage range for B-step parts remains at 3.135v–3.465v. Note that all E0-step production parts are standard voltage.

VR = Voltage Reduced (3.300v–3.465v).

VRE = VR and Extended (3.45v–3.60v).

VRT = Voltage Reduction Technology.

TCP = Tape Carrier Package.

BOX = A retail boxed processor with a standard passive heat sink.

BOXF = A retail boxed processor with an active (fan-cooled) heat sink.

The absence of a package type in the comments column means the processor is SPGA by default.

2.285v = This is a mobile Pentium processor with MMX technology with a core operating voltage of 2.285v–2.665v.

MAXF = The part may run only at the maximum specified frequency. Specifically, a 200MHz may be run at 200MHz +0/-5 MHz (195–200MHz), and a 166MHz may be run at 166MHz +0/-5MHz (161–166MHz).

BOXUF = This part also ships as a boxed processor with an unattached fan heat sink.

1.8v = This is a mobile Pentium processor with MMX technology with a core operating voltage of 1.665v–1.935v and an I/O operating voltage of 2.375v–2.625v.

2.2v = This Pentium processor with MMX technology with a core operating voltage of 2.10v–2.34v.

2.0v = This is a mobile Pentium processor with MMX technology with a core operating voltage of 1.850v–2.150v and an I/O operating voltage of 2.375v–2.625v.

STP = The cB1 stepping is logically equivalent to the C2-step, but on a different manufacturing process. The mcB1 step is logically equivalent to the cB1 step (except it does not support DP, APIC, or FRC). The mcB1, mA1, mA4, and mcC0-steps also use Intel's VRT (Voltage Reduction Technology), and are available in the TCP and SPGA package, primarily to support mobile applications. The mxA3 is logically equivalent to the xA3 stepping, except it does not support DP or APIC.

NO = Part meets the specifications but is not tested to support 82498/82493 and 82497/82492 cache timings.