
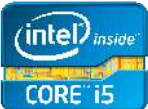



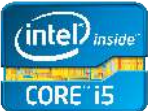




Intel® processor reference chart - Desktop PCs with 2nd and 3rd generation Intel Processor family

Intel® Brand or Processor Family	Processor Number	Base Frequency (GHz)	Memory Speed DDR3 only (MHz)	Cache	Cores / Threads	Intel® Technologies					
						Intel® VT ¹⁵	Intel® HD Graphics	Intel® 64 ²²	Intel® Clear Video HD Technology	Intel® Turbo Boost Technology ¹⁸ (Max Turbo) GHz	
3rd Generation Intel® Core™ Processor Family (22nm)											
	i7-3770K	3.50	1600/1333	8 MB L3	4/8	✓	✓	✓	✓	3.90	
	i7-3770	3.40	1600/1333	8 MB L3	4/8	✓	✓	✓	✓	3.90	
	i5-3570K	3.40	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.80	
	i5-3570	3.40	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.80	
	i5-3550	3.30	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.70	
	i5-3470	3.20	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.60	
	i5-3450	3.10	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.50	
	i7-3770S	3.10	1600/1333	8 MB L3	4/8	✓	✓	✓	✓	3.90	
	i7-3770T	2.50	1600/1333	8 MB L3	4/8	✓	✓	✓	✓	3.70	
	i5-3570S	3.10	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.80	
	i5-3570T	2.30	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.30	
	i5-3550S	3.00	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.70	
	i5-3475S	2.90	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.60	
	i5-3470S	2.90	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.60	
	i5-3450S	2.80	1600/1333	6 MB L3	4/4	✓	✓	✓	✓	3.50	
	i5-3470T	2.90	1600/1333	3 MB L3	2/4	✓	✓	✓	✓	3.60	
	Intel® Pentium® and Celeron® Processor Family (32nm)										
		Pentium G870	3.10	1333/1066	3 MB L3	2/2	✓	✓	✓		NA
Pentium G860		3.00	1333/1066	3 MB L3	2/2	✓	✓	✓		NA	
Pentium G860T		2.60	1333/1066	3 MB L3	2/2	✓	✓	✓		NA	
Pentium G850		2.90	1333/1066	3 MB L3	2/2	✓	✓	✓		NA	
Pentium G840		2.80	1333/1066	3 MB L3	2/2	✓	✓	✓		NA	
Pentium G645T		2.50	1066	3 MB L3	2/2	✓	✓	✓		NA	
Pentium G640		2.80	1066	3 MB L3	2/2	✓	✓	✓		NA	
Pentium G640T		2.40	1066	3 MB L3	2/2	✓	✓	✓		NA	
Pentium G630		2.70	1066	3 MB L3	2/2	✓	✓	✓		NA	
Pentium G620		2.60	1066	3 MB L3	2/2	✓	✓	✓		NA	
	Pentium G620T	2.20	1066	3 MB L3	2/2	✓	✓	✓		NA	
	Celeron G550	2.60	1066	2 MB L3	2/2	✓	✓	✓		NA	
	Celeron G550T	2.20	1066	2 MB L3	2/2	✓	✓	✓		NA	
	Celeron G540	2.50	1066	2 MB L3	2/2	✓	✓	✓		NA	
	Celeron G540T	2.10	1066	2 MB L3	2/2	✓	✓	✓		NA	
	Celeron G530	2.40	1066	2 MB L3	2/2	✓	✓	✓		NA	
	Celeron G460	1.80	1066	1.5 MB L3	1/2	✓	✓	✓		NA	
	Celeron G440	1.60	1066	1 MB L3	1/1	✓	✓	✓		NA	





Intel® processor reference chart - Desktop PCs

Intel® Brand or Processor Family	Processor Number	Base Frequency (GHz)	Memory Speed DDR3 only (MHz)	Cache	Cores / Threads	Intel® Technologies				
						Intel® VT ¹⁵	Intel® HD Graphics	Intel® 64 ²²	Intel® Clear Video HD Technology	Intel® Turbo Boost Technology ¹⁸ (Max Turbo) GHz
2nd Generation Intel® Core™ Processor Family (32nm)										
	i7-3960X	3.30	1600/1333	15 MB L3	6/12	✓		✓		3.90
	i7-3930K	3.20	1600/1333	12 MB L3	6/12	✓		✓		3.80
	i7-3820	3.60	1600/1333	10 MB L3	4/8	✓		✓		3.80
	i7-2700K	3.50	1333/1066	8 MB L3	4/8	✓	✓	✓	✓	3.90
	i7-2600	3.40	1333/1066	8 MB L3	4/8	✓	✓	✓	✓	3.80
	i7-2600K	3.40	1333/1066	8 MB L3	4/8	✓	✓	✓	✓	3.80
	i7-2600S	2.80	1333/1066	8 MB L3	4/8	✓	✓	✓	✓	3.80
	i5-2550K	3.40	1333/1066	6 MB L3	4/4	✓		✓		3.80
	i5-2500	3.30	1333/1066	6 MB L3	4/4	✓	✓	✓	✓	3.70
	i5-2500K	3.30	1333/1066	6 MB L3	4/4	✓	✓	✓	✓	3.70
	i5-2500S	2.70	1333/1066	6 MB L3	4/4	✓	✓	✓	✓	3.70
	i5-2500T	2.30	1333/1066	6 MB L3	4/4	✓	✓	✓	✓	3.30
	i5-2450P	3.20	1333/1066	6 MB L3	4/4	✓		✓		3.50
	i5-2405S	2.50	1333/1066	6 MB L3	4/4	✓	✓	✓	✓	3.30
	i5-2400	3.10	1333/1066	6 MB L3	4/4	✓	✓	✓	✓	3.40
	i5-2400S	2.50	1333/1066	6 MB L3	4/4	✓	✓	✓	✓	3.30
	i5-2390T	2.70	1333/1066	3 MB L3	2/4	✓	✓	✓	✓	3.50
	i5-2380P	3.10	1333/1066	6 MB L3	4/4	✓		✓		3.40
	i5-2320	3.00	1333/1066	6 MB L3	4/4	✓	✓	✓	✓	3.30
	i5-2310	2.90	1333/1066	6 MB L3	4/4	✓	✓	✓	✓	3.20
	i3-2130	3.40	1333/1066	3 MB L3	2/4	✓	✓	✓	✓	NA
	i3-2125	3.30	1333/1066	3 MB L3	2/4	✓	✓	✓	✓	NA
	i3-2120	3.30	1333/1066	3 MB L3	2/4	✓	✓	✓	✓	NA
	i3-2120T	2.60	1333/1066	3 MB L3	2/4	✓	✓	✓	✓	NA
	i3-2100	3.10	1333/1066	3 MB L3	2/4	✓	✓	✓	✓	NA
	i3-2100T	2.50	1333/1066	3 MB L3	2/4	✓	✓	✓	✓	NA
	Intel® Atom™ Processors									
	D2550	1.86	NA	1 MB L2	2/4				✓	✓
	D2500	1.86	NA	1 MB L2	2/2				✓	✓
	D525†	1.80	NA	1 MB L2	2/4				✓	✓
	D425†	1.80	NA	512 K L2	1/2				✓	✓


† Supports both DDR2 and DDR3 Memory


Intel® processor reference chart - Notebooks

with 2nd and 3rd generation Intel Processor family


Intel® Brand or Processor Family	Processor Number	Base Frequency (GHz)	Memory Speed DDR3 only (MHz)	Cache	Cores / Threads	Intel® Technologies			
						Intel® VT ¹⁵	Intel® HD Graphics	Intel® vPro™ Technology ¹³	Intel® Turbo Boost Technology ¹⁸ (Max Turbo) GHz
3rd Generation Intel® Core™ i7 and i5 - Ultra Processors (22nm)									
	i7-3667U	2.00	1600	4 MB L3	2/4	✓	✓	✓	3.20
	i5-3427U	1.80	1600	3 MB L3	2/4	✓	✓	✓	2.80
3rd Generation Intel® Core™ i7 and i5 - DC Power Optimized Performance Processors (22nm)									
	i7-3520M	2.90	1600	4 MB L3	2/4	✓	✓	✓	3.60
	i5-3360M	2.80	1600	3 MB L3	2/4	✓	✓	✓	3.50
	i5-3320M	2.60	1600	3 MB L3	2/4	✓	✓	✓	3.30
3rd Generation Intel® Core™ i7 - Extreme Edition and QC Performance Processors (22nm)									
	i7-3920XM	2.90	1600	8 MB L3	4/8	✓	✓	✓	3.80
	i7-3820QM	2.70	1600	8 MB L3	4/8	✓	✓	✓	3.70
	i7-3720QM	2.60	1600	6 MB L3	4/8	✓	✓	✓	3.60
2nd Generation Intel® Core™ i7 Extreme Edition, Intel® Core™ i7 and i5 Processors (32nm)									
	i7-2960XM	2.70	1600	8 MB L3	4/8	✓	✓	✓	3.70
	i7-2860QM	2.50	1600	8 MB L3	4/8	✓	✓	✓	3.60
	i7-2760QM	2.40	1600	6 MB L3	4/8	✓	✓	✓	3.50
	i7-2649M	2.30	1333	4 MB L3	2/4	✓	✓	✓	3.20
	i7-2640M	2.80	1333	4 MB L3	2/4	✓	✓	✓	3.50
	i7-2629M	2.10	1333	4 MB L3	2/4	✓	✓	✓	3.00
	i7-2677M	1.80	1333	4 MB L3	2/4	✓	✓	✓	2.90
	i7-2637M	1.70	1333	4 MB L3	2/4	✓	✓	✓	2.80
	i5-2557M	1.70	1333	3 MB L3	2/4	✓	✓	✓	2.70
	i5-2540M	2.60	1333	3 MB L3	2/4	✓	✓	✓	3.30
	i5-2520M	2.50	1333	3 MB L3	2/4	✓	✓	✓	3.20


Intel® processor reference chart - Notebooks

Intel® Brand or Processor Family	Processor Number	Base Frequency (GHz)	Memory Speed DDR3 only (MHz)	Cache	Cores / Threads	Intel® Technologies				
						Intel® VT ¹⁵	Intel® HD Graphics	Intel® vPro™ Technology ¹³	Intel® Turbo Boost Technology ¹⁸ (Max Turbo) GHz	
	Intel® Celeron Processors (32nm)									
	B840	1.90	1333	2 MB L3	2/2	✓	✓			NA
	B830	1.80	1333	2 MB L3	2/2	✓	✓			NA
	B815	1.60	1333	2 MB L3	2/2	✓	✓			NA
	B800	1.50	1333	2 MB L3	2/2	✓	✓			NA
	B720	1.70	1333	1.5 MB L3	1/1	✓	✓			NA
	B710	1.60	1333	1.5 MB L3	1/1	✓	✓			NA
	867	1.30	1333	2 MB L3	2/2	✓	✓			NA
	857	1.20	1333	2 MB L3	2/2	✓	✓			NA
797	1.40	1333	1.5 MB L3	1/1	✓	✓			NA	

Intel® Brand or Processor Family	Processor Number	Clock Speed (GHz)	Front Side Bus (MHz)	Memory Speed DDR3 only (MHz)	L2 Cache	Cores / Threads	Intel® Technologies				
							Intel® VT ¹⁵	Enhanced Intel SpeedStep® Technology	Intel® 64 ²²	Execute Disable Bit ²³	
	Intel® Atom™ Processors (32nm)										
	N2800	1.86		1066	1 MB L2	2/4		✓		✓	✓
	N2600	1.60		800	1 MB L2	2/4		✓		✓	✓

Intel® processor reference chart - Servers

Intel® Brand or Processor Family	Processor Number	Clock Speed (GHz)	Front Side Bus (MHz)	Memory Speed DDR3 only (MHz)	Cache	Intel® QPI® (GT/Sec)	Cores / Threads	Power (Max TDP)	System Type
	Intel® Itanium® Processors 9000 Sequence~								
	9350	1.73			24 MB L3	4.80	4/8	185W	MP
	9340	1.60			20 MB L3	4.80	4/8	185W	MP
	9330	1.46			20 MB L3	4.80	4/8	155W	MP
	9320	1.33			16 MB L3	4.80	4/8	155W	MP
	9310	1.60			10 MB L3	4.80	2/4	130W	MP



Intel® Brand or Processor Family	Processor Number	Core Freq (GHz)	Max Memory Freq† (MHz)	Cache	Intel® QPI® (GT/Sec)	Cores / Threads	Power (Max TDP)	Intel® Turbo Boost Technology ¹⁸	Scalability
	Intel® Xeon® Processors E7-8800/4800/2800 Sequence~								
	E7-8870	2.40	1066	30 MB L3	6.40	10/20	130W	✓	S8S
	E7-8860	2.26	1066	24 MB L3	6.40	10/20	130W	✓	S8S
	E7-8850	2.00	1066	24 MB L3	6.40	10/20	130W	✓	S8S
	E7-8830	2.13	1066	24 MB L3	6.40	8/16	105W	✓	S8S
	E7-8867L	2.13	1066	30 MB L3	6.40	10/20	105W	✓	S8S
	E7-8837	2.67	1066	24 MB L3	6.40	8/8	130W	✓	S8S
	E7-4870	2.40	1066	30 MB L3	6.40	10/20	130W	✓	S4S
	E7-4860	2.26	1066	24 MB L3	6.40	10/20	130W	✓	S4S
	E7-4850	2.00	1066	24 MB L3	6.40	10/20	130W	✓	S4S
	E7-4830	2.13	1066	24MB L3	6.40	8/16	105W	✓	S4S
	E7-4820	2.00	978 [‡]	18 MB L3	5.86	8/16	105W	✓	S4S
	E7-4807	1.86	800 [‡]	18 MB L3	4.80	6/12	95W		S4S
	E7-2870	2.40	1066	30 MB L3	6.40	10/20	130W	✓	S2S
	E7-2860	2.26	1066	24 MB L3	6.40	10/20	130W	✓	S2S
	E7-2850	2.00	1066	24 MB L3	6.40	10/20	130W	✓	S2S
	E7-2830	2.13	1066	24MB L3	6.40	8/16	105W	✓	S2S
	E7-2820	2.00	978 [‡]	18 MB L3	5.86	8/16	105W	✓	2S-Only
	E7-2803	1.73	800 [‡]	18 MB L3	4.80	6/12	105W		2S-Only

‡ 1066 Mhz frequency runs at an effective frequency of 978 Mhz when run at 5.86GHz SMI link speed

Φ Intel® QuickPath Interconnect (Intel® QPI) unleashes the parallel processing performance of next-generation Intel® 45nm microarchitectures.

Intel® processor reference chart - Servers

with Intel® Xeon® E5 Processors




Intel® Brand or Processor Family	Processor Number	Clock Speed (GHz)	Memory Speed DDR3 only (MHz)	Cache	Intel® QPI ^φ (GT/Sec)	Cores / Threads	Power (Max TDP)	Intel® Turbo Boost Technology ¹⁸	System Type
	Intel® Xeon® Processor E5-4600 Sequence~								
	E5-4650	2.70	1600/1333/1066/800	20MB L3	8.00	8/16	130	✓	S4S
	E5-4650L	2.60	1600/1333/1066/800	20MB L3	8.00	8/16	155	✓	S4S
	E5-4640	2.40	1600/1333/1066/800	20MB L3	8.00	8/16	95	✓	S4S
	E5-4620	2.20	1333/1066/800	16MB L3	7.20	8/16	95	✓	S4S
	E5-4617	2.90	1600/1333/1066/800	15MB L3	7.20	6/6	130	✓	S4S
	E5-4610	2.40	1333/1066/800	15MB L3	7.20	6/12	95	✓	S4S
	E5-4607	2.20	1066/800	12MB L3	6.40	6/12	95		S4S
E5-4603	2.00	1066/800	10MB L3	6.40	4/8	95		S4S	
	Intel® Xeon® Processor E5-2600 and E5-1600 Sequence~								
	E5-2690	2.90	1600/1333/1066/800	20MB L3	8.00	8/16	135	✓	DP
	E5-2687W ^φ	3.10	1600/1333/1066/800	20MB L3	8.00	8/16	150	✓	DP
	E5-2680	2.70	1600/1333/1066/800	20MB L3	8.00	8/16	130	✓	DP
	E5-2670	2.60	1600/1333/1066/800	20MB L3	8.00	8/16	115	✓	DP
	E5-2667	2.90	1600/1333/1066/800	15MB L3	8.00	6/12	130	✓	DP
	E5-2665	2.40	1600/1333/1066/800	20MB L3	8.00	8/16	115	✓	DP
	E5-2660	2.20	1600/1333/1066/800	20MB L3	8.00	8/16	95	✓	DP
	E5-2650	2.00	1600/1333/1066/800	20MB L3	8.00	8/16	95	✓	DP
	E5-2650L	1.80	1600/1333/1066/800	20MB L3	7.20	8/16	70	✓	DP
	E5-2643	3.30	1600/1333/1066/800	10MB L3	8.00	4/8	130	✓	DP
	E5-2640	2.50	1333/1066/800	15MB L3	7.20	6/12	95	✓	DP
	E5-2637	3.00	1600/1333/1066/800	5MB L3	8.00	2/4	80	✓	DP
	E5-2630	2.30	1333/1066/800	15MB L3	7.20	6/12	95	✓	DP
	E5-2630L	2.00	1333/1066/800	15MB L3	7.20	6/12	60	✓	DP
	E5-2620	2.00	1333/1066/800	15MB L3	7.20	6/12	95	✓	DP
	E5-2609	2.40	1066/800	10MB L3	6.40	4/4	80	✓	DP
	E5-2603	1.80	1066/800	10MB L3	6.40	4/4	80	✓	DP
	E5-1660	3.30	1600/1333/1066	15MB L3		6/12	130	✓	UP
	E5-1650	3.20	1600/1333/1066	12MB L3		6/12	130	✓	UP
E5-1620	3.60	1600/1333/1066	10MB L3		4/8	130	✓	UP	

φ Intel® QuickPath Interconnect (Intel® QPI) unleashes the parallel processing performance of next-generation Intel® 45nm microarchitectures.

<< Workstation only SKU

Intel® processor reference chart - Servers

with Intel® Xeon® E5 and E3 Processors


Intel® Brand or Processor Family	Processor Number	Clock Speed (GHz)	Memory Speed DDR3 only (MHz)	Cache	Intel® QPI® (GT/Sec)	Cores / Threads	Power (Max TDP)	Intel® Turbo Boost Technology ¹⁸	System Type
	Intel® Xeon® Processor E5-2400 Sequence~								
	E5-2470	2.30	1600/1333/1066/800	20MB L3	8.00	8/16	95W	✓	S2S
	E5-2450	2.10	1600/1333/1066/800	20MB L3	8.00	8/16	95W	✓	S2S
	E5-2450L	1.80	1600/1333/1066/800	20MB L3	8.00	8/16	70W	✓	S2S
	E5-2440	2.40	1333/1066/800	15MB L3	7.20	6/12	95W	✓	S2S
	E5-2430	2.20	1333/1066/800	15MB L3	7.20	6/12	95W	✓	S2S
	E5-2430L	2.00	1333/1066/800	15MB L3	7.20	6/12	60W	✓	S2S
	E5-2420	1.90	1333/1066/800	15MB L3	7.20	6/12	95W	✓	S2S
	E5-2407	2.20	1066/800	10MB L3	6.40	4/4	80W		S2S
	E5-2403	1.80	1066/800	10MB L3	6.40	4/4	80W		S2S
Intel® Brand or Processor Family	Processor Number	Clock Speed (GHz)	Memory Speed DDR3 only (MHz)	Cache	Cores / Threads	Power (Max TDP)	Intel® Turbo Boost Technology ¹⁸	System Type	
	Intel® Xeon® Processors E3-1200 Sequence~								
	E3-1290*	3.60	1333/1066	8 MB L3	4/8	95W	✓	UP	
	E3-1280	3.50	1333/1066	8 MB L3	4/8	95W	✓	UP	
	E3-1270	3.40	1333/1066	8 MB L3	4/8	80W	✓	UP	
	E3-1260L	2.40	1333/1066	8 MB L3	4/8	45W	✓	UP	
	E3-1240	3.30	1333/1066	8 MB L3	4/8	80W	✓	UP	
	E3-1230	3.20	1333/1066	8 MB L3	4/8	80W	✓	UP	
	E3-1220	3.10	1333/1066	8 MB L3	4/4	80W	✓	UP	
	E3-1220L	2.20	1333/1066	3 MB L3	2/4	20W	✓	UP	
	E3-1275 [§]	3.40	1333/1066	8 MB L3	4/8	95W	✓	UP	
	E3-1245 [§]	3.30	1333/1066	8 MB L3	4/8	95W	✓	UP	
	E3-1235 [§]	3.20	1333/1066	8 MB L3	4/8	95W	✓	UP	
	E3-1225 [§]	3.10	1333/1066	6 MB L3	4/4	95W	✓	UP	
	Intel® Xeon® Processors E3-1200v2 Sequence~								
	E3-1290 v2*	3.70	1600/1333	8 MB L3	4/8	87W	✓	UP	
	E3-1280 v2	3.60	1600/1333	8 MB L3	4/8	69W	✓	UP	
	E3-1270 v2	3.50	1600/1333	8 MB L3	4/8	69W	✓	UP	
	E3-1265L v2	2.50	1600/1333	8 MB L3	4/8	45W	✓	UP	
	E3-1240 v2	3.40	1600/1333	8 MB L3	4/8	69W	✓	UP	
	E3-1230 v2	3.30	1600/1333	8 MB L3	4/8	69W	✓	UP	
	E3-1220 v2	3.10	1600/1333	8 MB L3	4/4	69W	✓	UP	
	E3-1220L v2	2.30	1600/1333	3 MB L3	2/4	17W	✓	UP	
	E3-1275 v2	3.50	1600/1333	8 MB L3	4/8	77W	✓	UP	
	E3-1245 v2	3.40	1600/1333	8 MB L3	4/8	77W	✓	UP	
	E3-1225 v2	3.20	1600/1333	8 MB L3	4/4	77W	✓	UP	

* Requires high efficiency heatsink capable of maintaining 85°C Tcase

§ These SKUs are with Integrated HD Graphics for Workstation

☐ Intel® QuickPath Interconnect (Intel® QPI) unleashes the parallel processing performance of next-generation Intel® 45nm microarchitectures.

Intel® processor reference chart - Servers

Intel® Brand or Processor Family	Processor Number	Clock Speed (GHz)	Memory Speed DDR3 only (MHz)	Cache	Intel® QPI® (GT/Sec)	Cores / Threads	Power	System Type
	Intel® Xeon® Processors 3500 Sequence~							
	W3580	3.33	1333/1066/800	8 MB° L3	6.40	4/8	130W	UP
	W3565	3.20	1066/800	8 MB° L3	4.80	4/8	130W	UP
	W3550	3.06	1066/800	8 MB° L3	4.80	4/8	130W	UP
	W3530	2.80	1066/800	8 MB° L3	4.80	4/8	130W	UP
	W3520	2.66	1066/800	8 MB° L3	4.80	4/8	130W	UP

⌀ Intel® QuickPath Interconnect (Intel® QPI) unleashes the parallel processing performance of next-generation Intel® 45nm microarchitectures.

◇ Intel® Smart Cache provides a higher-performance, more-efficient cache subsystem. Optimized for industry-leading multi-threaded applications.