

Motorola PowerPC CPU Summary

revised 7/17/2000

	603e		8240	740		745	750		755	7400
	100-133 MHz	200-300 MHz	200-250 MHz	200-266 MHz	300-333 MHz	300-350 MHz	200-266 MHz	300-400 MHz	300-400 MHz	350-500 MHz
CPU Speed - Internal	100 MHz 133 MHz	200 MHz* 266 MHz 300 MHz	200 MHz* 250 MHz	200 MHz 233 MHz 266 MHz	300 MHz 333 MHz	300 MHz * 350 MHz	200 MHz 233 MHz 266 MHz	300 MHz 333 MHz 366 MHz 400 MHz	300 MHz * 350 MHz 400 MHz	350 MHz 400 MHz 450 MHz 500 MHz
CPU Bus Dividers	x1.5, x2, x2.5, x3, x3.5, x4	x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5, x6	x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5, x6	x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8	x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8	x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8, x10	x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8	x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8	x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8, x10	x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8, x9
Bus Interface	64- & 32-bit modes	64- & 32-bit modes	64-bit memory bus 32-bit PCI bus	64 bits	64 bits	64- & 32-bit modes	64 bits	64 bits	64- & 32-bit modes	64 bits
Instructions per Clock	3 (2+branch)	3 (2+branch)	3 (2+branch)	3 (2+branch)	3 (2+branch)	3 (2+branch)	3 (2+branch)	3 (2+branch)	3 (2+branch)	3 (2+branch)
L1 Cache	16 Kbyte inst 16 Kbyte data	16 Kbyte inst 16 Kbyte data	16 Kbyte inst 16 Kbyte data	32 Kbyte inst 32 Kbyte data	32 Kbyte inst 32 Kbyte data	32 Kbyte inst 32 Kbyte data	32 Kbyte inst 32 Kbyte data	32 Kbyte inst 32 Kbyte data	32 Kbyte inst 32 Kbyte data	32 Kbyte inst 32 Kbyte data
Backside L2 Cache Support	—	—	—	—	—	—	256, 512 Kbyte 1 Mbyte	256, 512 Kbyte 1 Mbyte	256, 512 Kbyte 1 Mbyte	512 Kbyte 1 or 2 Mbyte
Core-to-L2 Frequency Divisions	—	—	—	—	—	—	1:1, 1.5:1, 2:1, 2.5:1, 3:1	1:1, 1.5:1, 2:1, 2.5:1, 3:1	1:1, 1.5:1, 2:1, 2.5:1, 3:1	1:1, 1.5:1, 2:1, 2.5:1, 3:1, 3.5:1, 4:1
Typical/Maximum Power Dissipation	4.2W/5.3W @ 133 MHz	4.0W/6.0W @ 300 MHz	3.0W @ 200 MHz	5.7W/7.9W @ 266 MHz	4.2W/6.0W 333 MHz @	4.0W/5.7W 350 MHz @	5.7W/7.9W @ 266 MHz	5.8W/8.0W 400 MHz @	4.5W/6.4W @ 400 MHz	5.0W/11.5W @ 400 MHz
Die Size	98 sq mm	42 sq mm	78 sq mm	67 sq mm	67 sq mm	51 sqmm	67 sq mm	67 sq mm	51 sqmm	83 sqmm
Package	240 CQFP 255 CBGA	255 CBGA - all; 255 PBGA @ 200	352 TBGA	255 CBGA	255 CBGA	255 PBGA	360 CBGA	360 CBGA	360 PBGA	360 CBGA
Process	0.5µ 4LM	0.29µ 5LM	0.29µ 5LM	0.29µ 5LM	0.25µ 5LM	0.22µ 5LM	0.29µ 5LM	0.25µ 5LM	0.22µ 5LM	0.18µ 5LM
Voltage	3.3V	3.3V i/o 2.5V int	3.3V i/o 2.5V int	3.3V i/o 2.6V int	3.3V i/o 1.9V int	1.8/3.3V i/o 2.0V int	3.3V i/o 2.6V int	3.3V i/o 1.9V int	1.8/3.3V i/o 2.0V int	1.8/2.5/3.3V i/o 1.8/2.05V int
SPECint95 (est.)	3.9 @ 133 MHz	7.4 @ 300 MHz	6.2 @ 250 MHz	11.5 @ 266 MHz	14.4 @ 333 MHz	15.7 @ 350 MHz	12.0 @ 266 MHz	18.1 @ 400 MHz	18.1 @ 400 MHz	22.8 @ 500 MHz
SPECfp95 (est.)	3.1 @ 133 MHz	6.1 @ 300 MHz	5.2 @ 250 MHz	6.9 @ 266 MHz	8.7 @ 333 MHz	11.6 @ 350 MHz	7.4 @ 266 MHz	12.3 @ 400 MHz	12.3 @ 400 MHz	17.0 @ 500 MHz
Other Performance	188 MIPS @ 133 MHz	423 MIPS @ 300 MHz	352 MIPS @ 250 MHz	488 MIPS @ 266 MHz	610 MIPS @ 333 MHz	641 MIPS @ 350 MHz	488 MIPS @ 266 MHz	733 MIPS @ 400 MHz	733 MIPS @ 400 MHz	917 MIPS @ 500 MHz
Samples	NOW	NOW	NOW	NOW	NOW	3Q00	NOW	NOW	NOW (CBGA)	NOW
Production	NOW	NOW	NOW	NOW	NOW	3Q00	NOW	NOW	3Q00	NOW
Execution Units	Integer Float Branch Load/Store System	Integer Float Branch Load/Store System	Integer Float Branch Load/Store PCI, DMA, Memory Control	Integer (2) Float Branch Load/Store System	Integer (2) Float Branch Load/Store System	Integer (2) Float Branch Load/Store System	Integer (2) Float Branch Load/Store System	Integer (2) Float Branch Load/Store System	Integer (2) Float Branch Load/Store System	Integer (2) Float Vector Branch Load/Store System
	Not recommended for new designs	Also available in industrial temp		Also available in industrial temp	Not recommended for new designs		Also available in industrial temp	Not recommended for new designs		Also available in industrial temp