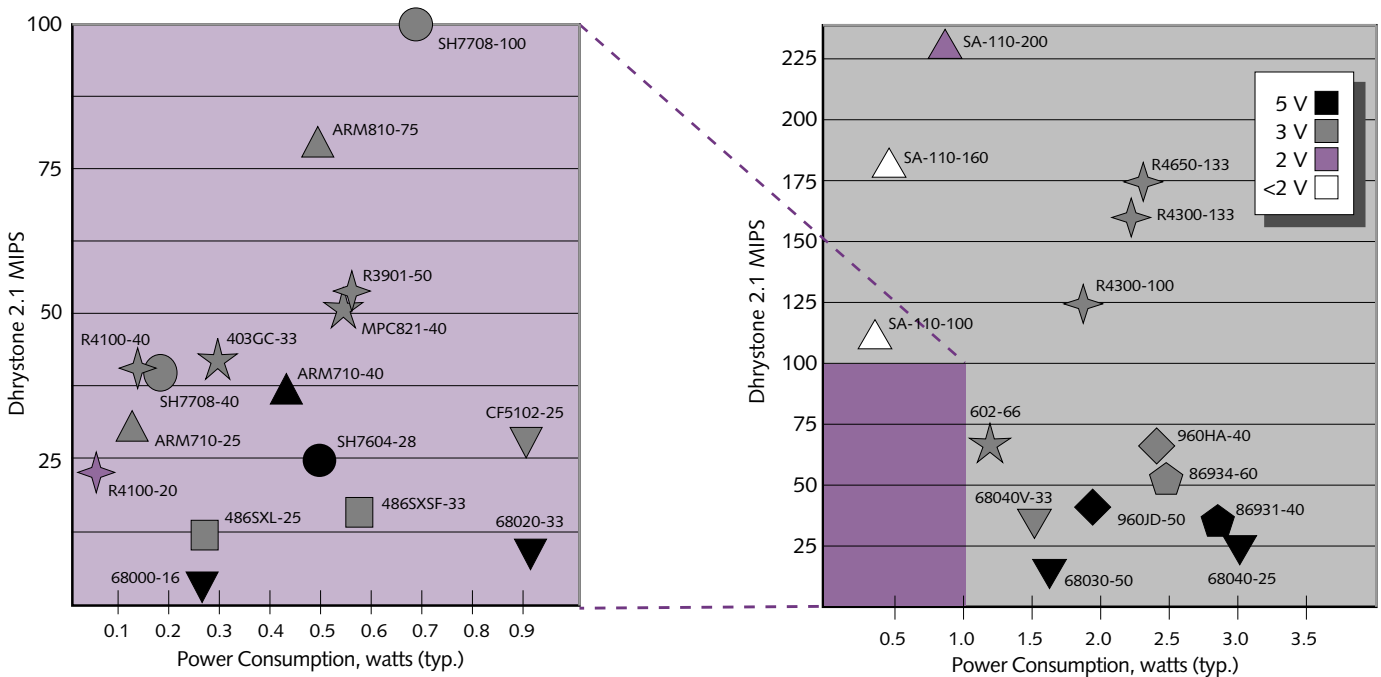
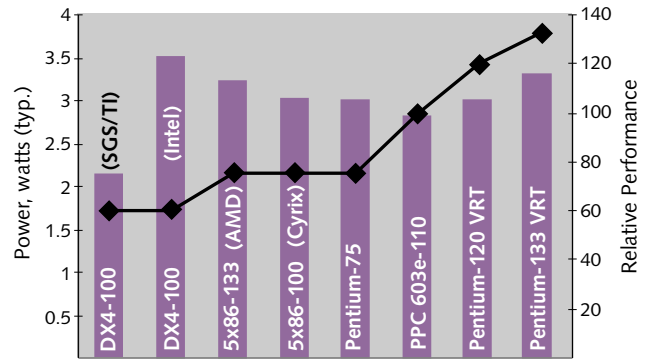


CHART WATCH: MOBILE PROCESSORS



This Chart Watch covers low-power processors for portable and battery-powered systems. The table and the chart in the upper-right show the performance/power ratio for a number of embedded CPUs and notebook processors; the chart above is an inset for the lowest-power of these processors.

The chart on the right compares Pentium and Pentium-class processors, including relative performance (diamonds) and typical power consumption (bars).



	SA-110	ARM710	SH7708	PPC 602	R4100	R3901	CF5102	486SXSF	486SXL
Vendor	Digital	VLSI	Hitachi	Motorola	NEC	Toshiba	Motorola	Intel	National
Clock rate	200 MHz	40 MHz	100 MHz	66 MHz	40 MHz	50 MHz	25 MHz	33 MHz	25 MHz
I/D cache	16K/16K	8K	8K	4K/4K	2K/1K	4K/1K	2K/1K	8K	1K/0K
FPU?	No	No	No	Yes	No	No	No	No	No
MMU?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Bus width	32 bits	32 bits	32 bits	64 bits	32 bits	32 bits	32 bits	32 bits	16 bits
Bus frequency	66 MHz	40 MHz	25 MHz	33 MHz	20 MHz	50 MHz	25 MHz	33 MHz	25 MHz
MIPS	215 MIPS	36 MIPS	100 MIPS	65 MIPS*	40 MIPS*	52 MIPS	27 MIPS	16 MIPS*	12 MIPS
Voltage§	2.0/3.3 V	5 V	3.3 V	3.3 V	3.3 V	3.3 V	3.3 V	2.7 V	3.3 V
Power (typ)	900 mW	424 mW	700 mW	1,200 mW	120 mW	550 mW	900 mW	515 mW	260 mW
MIPS/watt	239	85	143	54	333	95	30	31	46
MIPS/mm ²	4.30	1.04	2.37	1.30	1.60	0.72	n/a	n/a	0.41
Transistors	2,100,000	570,295	800,000	1,000,000	450,000	510,000	n/a	n/a	256,000
IC process	0.35µ 3M	0.6µ 2M	0.5µ 3M	0.65µ 4M	0.5µ 3M	0.65µ 3M	0.6µ 3M	0.8µ 2M	0.65µ 3M
Die size	50 mm ²	34 mm ²	44 mm ²	50 mm ²	25 mm ²	72 mm ²	n/a	n/a	30 mm ²
Est mfg cost	\$18*	\$9*	\$12*	\$14*	\$8*	\$9*	\$9*	\$15*	\$8*
Availability	2Q96	Now	Now	Now	Now	Now	Now	2Q96	Now
Price (10K)	\$49	\$28	\$50	\$45*	\$25†	\$27†	\$25*	\$72†	\$15

† list price in 1,000s §list price in 100,000s §score/bus voltage n/a: information not available (Source: vendors except *MDR estimates)