Motorola PowerPC™ Processors

Motorola PowerPC CPUs deliver the processing speed required by high performance systems in internetworking, communications infrastructure, telecommunications systems, computing and more. Motorola integrated PowerPC processors offer cost-effective, highly integrated solutions for the full spectrum of networking, transportation and industrial control, and consumer applications. For additional information on any of the processors listed below, please visit the PowerPC website at **http://motorola.com/PowerPC.**

Motorola PowerPC™ CPUs

	PowerPC 603e™		MPC740™		MPC745™	MPC750™		MPC755™	MPC7400
	100-133 MHz	200-300 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 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
Bus Interface	64 & 32-bit modes	64 & 32-bit modes	64 bits	64 bits	64 & 32-bit modes	64 bits	64 bits	64 & 32-bit modes	64 bits
L1 Cache	16 KB inst 16 KB data	16 KB inst 16 KB data	32 KB inst 32 KB data	32 KB inst 32 KB data	32 KB inst 32 KB data	32 KB inst 32 KB data	32 KB inst 32 KB data	32 KB inst 32 KB data	32 KB inst 32 KB data
Backside L2 Cache Support	–	–	–	–	–	256, 512 KB 1 MB	256, 512 KB 1 MB	256, 512 KB 1 MB	512 KB, 1 or 2 MB
Typical/Maximum Power Dissapation	4.2W/5.3W @ 133 MHz	4.0W/6.0W @ 300 MHz	5.7W/7.9W @ 266 MHz	4.2W/6.0W @ 333 MHz	TBD	5.7W/7.9W @ 266 MHz	5.8W/8.0W @ 400 MHz	TBD	5.0W/11.5W @ 400 MHz
Package	240 CQFP 255 CBGA	255 CBGA 255 PBGA	255 CBGA	255 CBGA	255 PBGA	360 CBGA	360 CBGA	360 PBGA	360 CBGA
Process	0.5µ 4LM	0.26µ 5LM	0.29µ 5LM	0.25µ 5LM	0.22µ 5LM	0.29µ 5LM	0.25µ 5LM	0.22µ 5LM	0.15µ 6LM
Voltage	3.3V	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 1.8/2.15V int
SPECint95 (est.)	3.9 @ 133 MHz	7.4 @ 300 MHz	11.5 @ 266 MHz	15.0 @ 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	6.9 @ 266 MHz	10.0 @ 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	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

* see hardware spec for operation at lower frequencies

Motorola PowerPC™ Integrated Processors

	8260	8240	860P	860	855T	850	823	555	509
Maximum Frequency	200 MHz	250 MHz	80 MHz	80 MHz	80 MHz	80 MHz	81 MHz	40 MHz	25 MHz
Drystone MIPs	280 (200 MHz)	352 (250 MHz)	105 (80 MHz)	105 (80 MHz)	105 (80 MHz)	105 (80 MHz)	105 (80 MHz)	53 (40 MHz)	33 (25 MHz)
Microprogrammable Module	CPM[1]	PCI[3]	CPM[1]	CPM[1]	CPM[1]	CPM[1]	CPM[1]	2 TPUs[2]	—
Cache (instruction/data)	16K/16K	16K/16K	16K/8K	4K/4K	4K/4K	2K/1K	2K/1K	448K Flash 32K SRAM	4K I cache 28K SRAM
Translation Lookaside Buffers (TLBs)	64-entry	64-entry	32-entry	32-entry	32-entry	8-entry	8-entry	—	—
Floaring Point Unit (FPU)	Yes	Yes	—	—	—	—	—	Yes	Yes
Parallel	64 bits	64 bits	59 bits	59 bits	59 bits	53 bits	53 bits	176 bits	57 bits
Typical Power Dissipation	2.5W (133 MHz)	3.0W (200 MHz)	500 mW (50 MHz)	500 mW (50 MHz)	500 mW (50 MHz)	500 mW (50 MHz)	170 mW (25 MHz)	1.0W (40 MHz)	400 mW (25 MHz)
Miscellaneous Peripherals	2 SMCs, 1 I^2C, 1 SPI, 3 FCCs, 2 MCCs	PCI, 1 I^2C, EPIC, ATU, ECC, I_2O DMA	2 SMCs, 1 I^2C, 1 SPI 8K Dual Port RAM	2 SMCs, 1 I^2C, 1 SPI 5K Dual Port RAM	2 SMCs, 1 SCC, 10/100 Ethernet 8K Dual Port RAM	2 SMCs, 1 I^2C, 1 SPI, USB 8K Dual Port RAM	2 UARTs, 1 I^2C, 1 SPI, USB	2 TouCAN, 2 TPU, 2 QADC, SCI, QSCI, QPSI, 8 PWM, 12 DASM	12 Chip Selects

[1] Communications Processor Module [2] Time Processing Unit [3] PCI Interface

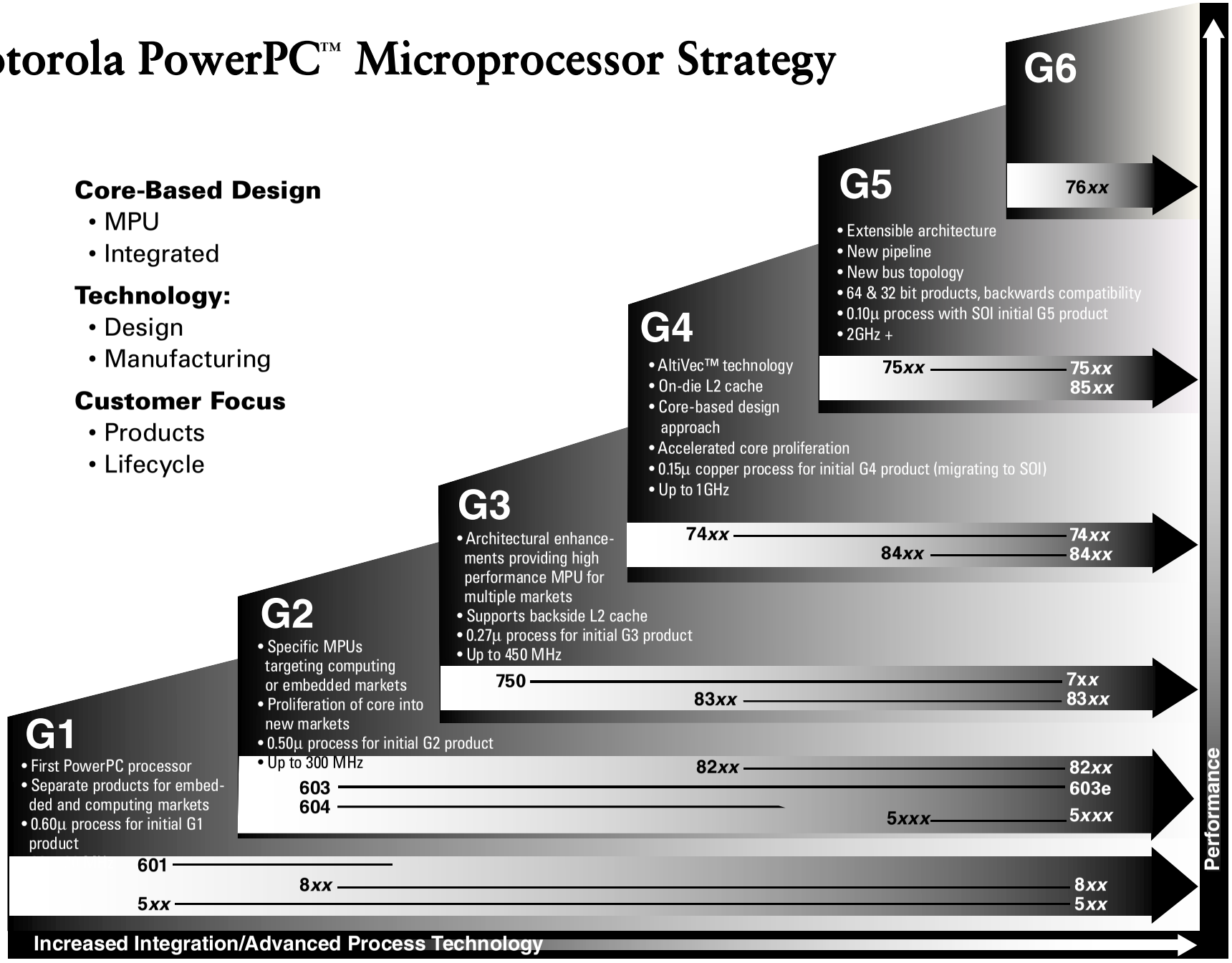
1ATX45474-3 Printed in USA 5/00 Hibbert LITRISC

Motorola PowerPC™ Microprocessor Strategy

Core-Based Design
- MPU
- Integrated

Technology:
- Design
- Manufacturing

Customer Focus
- Products
- Lifecycle



6xx, 7xx, 7xxx — high performance microprocessor targeting computing and high-end embedded
8xx, 8xxx — integrated processor targeting the Communications and Consumer markets
5xx, 5xxx — integrated processor targeting the Transportation market

For More Information On This Product,
Go to: www.freescale.com

Freescale Semiconductor, Inc.