32-Bit Microcontrollers and Processors

Quarter 2, 2006
SG1001Q22006 Rev 0

freescale semiconductor

About This Revision–Q2/2006

When new products are introduced, a summary of the new products will be provided in this section. However, the *New Product* section will only appear on this page when new products have been introduced during the quarter.

In addition, a change bar appears in the left margin of every page in this selector guide that contains new or revised information.

If products are discontinued, a *What's EOL?* page is included at the end of this guide. The *What's EOL?* page lists end-of-life products along with their respective last order date, last ship date, and suggested possible replacement information.

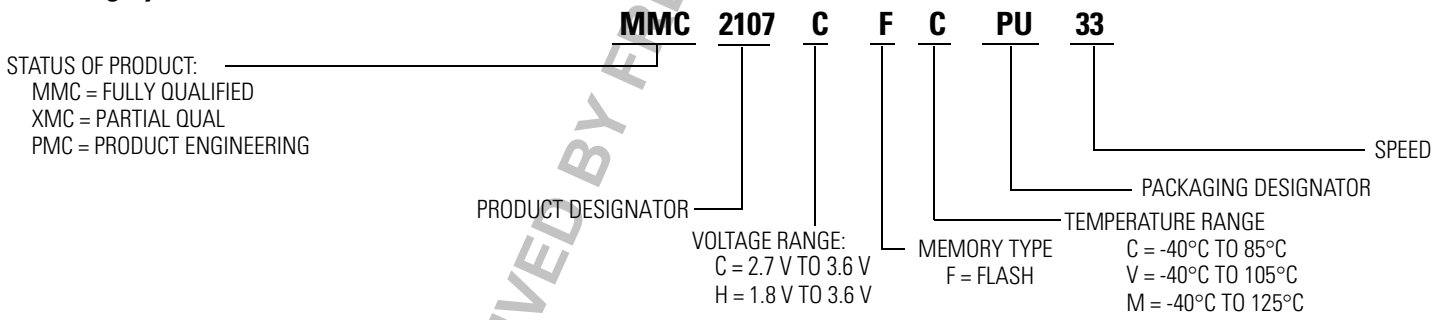
NEW PRODUCT

Product	Page Number	Description
MC7410VU	SG1001-19	Host Processors
MC7448	SG1001-20	Host Processors
MCF5327	SG1001-12	V3 ColdFire w/LDC
MCF5328	SG1001-12	V3 ColdFire w/LDC
MCF5329	SG1001-12	V3 ColdFire w/LDC
MCF5372	SG1001-13	V3 ColdFire with Ethernet
MCF5373	SG1001-13	V3 ColdFire with Ethernet
MCF5372L	SG1001-13	V3 ColdFire with USB host and USB otg
MCF5373L	SG1001-13	V3 ColdFire with USB host and USB otg
MPC8360	SG1001-31	PowerQUICC™ II Pro Integrated Communications Processor with QUICC Engine
CWS-MPC-5XX-CX	SG1001-35	CodeWarrior™ Development Studio for MPC5xx, Node-locked
CWS-MPC-5500B-CX	SG1001-35	CodeWarrior™ Development Studio for MPC55xx, Build only tools, Node-locked license

MMC2100 Product Table

Product	ROM (KB)	RAM (KB)	Flash (KB)	Timer	PWM	Serial	A/D	Operating Voltage (V)	Operating Frequency (MHz)	Temp	Packaging	Status	Additional Information	Documentation
MMC2107	0	8	128	1 Dual 4-channel 16-bit capture/ compare, PWM capability, watchdog	See Timer	Dual SCI, SPI	Queued 8-CH, 10-bit	2.7 to 3.6	33	C	100-pin LQFP 144-pin LQFP	Available	PLL clock, 32 source interrupt controller, periodic interrupt timer, external bus interface with 23 address, 16/32 data and 4 chip select lines, OnCE debug module	MMC2107 MCORERM
MMC2113	0	8	128	1 Dual 4-channel 16-bit capture/ compare, PWM capability, watchdog	See Timer	Dual SCI, SPI	Queued 8-CH, 10-bit	2.7 to 3.6	33	C	100-pin LQFP 144-pin LQFP 196-ball MAPBGA	Available	PLL clock, 32 source interrupt controller, periodic interrupt timer, external bus interface with 23 address, 16/32 data and 4 chip select lines, OnCE debug module, offers Flash Security. This product incorporates SuperFlash® technology licensed From SST	MMC2114
MMC2114	0	32	256	1 Dual 4-channel 16-bit capture/ compare, PWM capability, watchdog	See Timer	Dual SCI, SPI	Queued 8-CH, 10-bit	2.7 to 3.6	33	C	100-pin LQFP 144-pin LQFP 196-ball MAPBGA	Available	PLL clock, 32 source interrupt controller, periodic interrupt timer, external bus interface with 23 address, 16/32 data and 4 chip select lines, OnCE debug module, offers Flash Security. This product incorporates SuperFlash® technology licensed From SST	MMC2114
MMC2001	256	32	0	Time-of-day, periodic interrupt timer, COP	6-CH, 10-bit	Dual UART, Interval SPI	n/a	1.8 to 3.6	16, 33	C	144-pin LQFP	Samples Available	ROM includes debugger, peripheral device drivers, and a monitor external bus interface with 22 address/16 data and 4 chip selects, OnCE debug module, KBI (16 pins) Sample part numbers: MMC2001HCPV16B MMC2001HCPV33B	MMC2001RM MCORERM
MMC2003 (GPS)	256	32	0	Time-of-day, periodic interrupt timer, COP	6-CH, 10-bit	Dual UART, Interval SPI	n/a	1.8 to 3.6	16	C, V	144-pin LQFP	PPAP Available	EEPROM (Bytes) = 0, 12 Channel Correlator (GPS)	MMC2003RM MCORERM

Product Numbering System for MMC2100



SG1001–3
SG1001Q22006

MPC500 FAMILY

MPC500 Product Table

For complete part number information and temperature definitions, refer to "Product Numbering System for MPC500" on page SG1001-5.

Product	ROM (KB)	RAM (KB)	Flash (KB)	Product Integration	Timer	Serial	MUX	A/D	PWM	Operating Voltage	Operating Frequency (MHz)	Temp	Packaging	Additional Information	Documentation
MPC533	0	32	512	USIU	22-channel timer system; MIOS14	QSMCM (2 SCI + QSPI) +1 TouCAN	1 x TouCAN	1 QADC (10-bit A/D with 64 result registers) 32 channels on chip	12 x PWM	2.6 / 5.0	40	C	388-ball PBGA	Available	MPC533UM MPC533PB
MPC534	0	32	512	USIU	22-channel timer system; MIOS14	QSMCM (2 SCI + QSPI) +1 TouCAN	1 x TouCAN	1 QADC (10-bit A/D with 64 result registers) 32 channels on chip	12 x PWM	2.6 / 5.0	40	C	388-ball PBGA	Available Offers code compression	MPC533UM MPC533PB
MPC535	0	40	1M	USIU	22-channel timer system; MIOS14	QSMCM (2 SCI + QSPI) +1 TouCAN	1 x TouCAN	1 QADC (10-bit A/D with 64 result registers) 40 channels on chip	12 x PWM	2.6 / 5.0	40	C	388-ball PBGA	Available	MPC535UM MPC535PB
MPC536	0	40	1M	USIU	22-channel timer system; MIOS14	QSMCM (2 SCI + QSPI) +1 TouCAN	1 x TouCAN	1 QADC (10-bit A/D with 64 result registers) 40 channels on chip	12 x PWM	2.6 / 5.0	40	C	388-ball PBGA	Available Offers code compression	MPC535UM MPC535PB
MPC555	0	26 + 6 for TPU	448	USIU	50-channel timer system; 2 TPU3 + MIOS1	QSMCM (2 SCI + QSPI) + 2 TouCAN	2 x TouCAN	2 QADC (10-bit A/D with 64 result registers each) 32 channels on chip	8 x PWM	3.3 Vdc for core, 5.0 Vdc for Flash	40	A, C, M	272-ball PBGA	Available	MPC555UM TPURM RCPURM
MGT560	0	24 + 4 for TPU + 4 for DECRAM	0	USIU	1 TPU3 MIOS 14	QSMCM (2 SCI + QSPI) + 2 TouCAN	2 x TouCAN	1 QADC (10-bit A/D with 64 result registers each) 32 channels on chip	5 x PWM	2.6 Vdc for core, 3.3 Vdc for A/D and I/O	40 or 56	V	208-ball MAPBGA	Available	MGT560RM
MPC561	0	32 + 8 for TPU + 2 for DECRAM	0	USIU	54-channel timer system; 2 TPU3 + MIOS14	QSMCM (2 SCI + 1 QSPI) + 3 TouCAN	3 x TouCAN	2 QADC (10-bit A/D with 64 result registers each) 32 channels on chip	12 x PWM	2.6 Vdc for core, 5.0 Vdc for A/D and I/O	40, 56, 66	C, M	388-ball PBGA	Available	MPC561UM TPURM RCPURM
MPC562	0	32 + 8 for TPU + 2 for DECRAM	0	USIU	54-channel timer system; 2 TPU3 + MIOS14	QSMCM (2 SCI + 1 QSPI) + 3 TouCAN	3 x TouCAN	2 QADC (10-bit A/D with 64 result registers each) 32 channels on chip	12 x PWM	2.6 Vdc for core, 5.0 Vdc for A/D and I/O	40, 56, 66	C, M	388-ball PBGA	Available Offers code compression	MPC561UM TPURM RCPURM
MPC563	0	32 + 8 for TPU + 2 for DECRAM	512	USIU	54-channel timer system; 2 TPU3 + MIOS14	QSMCM (2 SCI + 1 QSPI) + 3 TouCAN	3 x TouCAN	2 QADC (10-bit A/D with 64 result registers each) 32 channels on chip	12 x PWM	2.6 Vdc for core, 5.0 Vdc for A/D and I/O	40, 56, 66	C, M	388-ball PBGA	Available	MPC563UM TPURM RCPURM

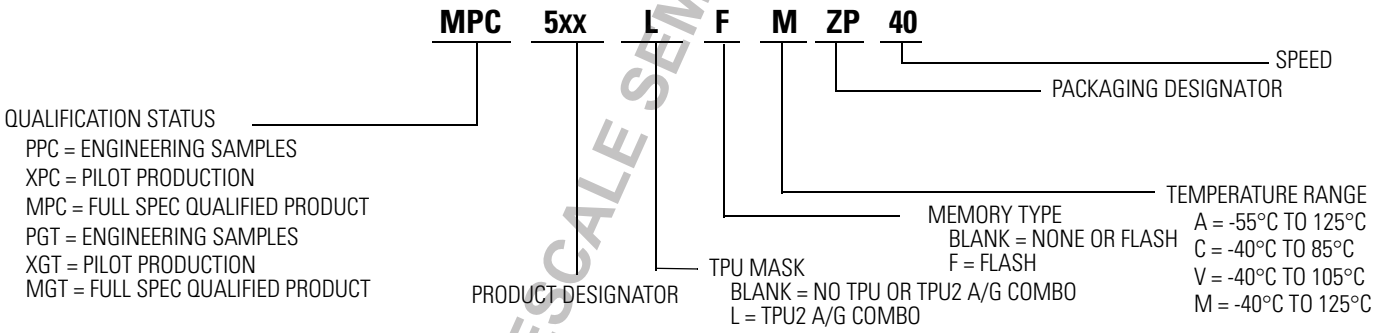
MPC500 Product Table (continued)

For complete part number information and temperature definitions, refer to "Product Numbering System for MPC500" on page SG1001-5.

Product	ROM (KB)	RAM (KB)	Flash (KB)	Product Integration	Timer	Serial	MUX	A/D	PWM	Operating Voltage	Operating Frequency (MHz)	Temp	Packaging	Additional Information	Documentation
MPC564	0	32 + 8 for TPU + 2 for DECRAM	512	USIU	54-channel timer system; 2 TPU3 + MIOS14	QSMCM (2 SCI + 1 QSPI) + 3 TouCAN	3 x TouCAN	2 QADC (10-bit A/D with 64 result registers each) 32 channels on chip	12 x PWM	2.6 Vdc for core, 5.0 Vdc for A/D and I/O	40, 56, 66	C, M	388-ball PBGA	Available Offers code compression	MPC563UM TPURM RCPURM
MPC565	0	36 + 10 for TPU + 4 for DECRAM	1M	USIU	70-channel timer system; 3 TPU3 + MIOS14	QSMCM x 2 (4 SCI + 2 QSPI) + 3 TouCAN	3 x TouCAN 1 x J1850	2 QADC (10-bit A/D with 64 result registers each) 40 channels on chip	12 x PWM	2.6 Vdc for core, 5.0 Vdc for A/D and I/O	40 or 56	C, M	388-ball PBGA	Available	MPC566UM TPURM RCPURM
MPC566	0	36 + 10 for TPU + 4 for DECRAM	1M	USIU	70-channel timer system; 3 TPU3 + MIOS14	QSMCM x 2 (4 SCI + 2 QSPI) + 3 TouCAN	3 x TouCAN 1 x J1850	2 QADC (10-bit A/D with 64 result registers each) 40 channels on chip	12 x PWM	2.6 Vdc for core, 5.0 Vdc for A/D and I/O	40 or 56	A, C, M	388-ball PBGA	Available Offers code compression	MPC566UM TPURM RCPURM

Note: Extended temperature products with minimum order requirements. All package speed/temperature combinations may not be valid — consult factory to verify.

Product Numbering System for MPC500



MPC5500 FAMILY

MPC5500 Family Comparison

Device	PowerPC Core	Variable Length Instruction Support	Cache	Memory Mngt Unit	Crossbar	Core Nexus	SRAM	FLASH Main Array	External Bus (EBI) Data Bus	External Bus (EBI) Address Bus	DMA	DMA Nexus	Serial	Controller Area Network (CAN)	SPI	eMIOS	eTPU	Code Memory	Parameter RAM	Nexus Class	Interrupt Controller	Analog to Digital Converter (eQADC)	Fast Ethernet Controller	PLL	VRC
MPC5534	e200z3	Yes	None	16 entry	4x5	Class 3 + (NZ3C3)	64K	1M[1]	16-bit	24	32-CH	None	2	2 (64 buf)	3	24-CH	32-CH	12K	2.5K	3	210-CH	40-CH	No	FM	Yes
MPC5553	e200z6	No	8K Unified	32 entry	4x4	Class 3+ (NZ3C3)	64K	1.5M[2]	16-bit	24	32-CH	Class 3	2	2 (64 buf)	2	24-CH	32-CH	12K	2.5K	3	210-CH	40-CH	Yes[3]	FM	Yes
MPC5554	e200z6	No	32K Unified	32 entry	4x5	Class 3+ (NZ3C3)	64K	2M[2]	32-bit	24	64-CH	Class 3	2	3 (64 buf)	3	24-CH	64-CH	16K	3K	3	300-CH	40-CH	No	FM	Yes

Notes:

1. 16-Byte flash page size for programming
2. 32-Byte flash page size for programming.
3. The FEC signals are shared with Data Bus pins DATA[16:31].

Product Numbering System for the MPC5500 Family

MPC 55xx M ZP 132 R2

QUALIFICATION STATUS
PPC = ENGINEERING SAMPLES
MPC = FULL SPEC QUALIFIED PRODUCT

FAMILY MEMBER

TEMPERATURE RANGE
C = -40°C TO 85°C
V = -40°C TO 105°C
M = -40°C TO 125°C

PACKAGE CODE
ZP - 416 PBGA SNPB
VR - 416 PBGA PB-FREE
VF - 208 MAPBGA SNPB
VM - 208 MAPBGA PB-FREE
ZQ - 324 PBGA SNPB
VZ - 324 PBGA PB-FREE

OPERATING FREQUENCY
FOR MPC555X:
80 = 80 MHz
112 = 112 MHz
132 = 132 MHz
FOR MPC553X:
40 = 40 MHz
66 = 66 MHz
80= 80 MHz

TAPE AND REEL STATUS
R2 = TAPE AND REEL
BLANK = TRAYS

68xxx General-Purpose Processors[Note]

For complete part number information and temperature definitions, refer to "Product Numbering System for the 68xxx Family" on page SG1001-9.

Product	Description	On-Chip Instruction (Bytes)	On-Chip Data Cache (Bytes)	MMU	FPU	Operating Voltage (V)	Performance (Max) MIPS	Additional Information	Packaging	Speed (MHz)	Rev	Temp
MC68EC000	8-/16-/32-Bit HCMOS Embedded MPU	n/a	n/a	n/a	n/a	5.0	2	Low-cost embedded control MPU with 8-/16-bit selectable data bus	68-pin PLCC 64-pin QFP	8, 10, 12, 16, 20	n/a	C
MC68HC000	HCMOS 16-/32-Bit MPU	n/a	n/a	n/a	n/a	5.0	2	Complete pin and timing MC68000 compatibility with a tenth of the power dissipation	68-pin PLCC 68-pin PGA	8, 10, 12, 16, 20	n/a	C
MC68HC001	Statically Switchable/8-/16-Bit Data Bus	n/a	n/a	n/a	n/a	5.0	2	Functionally compatible with MC68000 and MC68008	68-pin PLCC	8, 10, 12, 16	n/a	C
MC68SEC000	8-/16-/32-Bit Static HCMOS Embedded MPU	n/a	n/a	n/a	n/a	3.3 to 5.0	2	Static version of the MC68EC000	64-pin QFP 64-pin LQFP	10, 16, 20	n/a	C
MC68020	32-Bit MPU	256	n/a	n/a	n/a	5.0	10	Complete 32-bit MPU. 5-Gbyte linear address space. Co-processor interface. Instruction cache. Dynamic bus sizing. Excellent MPU for graphics control. On-chip cache speeds drawing algorithms. Bit field support for pixel manipulation	114-pin PGA 132-pin CQUAD 132-pin PQFP	16, 20, 25, 33	E	C
MC68EC020	32-Bit Embedded MPU	256	n/a	n/a	n/a	5.0	10	32-bit data bus MPU with 24-bit address bus. Instruction cache. Dynamic bus sizing. Coprocessor interface. Low-cost packaging	100-pin QFP	16, 25	n/a	C
MC68030	Enhanced 32-Bit MPU	256	256	On-chip	n/a	5.0	18	Complete 32-bit MPU with on-chip instruction and data caches, internal parallel buses, enhanced bus controller, and on-chip MMU	128-pin PGA 132-pin CQUAD	16, 20, 25, 33, 40, 50	C	C
MC68EC030	Embedded MPU	256	256	n/a	n/a	5.0	18	32-bit MPU for embedded applications. On-chip instruction and data caches provide high-speed access for control routines and data. Utilizes low-cost DRAM bus interface	132-pin CQUAD	25, 40	C	C
MC68040	32-Bit MPU MMU FPU	4K	4K	On-chip	On-chip	5.0	44	Complete 32-bit MPU with on-chip instruction/data caches (4 KB each). On-chip MMU. Full IEEE floating point, multiprocessing support with full M68000 Family compatibility	179-pin PGA 184-pin CQUAD	25, 33, 40	A	n/a
MC68EC040	Embedded 32-Bit High Performance Processor	4K	4K	n/a	n/a	5.0	44	High-performance 32-bit MPU with on-chip instruction and data cache provides high-speed access for control routines and data. Utilizes low-cost DRAM bus interface	179-pin PGA 184-pin CQUAD	20, 25, 33, 40	A	B

Note: Extended temperature products with minimum order requirements. All packages/speed combinations may not be valid — consult factory to verify.

683xx FAMILY

68xxx FAMILY (continued)

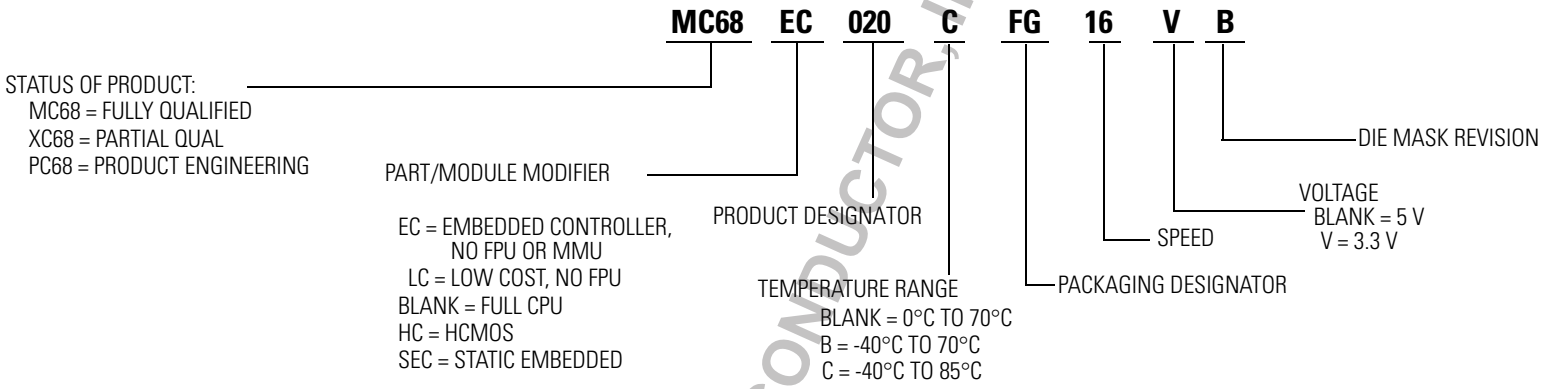
68xxx General-Purpose Processors[Note] (continued)

For complete part number information and temperature definitions, refer to "Product Numbering System for the 68xxx Family" on page SG1001-9.

Product	Description	On-Chip Instruction (Bytes)	On-Chip Data Cache (Bytes)	MMU	FPU	Operating Voltage (V)	Performance (Max) MIPS	Additional Information	Packaging	Speed (MHz)	Rev	Temp
MC68LC040	High Performance 32-Bit Processor	4K	4K	On-chip	n/a	5.0	44	68040-compatible integer unit and MMU. Ideal solution for cost-sensitive computer or sophisticated embedded applications	179-pin PGA 184-pin CQUAD	20, 25, 33, 40	A	n/a
MC68040V	32-Bit MP MMU, Low-Voltage	4K	4K	On-chip	n/a	3.3	44	Low-voltage complete 32-bit MPU with on-chip instruction/data caches (4 KB each). On-chip MMU. Multiprocessing support	182-pin PGA 184-pin CQUAD	25, 33, 40	n/a	n/a
MC68060	Superscalar 32-Bit Processor	8K	8K	On-chip	On-chip	3.3 to 5.0	110	RISC hybrid superscalar MPU with full M68000 Family compatibility. Includes dual integer units, on-chip instruction/data caches (8 KB each), on-chip MMU, and full IEEE compliant FPU	206-pin PGA	50, 60	n/a	n/a
MC68EC060	Superscalar 32-Bit Processor	8K	8K	n/a	n/a	3.3 to 5.0	110	RISC hybrid superscalar MPU with full M68000 Family compatibility. Includes dual integer units, on-chip instruction/data caches (8 KB each). Ideal for high-performance embedded control applications	206-pin PGA 304-ball TBGA	50, 66, 75	n/a	n/a
MC68LC060	Superscalar 32-Bit Processor	8K	8K	On-chip	n/a	3.3 to 5.0	110	RISC hybrid superscalar MPU with full M68000 Family compatibility. Includes dual integer units, on-chip instruction/data caches (8 KB each) and on-chip MMU	206-pin PGA 304-ball TBGA	50, 66, 75	n/a	B
MC68882	Enhanced Floating-Point Coprocessor (EFPCP)	n/a	n/a	n/a	On-chip	3.3 to 5.0	n/a	Pin-to-pin timing and software compatibility with MC68881. Dual ported registers and increased pipelining allows 2-4 × performance of MC68881. (Not recommended for new designs.)	68-pin PGA 68-pin PLCC	16, 20, 25, 33, 40, 50	A	C
MC68306	Integrated EC000 Processor	n/a	n/a	n/a	n/a	5.0	2.7	68000 CPU, 68681 DUART, DRAM control all in one chip	132-pin PQFP 144-pin LQFP	16, 20	B	C
MC68340	Integrated Processor with DMA	n/a	n/a	n/a	n/a	3.3 to 5.0	4.8	CPU32 core processor for data movement applications. Two channel DMA, two serial channels, two timers, chip selects, wait-state generation, and glue logic. (FE package not recommended for new designs.)	144-pin CQUAD 144-pin LQFP 144-pin QFP	16, 25	E	C

Note: Extended temperature products with minimum order requirements. All packages/speed combinations may not be valid — consult factory to verify.

Product Numbering System for the 68xxx Family



MCF5xxx FAMILY

MCF5xxx Product Table[Note]

For complete part number information and temperature definitions, refer to "MCF5**xxx** Family (continued)" on page SG1001-15.

Product	Core	Dhrys 2.1 MIPS @ max MHz	Processor Cache (Bytes)	Processor SRAM (Bytes)	Serial Interface, UART	Timers/ CS/ GPIO	DMA	DRAM Controller	10/100 Eth/ USB1.1	Operating Voltage (V)	Operating Frequency (MHz)	Temp	Packaging	Rev	Additional Information
MCF5206	V2	17	512 I	512	2 UARTs	2/8/8	n/a	FPM, EDO	n/a	5	16, 25, 33	C	160-pin QFP	A	n/a
MCF5206E	V2	50	4K I	8K	2 UARTs	2/8/8	2-CH	FPM, EDO	n/a	3.3	40, 54	C	160-pin QFP	n/a	Enhanced pin-compatible version of 5206 with MAC, HW divide, BDM, I^2C, 5 V tolerant I/O
MCF5207	V2	159	8K Conf. I/D	16K	3	8/8/up to 30	16	DDR/SDR	n/a	1.5, 2.5, 3.3	166	-40° to +85°C	144-pin LQFP 144-ball MAPBGA	n/a	32x32 EMAC, QSPI, I^2C
MCF5208	V2	159	8K Conf. I/D	16K	3	8/8/up to 50	16	DDR/SDR	One 10/100	1.5, 2.5, 3.3	166	-40° to +85°C	160-pin QFP 196-ball MAPBGA	n/a	32x32 EMAC, QSPI, I^2C
MCF5211	V2	76	—	16K	3	16/0/up to 33	4	None	—	3.3	66,80	-40° to +85°C	64 LQFP 81 MAPGBA	n/a	32x32 EMAC, QSPI, I^2C 10-CH, 12-bit ADC
MCF5212	V2	76	—	32K	3	16/0/up to 44	4	None	—	3.3	66,80	-40° to +85°C	64 LQFP 81 MAPGBA	n/a	32x32 EMAC, QSPI, I^2C 10-CH, 12-bit ADC
MCF5213	V2	76	—	32K	3	16/0/up to 56	4	None	—	3.3	66,80	-40° to +85°C	100 LQFP 81 MAPGBA	n/a	32x32 EMAC, QSPI, I^2C 10-CH, 12-bit ADC Sept 2005
MCF5214	V2	66	2K I	64K	3 UARTs, 1 PC, 1 CAN	8 + 4 DAM/7/ up to 150	4-CH	SDRAM	n/a	3.3, 5	66, 80	C	256-ball MAPBGA	n/a	256 KB Flash
MCF5216	V2	66	2K I	64K	3 UARTs, 1 PC, 1 CAN	8 + 4 DAM/7/ up to 150	4-CH	SDRAM	n/a	3.3, 5	66, 80	C	256-ball MAPBGA	n/a	512 KB Flash
MCF5232	V2	142	8K Conf.	64K	3 UARTs	24/8/up to 102	4-CH	SDRAM	1x CAN	1.5, 3.3	80, 100, 150	C	160-pin QFP 196-ball MAPBGA	n/a	16-CH eTPU
MCF5233	V2	142	8K Conf.	64K	3 UARTs	40/8/up to 142	4-CH	SDRAM	2x CAN	1.5, 3.3	100, 150	C	256-ball MAPBGA	n/a	32-CH eTPU
MCF5234	V2	142	8K Conf.	64K	3 UARTs	24/8/up to 142	4-CH	SDRAM	1x 10/100, 1x CAN	1.5, 3.3	100, 150	C	256-ball MAPBGA	n/a	16-CH eTPU

Note: Extended temperature products with minimum order requirements. All temperature/speed combinations may not be valid. Consult the factory to verify.

MCF5xxx Product Table[Note] (continued)

For complete part number information and temperature definitions, refer to "MCF5**xxx** Family (continued)" on page SG1001-15.

Product	Core	Dhrys 2.1 MIPS @ max MHz	Processor Cache (Bytes)	Processor SRAM (Bytes)	Serial Interface, UART	Timers/ CS/ GPIO	DMA	DRAM Controller	10/100 Eth/ USB1.1	Operating Voltage (V)	Operating Frequency (MHz)	Temp	Packaging	Rev	Additional Information
MCF5235	V2	142	8K Conf.	64K	3 UARTs	24/8/up to 142	4-CH	SDRAM	1x 10/100, 2x CAN	1.5, 3.3	100, 150	C	256-ball MAPBGA	n/a	16-CH eTPU, Crypto Enabled
MCF5249	V2	125	8K I	96K	2 UARTs, I^2C, QSPI	2/4/up to 47	4-CH	SDRAM	n/a	1.8, 3.3	140	C	160-ball MAPBGA	n/a	EMAC, HW divide, BDM, 12-bit ADC, CDROM block; CD text, Hard Disk Drive, Memory stick interfaces; Audio decoders
MCF5249L	V2	107	8K I	96K	2 UART, I^2C, QSPI	2/3/up to 34	4-CH	SDRAM	n/a	1.8, 3.3	120	C	144-pin LQFP	n/a	EMAC, HW divide, BDM, 12-bit ADC, CDROM block; Hard Disk Drive Interface. Audio decoders
MCF5270	V2	144	8K Conf. I/D	64K	3 UARTs	8/8/up to 39	4-CH	SDRAM	One 10/100	1.5, 3.3	100	B	160-pin QFP	n/a	32x32 EMAC, QSPI, I^2C
MCF5270	V2	144	8K Conf. I/D	64K	3 UARTs	8/8/up to 61	4-CH	SDRAM	One 10/100	1.5, 3.3	100	B	196-ball MAPBGA	n/a	32x32 EMAC, QSPI, I^2C
MCF5271	V2	144	8K Conf. I/D	64K	3 UARTs	8/8/up to 39	4-CH	SDRAM	One 10/100	1.5, 3.3	100	C	160-pin QFP	n/a	Hardware Encryption, 32x32 EMAC, QSPI, I^2C
MCF5271	V2	144	8K Conf. I/D	64K	3 UARTs	8/8/up to 61	4-CH	SDRAM	One 10/100	1.5, 3.3	100	B	196-ball MAPBGA	n/a	Hardware Encryption, 32x32 EMAC, QSPI, I^2C
MCF5272	V2	63	1K I	4K	10/100 FEC, 2 UARTs, USB, QSPI	4/8/up to 32	2-CH	SDRAM	MAC/ MAC+PHY	3.3	66	C	196-ball MAPBGA	n/a	MAC, HW divide, BDM, 4 TDM GCI/IDL ports, software HDCL module, QSPI, 3 PWMs, 5 V tolerant I/O
MCF5274L	V2	159	16K Conf. I/D	64K	3 UARTs	8/8/up to 61	4-CH	DDR	One 10/100, USB 2.0 Full-Sp Device	1.5, 2.5, 3.3	166	B	196-ball MAPBGA	n/a	32x32 EMAC, QSPI, I^2C
MCF5274	V2	159	16K Conf. I/D	64K	3 UARTs	8/8/up to 69	4-CH	DDR	Two 10/100, USB 2.0 Full-Sp Device	1.5, 2.5, 3.3	166	B	256-ball MAPBGA	n/a	32x32 EMAC, QSPI, I^2C

Note: Extended temperature products with minimum order requirements. All temperature/speed combinations may not be valid. Consult the factory to verify.

MCF5xxx FAMILY (continued)

MCF5xxx Product Table[Note] (continued)

For complete part number information and temperature definitions, refer to "MCF5**xxx** Family (continued)" on page SG1001-15.

Product	Core	Dhrys 2.1 MIPS @ max MHz	Processor Cache (Bytes)	Processor SRAM (Bytes)	Serial Interface, UART	Timers/ CS/ GPIO	DMA	DRAM Controller	10/100 Eth/ USB1.1	Operating Voltage (V)	Operating Frequency (MHz)	Temp	Packaging	Rev	Additional Information
MCF5275L	V2	159	16K Conf. I/D	64K	3 UARTs	8/8/up to 61	4-CH	DDR	One 10/100, USB 2.0 Full-Sp Device	1.5, 2.5, 3.3	166	C	196-ball MAPBGA	n/a	Hardware Encryption, 32x32 EMAC, QSPI, I^2C
MCF5275	V2	159	16K Conf. I/D	64K	3 UARTs	8/8/up to 69	4-CH	DDR	Two 10/100, USB 2.0 Full-Sp Device	1.5, 2.5, 3.3	166	C	256-ball MAPBGA	n/a	Hardware Encryption, 32x32 EMAC, QSPI, I^2C
MCF5280	V2	63	2K I	64K	3 UARTs, I^2C, QSPI, FlexCAN	4 Timers, +4 DMA Timers, 7 Chip Sel., Up to 150 I/Os	4-CH	SDRAM	MAC (FEC) / n/a	3.3, 5	66, 80	C	256-ball MAPBGA	n/a	Enhanced CAN 2.0B controller Flashless version of MCF5282
MCF5281	V2	54	2K I	64K	3 UARTs, I^2C, QSPI, FlexCAN	4 Timers, +4 DMA Timers, 7 Chip Sel., Up to 150 I/Os	4-CH	SDRAM	MAC (FEC) / n/a	3.3, 5	66, 80	C	256-ball MAPBGA	n/a	Enhanced CAN 2.0B controller, 256 KB Flash; product incorporates SuperFlash® technology licensed from SST
MCF5282	V2	54	2K I	64K	3 UARTs, I^2C, QSPI, FlexCAN	4 Timers, +4 DMA Timers, 7 Chip Sel., Up to 150 I/Os	4-CH	SDRAM	MAC (FEC) / n/a	3.3, 5	66, 80	C	256-ball MAPBGA	n/a	Enhanced CAN 2.0B controller, 512 KB Flash; product incorporates SuperFlash® technology licensed From SST
MCF5327	V3	200	16K Unified	32K	3 UARTs	8/6/up to 94	16-CH	DDR	One USB 2.0 Full-SP Host One USB 2.0 Full-Sp Device	1.5V/3.3V	240	-40° to + 85°C	196-ball MAPBGA	n/a	32 x 32 EMAC, QSPI, I^2C
MCF5328	V3	200	16K Unified	32K	3 UARTs	8/6/up to 94	16-CH	DDR	One 10/100 One USB 2.0 Full-SP Host One USB 2.0 Full-Sp Device	1.5V/3.3V	240	-40° to + 85°C	256-ball MAPBGA	n/a	32 x 32 EMAC, QSPI, I^2C
MCF5329	V3	200	16K Unified	32K	3 UARTs	8/6/up to 94	16-CH	DDR	One USB 2.0 Full-SP Host One USB 2.0 Full-Sp Device One CAN	1.5V/3.3V	240	-40° to + 85°C	256-ball MAPBGA	n/a	Hardware Encryption, 32 x 32 EMAC, QSPI, I^2C

Note: Extended temperature products with minimum order requirements. All temperature/speed combinations may not be valid. Consult the factory to verify.

MCF5xxx Product Table[Note] (continued)

For complete part number information and temperature definitions, refer to "MCF5**xxx** Family (continued)" on page SG1001-15.

Product	Core	Dhrys 2.1 MIPS @ max MHz	Processor Cache (Bytes)	Processor SRAM (Bytes)	Serial Interface, UART	Timers/ CS/ GPIO	DMA	DRAM Controller	10/100 Eth/ USB1.1	Operating Voltage (V)	Operating Frequency (MHz)	Temp	Packaging	Rev	Additional Information
MCF5372	V3	150	16K Unified	32K	3 UARTs	8/6/up to 94	16-CH	DDR	One 10/100	1.5V/3.3V	180	-40° to + 85°C	160-ball QFP	n/a	32 x 32 EMAC, QSPI, I^2C
MCF5372L	V3	200	16K Unified	32K	3 UARTs	8/6/up to 94	16-CH	DDR	One 10/100 One USB 2.0 Full-SP Host One USB 2.0 Full-Sp Device	1.5V/3.3V	240	-40° to + 85°C	196-ball MAPBGA	n/a	32 x 32 EMAC, QSPI, I^2C
MCF5373	V3	150	16K Unified	32K	3 UARTs	8/6/up to 94	16-CH	DDR	One 10/100	1.5V/3.3V	180	-40° to + 85°C	160-ball QFP	n/a	Hardware Encryption, 32 x 32 EMAC, QSPI, I^2C
MCF5373L	V3	200	16K Unified	32K	3 UARTs	8/6/up to 94	16-CH	DDR	One 10/100 One USB 2.0 Full-SP Host One USB 2.0 Full-Sp Device	1.5V/3.3V	240	-40° to + 85°C	196-ball MAPBGA	n/a	Hardware Encryption, 32 x 32 EMAC, QSPI, I^2C
MCF5307	V3	75	8K I	4K	2 UARTs, I^2C	2/8/16	4-CH	SDRAM, FPM, EDO	n/a	3.3	66, 90	C	208-pin FQFP	B	MAC, HW divide, BDM, PLL, I^2C, 5 V tolerant I/O
MCF5407	V4	316	16K I, 8K D	4K	UART, USART, I^2C	2/8/16	4-CH	SDRAM, FPM, EDO	n/a	1.8, 3.3	162, 220	C	208-pin FQFP	A	Pin-compatible 5307 performance upgrade with MAC, HW divide, BDM, PLL, I^2C, 3.3 V tolerant I/O
MCF5470	V4e	308	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	Two 10/100, PCI	1.5, 2.5, 3.3	200	B	388-ball TEPBGA	n/a	n/a
MCF5471	V4e	308	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	Two 10/100, PCI	1.5, 2.5, 3.3	200	B	388-ball TEPBGA	n/a	Crypto Enabled

Note: Extended temperature products with minimum order requirements. All temperature/speed combinations may not be valid. Consult the factory to verify.

MCF5xxx FAMILY (continued)

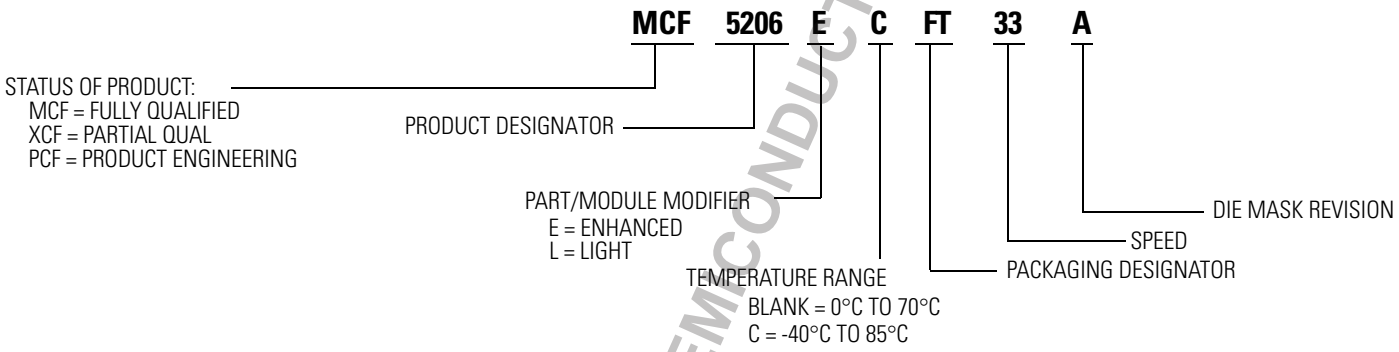
MCF5xxx Product Table[Note] (continued)

For complete part number information and temperature definitions, refer to "MCF5xxx Family (continued)" on page SG1001-15.

Product	Core	Dhrys 2.1 MIPS @ max MHz	Processor Cache (Bytes)	Processor SRAM (Bytes)	Serial Interface, UART	Timers/ CS/ GPIO	DMA	DRAM Controller	10/100 Eth/ USB1.1	Operating Voltage (V)	Operating Frequency (MHz)	Temp	Packaging	Rev	Additional Information
MCF5472	V4e	308	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	One 10/100, USB 2.0D, PCI	1.5, 2.5, 3.3	200	B	388-ball TEPBGA	n/a	n/a
MCF5473	V4e	308	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	One 10/100, USB 2.0D, PCI	1.5, 2.5, 3.3	200	B	388-ball TEPBGA	n/a	Crypto Enabled
MCF5474	V4e	410	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	Two 10/100, USB 2.0D, PCI	1.5, 2.5, 3.3	266	B	388-ball TEPBGA	n/a	Contact Freescale for product status
MCF5475	V4e	410	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	Two 10/100, USB 2.0D, PCI	1.5, 2.5, 3.3	266	B	388-ball TEPBGA	n/a	Crypto Enabled
MCF5480	V4e	255	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	Two 10/100, Two CAN, PCI	1.5, 2.5, 3.3	166	C	388-ball TEPBGA	n/a	n/a
MCF5481	V4e	255	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	Two 10/100, Two CAN, PCI	1.5, 2.5, 3.3	166	C	388-ball TEPBGA	n/a	Crypto Enabled
MCF5482	V4e	255	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	One 10/100, USB 2.0D, Two CAN, PCI	1.5, 2.5, 3.3	166	C	388-ball TEPBGA	n/a	n/a
MCF5483	V4e	255	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	One 10/100, USB 2.0D, Two CAN, PCI	1.5, 2.5, 3.3	166	C	388-ball TEPBGA	n/a	Crypto Enabled
MCF5484	V4e	308	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	Two 10/100, USB 2.0D, Two CAN, PCI	1.5, 2.5, 3.3	200	C	388-ball TEPBGA	n/a	n/a
MCF5485	V4e	308	32K I, 32K D	32K	4	6/6/up to 99	16-CH	DDR/SDR	Two 10/100, USB 2.0D, Two CAN, PCI	1.5, 2.5, 3.3	200	C	388-ball TEPBGA	n/a	Crypto Enabled

Note: Extended temperature products with minimum order requirements. All temperature/speed combinations may not be valid. Consult the factory to verify.

Product Numbering System for MCF5xxx Family



683xx Product Table[Note]

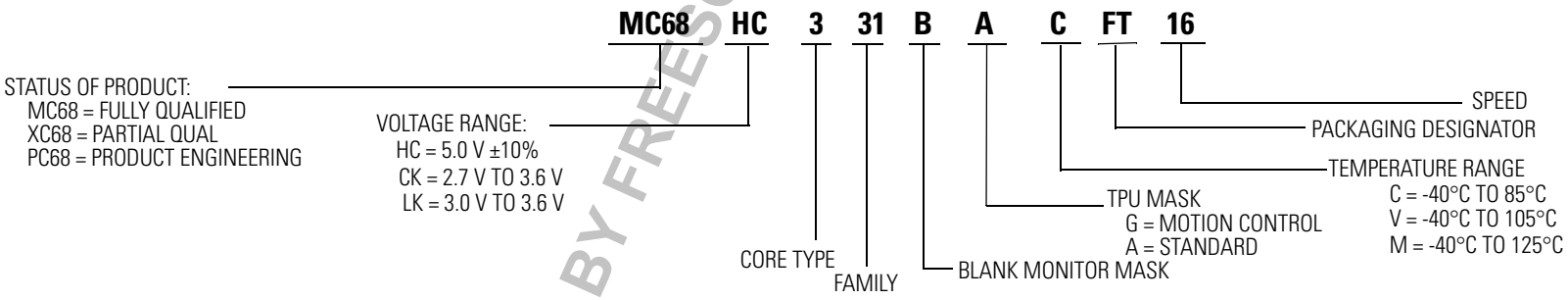
Product	ROM (KB)	RAM (KB)	Flash (KB)	Product Integration	Timer	Serial	A/D	Operating Voltage (V)	Operating Frequency (MHz)	Temp	Packaging	Status	Additional Information	Documentation
MC68331	0	0	0	SIM	GPT	SCI, queued SPI	n/a	5.0	16, 20, 25	C, V, M	132-pin PQFP 144-pin LQFP	Available	2.7 V to 3.6 V 16 MHz version (MC68CK331). MC68CK331 on end of life	MC68331UM
MC68332	0	2	0	SIM	TPU	SCI, queued SPI	n/a	5.0	16, 20, 25	C, V, M	132-pin PQFP 144-pin LQFP	Available	3.0 V to 3.6 V 16 MHz version (MC68LK332)	MC68332UM MC68LK332EC16
MC68336	0	4 + 3.5	0	SIM	TPU CTM4	SCI, queued SPI	Queued 16-CH, 10-bit	5.0	20, 25	C, V, M	160-pin QFP	Available	Contact an authorized Freescale sales representative for product information.	MC68336/376PP MC68336/376UM
MC68376	8	4 + 3.5	0	SIM	TPU CTM4	TouCAN, SCI, queued SPI	Queued 16-CH, 10-bit	5.0	20, 25	C, V, M	160-pin QFP	Available	Contact an authorized Freescale sales representative for product information.	MC68336/376PP MC68336/376UM

Note: All package, speed, and temperature combinations may not be valid. Consult the factory to verify information.

683xx Reference Manuals

CPU32RM	CPU32 Reference Manual
SIMRM	System Integration Module Reference Manual
TPURM	Timer Processor Unit Reference Manual
GPTRM	General-Purpose Timer Reference Manual
QSMRM	Queued Serial Module Reference Manual
ADCRM	Analog-to-Digital Converter Reference Manual
CTMRM	Configurable Timer Module Reference Manual

Product Numbering System for 683xx Family



APPLICATIONS PROCESSORS

i.MX Family

i.MX ARM® Core Product Table

Product	RAM (KB)	Product Integration	Timer	Serial	A/D	Operating Voltage	Operating Frequency (MHz)	Temp	Packaging	Status	Additional Information	Documentation
MC9328MX21	n/a	ARM926EJ-S™ core processor, eMMA, LCDC, Smart LCDC, CMOS Sensor Interface, Fast IR, USBOTG, 4xUARTs, 2xCSPIs, I^2C, 2xSSI, Digital Aud MUX, O-Wire Controller, Keypad IF, 2xMMC/SD, EIM, SDRAM controller, NAND-Flash controller, PCMCIA, DMAC, GPIO	(3) 32-bit	SSI, CSPI, UART, USB, I^2C, I^2S	n/a	1.45 V to 1.65 V internal 1.7 V to 2.0 V, or 2.7 V to 3.3 V I/O	Starting at 266 MHz	0°C to 70°C	289-ball MAPBGA	Available	Contact an authorized Freescale sales representative for product information	MC9328MX21RM
MC9328MX1	128 SRAM	ARM920T™ core processor, color LCD controller, ASP, DMAC, MMC/SD HC, MSHC, MMA, Video port, BTA,110 GPIO ports	(2) 32-bit	SPI, UART, USB, I^2C, I^2S	4-CH	1.7 V to 2.0 V internal, 1.7 V to 2.0 V 2.7 V to 3.3 V I/O	150, 200	0°C to 70°C -40°C to 85°C	256-ball MAPBGA	Available	Sample pack part numbers begin with K	MC9328MX1RM
MC9328MXL	n/a	ARM920T™ core processor, color LCD controller, DMAC, MMC/SD HC, MSHC, MMA, Video port, 110 GPIO ports	(2) 32-bit	SPI, UART, USB, I^2C, I^2S	n/a	1.8, 1.9 Internal 1.8, 1.9/3.0 I/O	150, 200	0°C to 70°C -40°C to 85°C	225-ball MAPBGA 256-ball MAPBGA	Available	Sample pack part numbers begin with K	MC9328MXLRM
MC9328MXS	n/a	ARM920T™ core processor, color LDC controller, DMAC	(2) 32-bit	SPI, UART, USB, I^2C, I^2S	n/a	1.8, 1.9 Internal 1.8, 1.9/3.0 I/O	100	0°C to 70°C -40°C to 85°C	225-ball MAPBGA	Available	www.freescale.com	MC9328MXSRM

DragonBall™ Family

DragonBall 68K Core Product Table

DragonBall processors are no longer recommended for new designs.

Product	RAM (KB)	Product Integration	Timer	Serial	A/D	Operating Voltage ± 10% (V)	Operating Frequency (MHz)	Temp	Packaging	Status	Additional Information	Documentation
MC68SZ328	100 SRAM	FLX68000 core processor, color LCD controller, ASP, DMAC, MMC/SD HC, MSHC, 93 GPIO ports	(2) 16-bit	SPI, UART, USB, I²C	4-CH	1.8 Internal 3.0 I/O	66	0°C to 70°C -40°C to 85°C	196-ball MAPBGA	No longer recommended for new designs	Sample pack part numbers begin with SPAKSZ328	MC68SZ328RM
MC68VZ328	n/a	FLX68000 core processor, LCD controller, 76 GPIO ports	(2) 16-bit	SPI, UART	n/a	3.0	33, 45	0°C to 70°C, -40°C to 85°C	144-pin LQFP 144-ball MAPBGA	No longer recommended for new designs	Sample pack part numbers begin with SPAKVZ328	MC68VZ328UM

MPC5200 HIGH-PERFORMANCE INTEGRATED PROCESSORS

MPC5200 Product Table

Product	Processor Speed (Typ)	Dhrystone Performance (MIPS)	Cache L1 Inst/Data (KB)	Product Integration	Integrated Memory Controller	Other Peripherals	Serial Interfaces	GPIO	DMA Controller	Core Operating Voltage	Ambient Temp Max	Ambient Temp Min	Packaging
MPC5200	266, 400 MHz	500 @ 266 MHz/ 760 @ 400 MHz	16/16	ATA/IDE PCI 2.2 Local SRAM/ RAM/Flash Controller	SDRAM DDR SDRAM	FPU MMU BestComm DMA	10/100 Ethernet USB 1.1 Host (up to 2) UART (up to 6) SPI (up to 5) I^2C (up to 2) I^2S (up to 3) CODEC (up to 3) AC97 (up to 2) CAN 2.0 A/B (up to 2) J1850/BLDC-D (1)	Up to 56	BestComm 16-CH	1.5	70°C to 85°C	0°C to -40°C	272-ball PBGA

MPC823E FAMILY

MPC823E Product Tables

Product	Processor Speed (Typ)	Drystone Performance (MIPS)	Microprogrammable Module	Translation Lookaside Buffers	FPU (Floating Point Unit)	I/O (Bits)	Power Dissipation (Typ)	Other Peripherals	Serial Interfaces	Cache-L-1 Instructional (KB)	Cache-L-1 Data (KB)
MPC823E	66, 75 MHz	99 @ 75 MHz	CPM	8-entry	n/a	53	750 mW @ 66 MHz	Video/LCD Controller	UART (up to 4) 1 I^2C 1 SPI USB 16 x 16 MAC PCMCIA/ATA CODEC Interface	16	8

HOST PROCESSORS *Note*

Product	Packaging	Speed (MHz)	Apps Mode	Rev	Process	Core Voltage	Voltage IO/tol (V)	SOQ	MPQ	POQ	Additional Information	Architecture
603R												
MPC603R	255-ball CBGA (RX)	200, 266, 300	L	C=2.1	Hip3	2.5 ±5%	3.3, 5	1	60	60	32-bit superscaler MPU with dual 16K instruction and data caches, single/double precision IEEE FPU 2.5 V core and 3.3 V I/O	PowerPC ISA
MPC603R	255-ball PBGA (ZT)	200	L	C=2.1	Hip3	2.5 ±5%	3.3, 5	1	60	300		
MPC603RT	255-ball CBGA (RX)	200, 266	L	C=2.1	Hip3	2.5 ±5%	3.3, 5	1	1	60		
745B												
MPC745B	255-ball PBGA (PX)	300, 350	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	1	60	32-bit superscalar MPU with dual 32K instruction and data caches, single/double precision IEEE FPU, 32-/64-bit external data bus; features enhanced for embedded applications	PowerPC ISA
MPC745B	255-ball PBGA (VT)	300, 350	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	1	60		
745C												
MPC745C	360-ball PBGA (PX)	350	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	44	220	32-bit superscalar MPU with dual 32K instruction and data caches, single/double precision IEEE FPU, 32-/64-bit external data bus; features enhanced for embedded applications	PowerPC ISA
MPC745C	360-ball PBGA (VT	350	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	44	220		
755B												
MPC755B	360-ball PBGA (PX)	300, 350	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	44	220	32-bit superscalar MPU with dual 32K instruction and data caches, single/double precision IEEE FPU, 32-/64-bit external data bus, external L2 cache interface (up to 1MB) with integrated controller and cache tags. Direct Mapped SRAM capability, cache locking; features enhanced for embedded applications. Extended Temperature range (MPC755BT only): -40°C to 105°C	PowerPC ISA
MPC755B	360-ball CBGA (RX)	300, 350	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	1	44		
MPC755BT	360-ball CBGA (RX)	300, 350	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	0	44	220		
MPC755B	255-ball PBGA (VT)	300, 350	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	44	220		
755C												
MPC755C	360-ball CBGA (RX)	400	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	44	220	32-bit superscalar MPU with dual 32K instruction and data caches, single/double precision IEEE FPU, 32-/64-bit external data bus, external L2 cache interface (up to 1MB) with integrated controller and cache tags. Direct Mapped SRAM capability, cache locking; features enhanced for embedded applications. Extended Temperature range (MPC755CT only): -40°C to 105°C	PowerPC ISA
MPC755C	360-ball PBGA (PX)	400	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	44	220		
MPC755CT	360-ball CBGA (RX)	400	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	1	44		
MPC755C	255-ball PBGA (VT)	400	L	E=2.8	Hip4	2.0 ±0.1 V	3.3	1	44	220		
7410												
MPC7410	360-ball CBGA (RX)	400, 450	N	E=1.4	Hip6	1.5 ±0.05 V, 1.8 ±0.1 V	2.5, 3.3	1	44	220	Features similar to the MPC7400 with 32-/64-bit L2 bus support and direct-mapped SRAM capability; high bandwidth 133 MHz 64-bit MPX/60x bus interface	PowerPC ISA
MPC7410	360-ball CBGA (RX)	400, 450, 500	L	E=1.4	Hip6	1.8 ±0.1 V	2.5, 3.3	1	44	220		
MPC7410	360-ball HiCTE (HX)	450, 500	L	E=1.4	Hip6	1.8 ±0.1 V	2.5, 3.3	1	44	220		
MPC7410	360-ball HiCTE (VU)	450, 500	L	E=1.4	Hip6	1.8 ±0.1 V	2.5, 3.3	1	44	220		
MPC7410	360-ball HiCTE (VU)	400, 450	L	E=1.4	Hip6	1.8 ±0.1 V	2.5, 3.3	1	44	220		
MPC7410	360-pad HiCTE (VS)	450, 500	L	E=1.4	Hip6	1.8 ±0.1 V	2.5, 3.3	1	44	220		
MPC7410T	360-ball CBGA (RX)	400, 450, 500	L	E=1.4	Hip6	1.8 ±0.1 V	2.5, 3.3	1	44	220	Extended Temperature range (MPC7410T only): -40°C to 105°C	
MPC7410T	360-ball CBGA (RX)	400, 450	N	E=1.4	Hip6	1.5 ±0.05 V, 1.8 ±0.1 V	2.5, 3.3	1	44	220		
MPC7410T	360-ball HiCTE (HX)	500	L	E=1.4	Hip6	1.8 ±0.1 V	2.5, 3.3	1	44	220		

Note: VU, VS, VT, VG are RoHS compliant packages.

A change bar appears in the left margin to mark the location of new or revised information.

HOST PROCESSORS[Note] (continued)

Product	Packaging	Speed (MHz)	Apps Mode	Rev	Process	Core Voltage	Voltage IO/tol (V)	SOQ	MPQ	POQ	Additional Information	Architecture
7447A												PowerPC ISA
MC7447A	360-ball HiCTE (HX)	600, 733, 867, 1000, 1167	N	B=1.1	Hip7	1.1 V ± 50 mv	2.5	1	44	220		
MC7447A	360-ball HiCTE (HX)	1000, 1267, 1333, 1420	L	B=1.1	Hip7	1.3 V ± 50 mv	2.5	1	44	220		
MC7447A	360-ball HiCTE (VU)	600, 733, 867, 1000, 1167	N	B=1.1	Hip7	1.1 V ± 50 mv	2.5	1	44	220		
MC7447A	360-ball HiCTE (VU)	1000, 1267, 1333, 1420	L	B=1.1	Hip7	1.3 V ± 50 mv	2.5	1	44	220		
MC7447A	360-pad HiCTE (VS)	600, 733, 867, 1000, 1167	N	B=1.1	Hip7	1.1 V ± 50 mv	2.5	1	44	220		
MC7447A	360-pad HiCTE (VS)	1000, 1267, 1333, 1420	L	B=1.1	Hip7	1.3 V ± 50 mv	2.5	1	44	220		
MC7447AT	360-ball HiCTE (HX)	1000, 1167	N	B=1.1	Hip7	1.1 ± 0.05 V	2.5	1	44	220	Extended temperature range (MPC7447AT only): -40°C to 105°C	
7448												PowerPC ISA
MC7448	360-ball HiCTE (HX)	600, 667, 867, 1000, 1250, 1400	N	C=2.1	HiP8 SOI	1.0 to 1.1 ± 0.05 V	1.8, 2.5	TBD	44	220		
MC7448	360-ball HiCTE (VU)	600, 667, 867, 1000, 1250, 1400	N	C=2.1	HiP8 SOI	1.0 to 1.1 ± 0.05 V	1.8, 2.5	TBD	44	220		
MC7448	360-pad HiCTE (VS)	600, 667, 867, 1000, 1250, 1400	N	C=2.1	HiP8 SOI	1.0 to 1.1 ± 0.05 V	1.8, 2.5	TBD	44	220		
MC7448	360-ball HiCTE (HX)	1000, 1420, 1600, 1700	L	C=2.1	HiP8 SOI	1.2 to 1.3 ± 0.05 V	1.8, 2.5	TBD	44	220		
MC7448	360-ball HiCTE (VU)	1000, 1420, 1600, 1700	L	C=2.1	HiP8 SOI	1.2 to 1.3 ± 0.05 V	1.8, 2.5	TBD	44	220		
MC7448	360-pad HiCTE (VS)	1000, 1420, 1600, 1700	L	C=2.1	HiP8 SOI	1.2 to 1.3 ± 0.05 V	1.8, 2.5	TBD	44	220		
7457											Contact an authorized Freescale sales representative for product information	PowerPC ISA
MC7457	484-ball CBGA (RX)	600, 733, 867, 1000	N	C=1.2	Hip7	1.1 ± 0.05 V	1.8, 2.5	1	36	36		
MC7457	484-ball CBGA (RX)	867, 1000, 1200, 1267	L	C=1.2	Hip7	1.3 ± 0.05 V	1.8, 2.5	1	36	36		
MC7457	484-ball CBGA (VG)	600, 733, 867, 1000	N	C=1.2	Hip7	1.1 ± 0.05 V	1.8, 2.5	1	36	36		
MC7457	484-ball CBGA (VG)	867, 1000, 1200, 1267	L	C=1.2	Hip7	1.3 ± 0.05 V	1.8, 2.5	1	36	36		
MC7457T	484-ball CBGA (RX)	1000	N	C=1.2	Hip7	1.1 V ± 0.05 V	1.8, 2.5	0	36	180	Extended temperature range (MPC7457T only): -40°C to 105°C	

Note: VU, VS, VT, VG are RoHS compliant packages.

Integrated Host Processors

Product	Packaging	Speed (MHz)	Apps Mode	Rev	Process	Core Voltage	Voltage IO/tol (V)	SOQ	MPQ	POQ	Additional Information	Architecture
8240												
XPC8240	352-ball TBGA (ZU)	200	L	E=1.3	Hip3	2.5 ±0.125%	3.3, 5	2	24	120	32-bit superscalar processor core with integrated peripheral logic; supports up to 100 MHz 64-bit memory interface and up to 66 MHz 32-bit PCI interface	PowerPC ISA
XPC8240	352-ball TBGA (ZU)	250	R	E=1.3	Hip3	2.625 ±0.125 V	3.3, 5	2	24	120		
8241												
MPC8241	357-ball PBGA (ZQ)	166, 200, 266	L	D=1.4	Hip4	1.8 ±0.1 V	3.3, 5	2	44	220	Functionality of the MPC8245 in lower cost package	PowerPC ISA
MPC8241	357-ball PBGA (ZQ)	166, 200	T	D=1.4	Hip4	1.8 ±0.1 V	3.3, 5	2	44	220	Extended Temperature -40°C to 105°C T_J	
8245												
MPC8245	352-ball TBGA (ZU)	266, 300	L	D=1.4	Hip4	1.8 ±0.1 V	3.3, 5	1	24	144	32-bit superscalar processor core with integrated peripheral logic; supports up to 133 MHz 64-bit memory interface and up to 66 MHz 32-bit PCI interface, MPC8245 has the on-chip DUART and is pin-compatible with the MPC8240	PowerPC ISA
MPC8245	352-ball TBGA (ZU)	266, 300, 333, 350	L	D=1.4	Hip4	2.0 ±0.1 V	3.3, 5	1	24	144		
MPC8245A	352-ball TBGA (ZU)	400, 466	R	D=1.4	Hip4	2.1 ±0.1 V	3.3, 5	1	24	144	Extended Temperature -40°C to 105°C T_J	
MPC8245	352-ball TBGA (ZU)	266, 300	T	D=1.4	Hip4	1.8 ±0.1 V	3.3, 5	1	24	144		
MPC8245	352-ball TBGA (ZU)	333, 350	T	D=1.4	Hip4	2.0 ±0.1 V	3.3, 5	1	24	144		

MPC823 Integrated Communications Processors[Note] *(Standard Temperature: 0°C to 95°C T_J) (Junction Temperature)*

For complete part number information and temperature definitions, refer to "MPC8xx PowerQUICC™ I Product Numbering Scheme Note" on page SG1001-26.

Product	Description	Packaging	Speed (MHz)	Rev	Temp [Note] (-40°C Ta to 95°C T_J)	SOQ	MPQ	POQ	Additional Information
XPC823	Portable System MPU	256-pin (ZT)	66, 75, 81	B2T	CZT66	0	60	300	MPU for mobile computing; 256-lead ZT is the preferred package; 823E has 16 K I cache and 8 K D cache
XPC823		256-pin (VF)	66, 75, 81	B2	CVF66	0	60	300	For samples order: KXPC823ZT81B2T VF not recommended for New Designs. EOL

Note: Extended temperature products with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

HOST AND COMMUNICATIONS PROCESSORS *(continued)*

MPC850 Integrated Communications Processors[Note] *(Standard Temperature: 0°C to 95°C T_J)*

For complete part number information and temperature definitions, refer to "MPC8xx PowerQUICC™ I Product Numbering Scheme Note" on page SG1001-26.

Product	Description	Packaging	Speed (MHz)	Rev	Temp [Note] (-40°C Ta to 95°C T_J)	SOQ	MPQ	POQ	Additional Information
XPC850	Low-Cost Integrated MPU	256-pin (ZT)	50, 66, 80	BU	CZT50	0	60	300	Low cost, integrated MPU with tailored Communication Processing Module (CPM) including Universal Serial Bus (USB) For samples order: KXPC850SRZT80BU, KXPC850DSLZT50BU
XPC850DE		256-pin (ZT)	50, 66, 80	BU	CZT50	0	60	300	
XPC850SR		256-pin (ZT)	50, 66, 80	BU	CZT50	0	60	300	
XPC850DSL		256-pin (ZT)	50	BU	CZT50	0	60	300	

Note: Extended temperature products with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

MPC860 Integrated Communications Processors[Note] *(Standard Temperature: 0°C T_A to 95°C T_J)*

For complete part number information and temperature definitions, refer to "MPC8xx PowerQUICC™ I Product Numbering Scheme Note" on page SG1001-26.

Product	Description	Packaging	Speed (MHz)	Rev	Temp [Note] (-40°C T_A to 95°C T_J)	SOQ	MPQ	POQ	Additional Information
MPC855T	PowerQUICC™	357-pin (ZQ)	50, 66, 80	D4	CZP50, 66	0	44	220	Low cost, integrated MPU with tailored CPM including Fast Ethernet Samples and production available now
MPC860DE		357-pin (ZQ)	50, 60, 80	D4	CZP50, 66	0	44	220	PowerQUICC family with embedded 8xx core—with 4 KB I-cache and 4K D-cache, and MMUs integrated with CPM of earlier generation 68360 QUICC; 860P and 860DP have 16K I-cache and 8K D-cache MPC860 product family now offered in MPC qualification and ZQ (thick) package; refer to PCN #10061 Samples and production available now
MPC860DP		357-pin (ZQ)	50, 60, 80	D4	CZP50, 66	0	44	220	
MPC860DT		357-pin (ZQ)	50, 60, 80	D4	CZP50, 66	0	44	220	
MPC860EN		357-pin (ZQ)	50, 60, 80	D4	CZP50, 66	0	44	220	
MPC860P		357-pin (ZQ)	50, 60, 80	D4	CZP50, 66	0	44	220	
MPC860SR		357-pin (ZQ)	50, 60, 80	D4	CZP50, 66	0	44	220	
MPC860T		357-pin (ZQ)	50, 60, 80	D4	CZP50, 66	0	44	220	

Note: Extended temperature products with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

MPC862 Integrated Communications Processors [Note] *(Standard Temperature: 0°C T_A to 95°C T_J)*

For complete part number information and temperature definitions, refer to "MPC8xx PowerQUICC™ I Product Numbering Scheme Note" on page SG1001-26.

Product	Description	Packaging	Speed (MHz)	Rev	Temp Note (-40°C T_A to 115°C T_J)	SOQ	MPQ	POQ	Additional Information
XPC857DSL	PowerQUICC™	357-pin (ZP)	50, 66	B	n/a	0	44	220	Low cost 857T for DSL applications Rev B samples and production available now
XPC857T		357-pin (ZP)	50, 66, 80, 100	B	CZP50, 66, 80	0	44	220	Rev B of the 862 PowerQUICC family including simultaneous operation of the Fast Ethernet (MII) and Parallel ATM (Utopia), Utopia II Multi-Phy, Utopia Slave, and AAL2/VBR
XPC862P		357-pin (ZP)	50, 66, 80, 100	B	CZP50, 66, 80	0	44	220	
XPC862T		357-pin (ZP)	50, 66, 80, 100	B	CZP50, 66, 80	0	44	220	Rev B samples and production available now

Note: Extended temperature products with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

HOST AND COMMUNICATIONS PROCESSORS (continued)

MPC866 Integrated Communications Processors [Note] *(Standard Temperature: 0°C T_A to 95°C T_J)*

For complete part number information and temperature definitions, refer to "MPC8xx PowerQUICC™ I Product Numbering Scheme Note" on page SG1001-26.

Product	Description	Packaging	Speed (MHz)	Rev	Temp [Note] (-40°C T_A to 100°C T_J)	SOQ	MPQ	POQ	Additional Information
MPC852T	PowerQUICC™	256-pin (VR) 256-pin (ZT)	50, 66, 80, 100	A	CVR66, CZT100, 50, 66	0	60	300	Samples and production available now Low cost Ethernet only
MPC859DSL		357-pin (ZP)	50, 66	A	CZT50, 66, 100	0	44	220	Samples and production available now Low cost 859T for DSL applications
MPC859T		357-pin (ZP)	100, 133	A	CZP100	0	44	220	Low cost PowerQUICC with tailored CPM including Fast Ethernet. 859P = 16K I-cache and 8K D-cache 859T = 4K I-cache and 4K D-cache
MPC859P		357-pin (ZP)	100, 133	A	CZP100	0	44	220	
MPC866P		357-pin (ZP)	100,133	A	CZP100	0	44	220	PowerQUICC 862 family extension in 0.18 µm offering lower power and higher performance 866P = 16K I-cache, 8K D-cache 886T = 4K I-cache and 4K D-cache MPC qualified Samples and production available now
MPC866T		357-pin (ZP)	100,133	A	CZP100	0	44	220	

Note: Extended temperature products with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

MPC885 Integrated Communications Processors [Note] *(Standard Temperature: 0°C T_A to 95°C T_J)*

For complete part number information and temperature definitions, refer to "MPC8xx PowerQUICC™ I Product Numbering Scheme Note" on page SG1001-26

Product	Description	Packaging	Speed (MHz)	Rev	Temp [Note] (-40°C T_A to 100°C T_J)	SOQ	MPQ	POQ	Additional Information
MPC870	PowerQUICC	256-pin (ZT)	66, 80, 133	0	CZT66, 133	0	60	300	PowerQUICC I 866 family extension in 0.18µm with embedded 8xx core--with 8K I-cache, 8K D-cache, integrated security, two FastEthernet (10/100) controllers, and USB MPC870 and MPC875 support Ethernet only MPC880 and MPC885 support Ethernet and ATM MPC qualified Samples and production available now
MPC875		256-pin (ZT)	66, 80, 133	0	CZT66, 133	0	60	300	
MPC880		357-pin (ZP)	66, 80, 133	0	CZP66, 133	0	44	220	
MPC885		357-pin (ZP)	66, 80, 133	0	CZP66, 133	0	44	220	

Note: Extended temperature products with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

PowerQUICC™ I Processor Derivatives and Features

For complete part number information and temperature definitions, refer to "MPC8xx PowerQUICC™ I Product Numbering Scheme Note" on page SG1001-26.

Product	I-Cache (KB)	D-Cache (KB)	10T	10/100	ATM	ESAR ATM	(No of Channels)		#T1/E1	USB	Integrated Security
							HDLC	SCC			
MPC823	2	1	Up to 2	n/a	n/a	n/a	Up to 64	2	n/a	Y	n/a
MPC823E	16	8	Up to 2	n/a	n/a	n/a	Up to 64	2	n/a	Y	n/a
MPC850	2	1	1	n/a	n/a	n/a	n/a	1	n/a	Y	n/a
MPC850DE	2	1	Up to 2	n/a	n/a	n/a	n/a	2	n/a	Y	n/a
MPC850SR	2	1	Up to 2	n/a	Y	n/a	Up to 64	2	2	Y	n/a
MPC850DSL	2	1	1	n/a	Y	n/a	n/a	2	n/a	Y	n/a
MPC852T	4	4	Up to 2	1	n/a	n/a	n/a	2	n/a	n/a	n/a
MPC853T	4	4	Up to 2	1	n/a			2			
MPC855T	4	4	1	1	Y	n/a	Up to 32	1	1	n/a	n/a
MPC857T	4	4	1	1	Y	Y	Up to 32	1	1	n/a	n/a
MPC857DSL	4	4	1	1	Y	Y	n/a	1	n/a	n/a	n/a
MPC859P	16	8	1	1	Y	Y	Up to 32	1	1	n/a	n/a
MPC859T	4	4	1	1	Y	Y	Up to 32	1	1	n/a	n/a
MPC859DSL	4	4	1	1	Y	Y	n/a	1	n/a	n/a	n/a
MPC860DE	4	4	Up to 2	n/a	n/a	n/a	n/a	2	n/a	n/a	n/a
MPC860DP	16	8	Up to 2	1	Y	n/a	Up to 64	2	2	n/a	n/a
MPC860DT	4	4	Up to 2	1	Y	n/a	Up to 64	2	2	n/a	n/a
MPC860EN	4	4	Up to 4	n/a	n/a	n/a	n/a	4	n/a	n/a	n/a
MPC860P	16	8	Up to 4	1	Y	n/a	Up to 64	4	2	n/a	n/a
MPC860SR	4	4	Up to 4	n/a	Y	n/a	Up to 64	4	2	n/a	n/a
MPC860T	4	4	Up to 4	1	Y	n/a	Up to 64	4	2	n/a	n/a
MPC862P	16	8	Up to 4	1	Y	Y	Up to 64	4	2	n/a	n/a
MPC862T	4	4	Up to 4	1	Y	Y	Up to 64	4	2	n/a	n/a
MPC866T	4	4	Up to 4	1	Y	Y	Up to 64	4	2	n/a	n/a
MPC866P	16	8	Up to 4	1	Y	Y	Up to 64	4	2	n/a	n/a
MPC870	8	8	0	2	N	N	n/a	0	n/a	Y	n/a
MPC875	8	8	1	2	N	N	Up to 32	1	1	Y	Y
MPC880	8	8	Up to 2	2	Y	Y	Up to 64	2	2	Y	n/a
MPC885	8	8	Up to 3	2	Y	Y	Up to 64	3	2	Y	Y

HOST AND COMMUNICATIONS PROCESSORS (continued)

MPC8xx PowerQUICC™ I Product Numbering Scheme[Note]

XPC	860	EN	C	ZP	66	D4
PRODUCT CODE	**800 SERIES DEVICE**	**PART/MODULE MODIFIER**	**TEMP RANGE**	**PACKAGE**	**FREQUENCY**	**DIE MASK REVISION**
PPC PROTOTYPE SAMPLE	823	DE DUAL CHANNEL (W/ENET)	BLANK 0°C T_A TO 95°C T_J	256-PIN ZT (LEAD)	50/66/80/100/133 MHZ	823 B2T
KXPC SAMPLE PACK (2–10)	850	DP DUAL CHANNEL (10/100, MULTI-HDLC, ATM)	C -40°C T_A TO 95°C T_J	357-PIN ZP (NO LEAD)		850 BT/BU
XPC ENGINEERING PRODUCTION	852T	DT DUAL CHANNEL (10/100, MULTI-HDLC, ATM)		256-PIN ZQ (LEAD-THICK)		852T A
MPC QUALIFIED	855T	EN FOUR CHANNEL (W/ENET)		357-PIN ZQ (LEAD-THICK)		855T D4
	857T	P FOUR CHANNEL (10/100, MULTI-HDLC, ATM)		256-PIN VR (NO LEAD)		857T B
	857DSL	SR FOUR CHANNEL (W/ENET, MULTI-HDLC, ATM)		357-PIN VR (NO LEAD)		857DSL B
	859DSL	T FOUR CHANNEL (10/100, MULTI-HDLC, ATM)				859P A
	859P					859T A
	859T					859DSL A
	860					860 D4
	862					862 B
	866					866 A
	870					870 0
	875					875 0
	880					880 0
	885					885 0

MPC82xx PowerQUICC™ II Processor Product Numbering Scheme[Note]

XPC	8260	C	A	ZU	IFB	B3
PRODUCT CODE	**8XXX SERIES DEVICE**	**TEMP RANGE (JUNCTION)**	**PROCESS**	**PACKAGE**	**CPU/CPM FREQUENCY**	**DIE MASK REVISION**
PPC PROTOTYPE SAMPLE	8250 ETHERNET ONLY	BLANK 0°C T_A TO 105°C T_J	BLANK HIP3	480-PIN ZU (LEAD)	A 50 B 66	A
KXPC SAMPLE PACK (2–10)	8255 LOW COST (W/ATM)	C -40°C T_A TO 105°C T_J	A HIP4	480-PIN VV (NO LEAD)	C 75 D 83	B
XPC ENGINEERING PRODUCTION	8260 BASE		(8280, 8270, 8275)	516-PIN VR (NO LEAD)	E 100 F 133	C
MPC QUALIFIED	8264 IMA ENABLED		BLANK HIP7	516-PIN ZQ (LEAD)	G 150 H 166	
	8265 PCI OPTION				I 200 J 208	
	8266 PCI + IMA				K 233 L 250	
	8270 ETHERNET ONLY				M 266 N 291	
	8275 LOW COST (W/ATM)				P 300 Q 333	
	8280 FULL FEATURE (IMA AND TC)				R 366 S 375	
					T 400 U 450	
					V 500 W 533	

MPC8272 Family Product Numbering Scheme[Note]

MPC	8272	C	ZQ	TIE	A
PRODUCT CODE	**8272 SERIES DEVICE**	**TEMP RANGE (JUNCTION)**	**PACKAGE**	**CPU/CPM FREQUENCY**	**DIE MASK REVISION**
PPC PROTOTYPE SAMPLE	8247 ETHERNET ONLY, NO ENCRYPTION	BLANK 0°C T_A TO 105°C T_J	ZQ 516-PIN PBGA (LEADED)	A 50 B 66	A
KMPC SAMPLE PACK	8248 ETHERNET ONLY + ENCRYPTION	C -40°C T_A TO 105°C T_J	VR 516-PIN PBGA (NO-LEAD)	C 75 D 83	
MPC QUALIFIED	8271 ATM DEVICE, NO ENCRYPTION			E 100 F 133	
	8272 FULL FEATURE			G 150 H 166	
				I 200 J 208	
				K 233 L 250	
				M 266 N 291	
				P 300 Q 333	
				R 366 S 375	
				T 400 U 450	
				V 500 W 533	

Note: The second line marking on the device will be CPU/CPM/BUS speed in MHz.

68K Integrated Communication Processors[Note]

Product	Description	Packaging	Speed (MHz)	Rev	Temp [Note] (-40°C to 85°C)	SOQ	MPQ	POQ	BRICK	Additional Information
MC68302	Intergrated Multiprotocol Processor (IMP)	132-pin (FC)	16, 20, 25	C	CFC16, 20	0	36	144	180	68000 core with three high-performance multiprotocol serial channels also on-chip DMA, RAM, timers, I/O, chip select, and wait state interrupt controller For samples order: SPAK302FC20C, SPAK302FC25C, SPAK302PV33C, SPAK302RC25C, SPAK302PV16VC
		144-pin (PV)	16, 20, 25, 33	C	n/a	0	60	300	300	
		132-pin (RC)	16, 20, 25	C	CRC16, 20	0	14	70	n/a	
MC68302V		144-pin (PV)	16 @ 3.3 V	C	CPV16V	0	60	300	300	
MC68EN302	Intergrated Multiprotocol Processor with Ethernet Controller	144-pin (PV)	20, 25	BT	CPV20	0	60	300	300	Full 68302, plus separate IEEC 802.2 Ethernet MAC channel and full DRAM controller For samples order: KMC68EN302PV25B
MC68LC302	Low-Cost Intergrated Multiprotocol Processor	100-pin (PU)	16, 20, 25 @ 5 V 16, 20 @ 3.3 V	CT CT	CPU16, 20 CPU16V	0	84	420	420	Static EC000 Core Processor with two high-performance multiprotocol serial channels; also on-chip DMA, RAM, timers, I/O, chip selects, and wait state interrupt controller For PU samples order: KMC68LC302PU25CT, KMC68LC301PU20VC
MC68360	QUICC Quad Intergrated Communications Controller	240-pin (EM)	25, 33 @ 5.0 V	L	CEM25	0	24	120	n/a	CPU32 + core with System Intergration Module (SIM) and four high-performance SCCs support numerous protocols; two SCCs support Ethernet on "EN" version For EM sample order: KMC68EN360EM25L, KMC68EN360EM33L, KMC68EN360EM25VL, KMC68EN360CEM25L For ZP sample order: KMC68EN360EM25VL, KMC68EN360ZP33L, KMC68EN360ZP25VL, KMC68EN360CZP25L For RC sample order: KMC68EN360RC33L, KMC68EN360CRC25L
		357-pin (ZP)		L	CZP25	0	44	220	n/a	
		241-pin (RC)		L	CRC25	0	10	50	n/a	
MC68360V		240-pin (EM)	25 @ 3.3 V	L	n/a	0	24	120	n/a	
		357-pin (ZP)		L	n/a	0	44	220	n/a	
MC68EN360		240-pin (EM)	25, 33 @ 5.0 V	L	CEM25	0	24	120	n/a	
		357-pin (ZP)		L	CZP25	0	44	220	n/a	
		241-pin (RC)		L	CRC25	0	10	50	n/a	
MC68EN360V		240-pin (EM)	25 @ 3.3 V	L	n/a	0	24	120	n/a	
		357-pin (ZP)		L	n/a	0	44	220	n/a	
MC68MH360		240-pin (EM)	25, 33 @ 5.0 V	L	CEM25	0	24	120	n/a	One-chip intergrated microprocessor and peripheral combination with four SCCs, two serial management controllers (SMCs), and one serial peripheral interface (SPI) For EM sample order: KMC68MH360EM33L, KMC68MH360EM25VL, KMC68MH360CEM25L For ZP sample order: KMC68MH360ZP25VL, KMC68MH360ZP33L, KMC68MH360CZP25L For RC sample order: KMC68MH360RC33L, KMC68MH360CRC25L
		357-pin (ZP)		L	CZP25	0	44	220	n/a	
		241-pin (RC)		L	CRC25	0	10	50	n/a	
MC68MH360V		240-pin (EM)	25 @ 3.3 V	L	n/a	0	24	120	n/a	
		357-pin (ZP)		L	n/a	0	44	220	n/a	

Note: Extended temperature products with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

INTEGRATED COMMUNICATIONS PROCESSORS (continued)

PowerQUICC™ II Family[Note]

Product	Description	CPU/CPM/Bus Speed (MHz)	Rev	Packaging	Std Temp [Note] (0°C to 105°C)	Ext Temp [Note] (40°C to 105°C)	Samples	SOQ	MPQ	POQ	Additional Information
MPC8247	PowerQUICC II (HiP7)	266/200/66 (MIB) 300/200/100 (PIE) 400/200/100 (TIE) 400/266/133 (TMF)	A	516-ball PBGA (ZQ/VR)	MPC8247ZQxxxA	MPC8247CZQxxxA	KMPC	2	40	200	Ethernet only device
MPC8248	PowerQUICC II (HiP7)	266/200/66 (MIB) 300/200/100 (PIE) 400/200/100 (TIE) 400/266/133 (TMF)	A	516-ball PBGA (ZQ/VR)	MPC8248ZQxxxA	MPC8248CZQxxxA	KMPC	2	40	200	Ethernet only device Integrated security
XPC8255	PowerQUICC II (HiP3)	200/133/66 (IFB)	C2	480-ball TBGA (ZU/VV)	XPC8255ZUIFBC	XPC8255CZUIFBC	KMPC	2	21	105	Low-cost derivative of 8260
XPC8260	PowerQUICC II (HiP3)	166/133/66 (HFB) 200/133/66 (IFB) 200/166/66 (IHB)	C2	480-ball TBGA (ZU/VV)	XPC8260ZUxxxC	XPC8260CZUxxxC	KMPC	2	21	105	Supports fast ethernet HDLC channels and OC-3 ATM up to 200 MHz CPU, 166 MHz CPM, 66 MHz Bus
MPC8250A	PowerQUICC II (HiP4)	266/166/66 (MHB) 300/200/66 (PIB) 200/166/66 (IHB)	C	516-ball PBGA (VR/ZQ)	MPC8250AVR MPC8250AVRIHVBC	MPC8250ACZQ MPC8250ACZQIHBC	KMPC	2	40	200	Ethernet only derivative
MPC8255A	PowerQUICC II (HiP4)	266/166/66 (MHB) 300/300/66 (PIB)	B	480-ball TBGA (ZU/VV)	MPC8255AZUxxxB	MPC8255ACZUxxxB	KMPC	2	21	105	Low-cost ATM and Ethernet derivative
MPC8260A	PowerQUICC II (HiP4)	300/200/66 (PIB) 300/208/83 (PJD) 266/166/66 (MHB) 266/200/66 (MIB)	B	480-ball TBGA (ZU/VV)	MPC8260AZUxxxB	MPC8260ACZUxxxB	KMPC	2	21	105	Standard device. Supports fast Ethernet HDLC channels and OC-3 ATM up to 200 MHz CPU, 166 MHz CPM, 66 MHz Bus
MPC8264A	PowerQUICC II (HiP4)	300/200/66 (PIB) 266/166/66 (MHB) 266/200/66 (MIB) 300/208/83 (PJD)	B	480-ball TBGA (ZU/VV)	MPC8264AZUxxxB	MPC8264ACZUxxxB	KMPC	2	21	105	Supports TC-layer and IMA microcode in addition to standard device features
MPC8265A	PowerQUICC II (HiP4)	300/200/66 (PIB) 266/166/66 (MHB) 266/200/66 (MIB) 300/208/83 (PJD)	C	480-ball TBGA (ZU/VV)	MPC8265AZUxxxC	MPC8265AZUxxxC	KMPC	2	21	105	Supports PCI in addition to standard device features
MPC8266A	PowerQUICC II (HiP4)	300/208/83 (PJD)	C	480-ball TBGA (ZU/VV)	MPC8266AZUxxxC	MPC8266AZUxxxC	KMPC	2	21	105	Superset, supporting TC/IMA and PCI
MPC8270	PowerQUICC II (HiP7)	266/200/66 (MIB) ZQ/VR only 333/250/83 (QLD) 450/300/100 (UPE)	A	516-ball PBGA (VR/ZQ) 480-ball TBGA (ZU/VV)	MPC8270xxxxxA	MPC8270CxxUPEA	KMPC	2	40 21	200 105	Samples Available Ethernet only device; PCN Announcing Rev A published in Q2

CPU/CPM/BUS SPEED FOR POWERQUICC II (HIP 3/4) A = 50, B = 66, C = 75, D = 83, E = 100, F = 133, G = 150, H = 166, I = 200, J = 208, K = 233, L = 250, M = 266, N = 291, P = 300, Q = 333, R = 366, S = 375, T = 400, U = 450, V = 500, and W = 533.
Note: Extended temperature devices with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

PowerQUICC™ II Family[Note] (continued)

Product	Description	CPU/CPM/Bus Speed (MHz)	Rev	Packaging	Std Temp [Note] (0°C to 105°C)	Ext Temp [Note] (40°C to 105°C)	Samples	SOQ	MPQ	POQ	Additional Information
MPC8271	PowerQUICC II (HiP7)	266/200/66 (MIB) 300/200/100 (PIE) 400/200/100 (TIE) 400/266/133 (TMF)	A	516-ball PBGA (ZQ/VR)	MPC8271ZQxxxA	MPC8271CZQxxxA	KMPC	2	40	200	Supports Ethernet and ATM
MPC8272	PowerQUICC II (HiP7)	266/200/66 (MIB) 300/200/100 (PIE) 400/200/100 (TIE) 400/266/133 (TMF)	A	516-ball PBGA (ZQ/VR)	MPC8272ZQxxxA	MPC8272CZQxxxA	KMPC	2	40	200	Supports Ethernet and ATM Integrated encryption
MPC8275	PowerQUICC II (HiP7)	266/200/66 (MIB)	A	516-ball PBGA (ZQ/VR)	MPC8275VRMIBA	MPC8275CZOMIBA	KMPC	2	40	200	Samples Available Low-cost ATM device
MPC8280	PowerQUICC II (HiP7)	333/250/83 (QLD) 450/300/100 (UPE)	A	480-ball TBGA (ZU/VV)	MPC8280xxxxxA	MPC8280CxxUPEA	KMPC	2	21	105	Samples Available Full-feature device; PCN Announcing Rev A published in Q2

CPU/CPM/BUS SPEED FOR POWERQUICC II (HIP 3/4) A = 50, B = 66, C = 75, D = 83, E = 100, F = 133, G = 150, H = 166, I = 200, J = 208, K = 233, L = 250, M = 266, N = 291, P = 300, Q = 333, R = 366, S = 375, T = 400, U = 450, V = 500, and W = 533.
Note: Extended temperature devices with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

PowerQUICC™ II Derivatives and Features
MPC8250/MPC8255/MPC8260/MPC8264/MPC8265/MPC8266MPC8270/MPC8275/MPC8280

Product	I-Cache (KB)	D-Cache (KB)	10T	10/100	Utopia ATM Support	(No of Channels)		FCC	MCC	#T1/E1	#T3/E3	USB	PCI	TC/IMA
						HDLC	SCC							
MPC8247	16	16	3	2	0	64	3	2	0	2	0	Y	Y	N
MPC8248	16	16	3	2	0	64	3	2	0	2	0	Y	Y	N
MPC8250	16	16	Up to 4	Up to 3	0	Up to 128	4	3	1	4	1	n/a	Y	N
MPC8255	16	16	Up to 4	Up to 2	2-CH (155 Mbps ea)	Up to 128	4	2	1	4	1	n/a	N	N
MPC8260	16	16	Up to 4	Up to 3	2-CH (155 Mbps ea)	Up to 256	4	3	2	8	2	n/a	N	N
MPC8264	16	16	Up to 4	Up to 3	2-CH (155 Mbps ea)	Up to 256	4	3	2	8	2	n/a	N	Y
MPC8265	16	16	Up to 4	Up to 3	2-CH (155 Mbps ea)	Up to 256	4	3	2	8	2	n/a	Y	N
MPC8266	16	16	Up to 4	Up to 3	2-CH (155 Mbps ea)	Up to 256	4	3	2	8	2	n/a	Y	Y
MPC8270	16	16	Up to 4	Up to 3	0	Up to 128	4	3	1	4	1	Y	Y	N
MPC8271	16	16	3	2	1	64	3	2	0	2	0	Y	Y	N
MPC8272	16	16	3	2	1	64	3	2	0	2	0	Y	Y	N
MPC8275	16	16	Up to 4	Up to 3	2 CH (155 Mbps ea)	Up to 128	4	3	1	4	1	Y	Y	N
MPC8280	16	16	Up to 4	Up to 3	2 CH (155 Mbps ea)	Up to 256	4	3	2	8	2	Y	Y	Y

INTEGRATED COMMUNICATIONS PROCESSORS (continued)

MPC8349 PowerQUICC™ II Pro Family[Note]

Product	Description	CPU (MHz)	DDR (MHz)	Packaging	Std Temp [Note] (0°C to 105°C)	Ext Temp [Note] (40°C to 105°C)	Samples	Additional Information
MPC8343	PowerQUICC II Pro	400/266	266	620-ball PBGA (ZQ/VR)	MPC8343	MPC8343C	KMPC	KMPC Samples Available; Extended temperature product not currently available
MPC8343E	PowerQUICC II Pro	400/266	266	620-ball PBGA (ZQ/VR)	MPC8343E	MPC8343EC	KMPC	KMPC Samples Available Integrated Security
MPC8347	PowerQUICC II Pro	400/266 (ZQ/VR) 533/667 (ZU/VV)	266 (ZQ/VR) 333 (ZU/VV)	620-ball PBGA (ZQ/VR) 672-ball TBGA (ZU/VR)	MPC8347	MPC8347C	KMPC	KMPC Samples Available; 533 MHz is top speed with current revision; 667 MHz CPU performance not currently available. Will be available with future revision
MPC8347E	PowerQUICC II Pro	400/266 (ZQ/VR) 533/667 (ZU/VV)	266 (ZQ/VR) 333 (ZU/VV)	620-ball PBGA (ZQ/VR) 672-ball TBGA (ZU/VR)	MPC8347E	MPC8347EC	KMPC	KMPC Samples Available Integrated Security; 667 MHz CPU performance not currently available. Will be available with future revision
MPC8349	PowerQUICC II Pro	400/533/667	266/333	672-ball TBGA (ZU/VR)	MPC8349	MPC8349C	KMPC	KMPC Samples Available; 667 MHz CPU performance not currently available. Will be available with future revision
MPC8349E	PowerQUICC II Pro	400/533/667	266/333	672-ball TBGA (ZU/VR)	MPC8349E	MPC8349EC	KMPC	KMPC Samples Available Integrated Security; 667 MHz CPU performance not currently available. Will be available with future revision

Note: Extended temperature devices with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

MPC8349 PowerQUICC II™ Pro Derivatives and Features

Product	CPU	I-Cache (KB)	D-Cache (KB)	Memory Controller	10/100/1000 Ethernet	USB	PCI	Security	Local Bus	Communications Engine
MPC8343	PowerQUICC II Pro	32	32	32-bit DDR	2	1 × Hi-Speed	1 × 32-bit or 33/66 MHz	No	Yes	n/a
MPC8343E	PowerQUICC II Pro	32	32	32-bit DDR	2	1 × Hi-Speed	1 × 32-bit or 33/66 MHz	Yes	Yes	n/a
MPC8347	PowerQUICC II Pro	32	32	32/64-bit DDR	2	2 × Hi-Speed	1 × 32-bit or 33/66 MHz	No	Yes	n/a
MPC8347E	PowerQUICC II Pro	32	32	32/64-bit DDR	2	2 × Hi-Speed	1 × 32-bit or 33/66 MHz	Yes	Yes	n/a
MPC8349	PowerQUICC II Pro	32	32	32/64-bit DDR	2	2 × Hi-Speed	2 × 32-bit or 1 × 64-bit	No	Yes	n/a
MPC8349E	PowerQUICC II Pro	32	32	32/64-bit DDR	2	2 × Hi-Speed	2 × 32-bit or 1 × 64-bit	Yes	Yes	n/a

MPC8349 PowerQUICC™ II Pro Product Numbering Scheme

MPC
PRODUCT CODE
KMPC SAMPLE PACK (2-10)
MPC FULL QUAL

8349
8349 FAMILY DEVICE NUMBER
(8349, 8347, 8343)

E
ENCRYPTION ACCELERATION
BLANK NOT INCLUDED
E INCLUDED

C
TEMP RANGE (JUNCTION)
BLANK 0°C TO 105°C
C -40°C TO 105°C

ZU
PACKAGE
ZU TBGA
VV PB FREE TBGA
ZQ PBGA
VR PB FREE PBGA

H
CPU FREQUENCY
AD 266
AG 400
AJ 533
AL 667

E
DDR FREQUENCY
D 266
F 333

A
DIE REVISION
X DIE MASK REVISION

MPC8360 PowerQUICC™ II Pro Family [Note]

Product	Description	CPU (MHz)	QUICC Engine (MHz)	DDR (MHz)	Packaging	Std Temp [Note] (0°C to 105°C)	Ext Temp [Note] (40°C to 105°C)	Additional Information
MPC8358	PowerQUICC II Pro	266, 400	200, 300, 400	266	740-ball TBGA (ZU/VV)	MPC8358	MPC8353C	Contact Factory
MPC8358E	PowerQUICC II Pro	266, 400	200, 300, 400	266	740-ball TBGA (ZU/VV)	MPC8358E	MPC8358EC	Contact Factory
MPC8360	PowerQUICC II Pro	266, 400, 533, 667	300, 400, 500	266, 333	740-ball TBGA (ZU/VV)	MPC8360	MPC8360C	Contact Factory
MPC8360E	PowerQUICC II Pro	266, 400, 533, 667	300, 400, 500	266, 333	740-ball TBGA (ZU/VV)	MPC8360E	MPC8360EC	Contact Factory

Note: Extended temperature devices with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

MPC8360 PowerQUICC™ II Pro Derivatives and Features

Product	I-Cache (KB)	D-Cache (KB)	Memory Controller	Local Bus	PCI	Security	UCC	MCC	10/100	10/100/1000	UTOPIA	HDLC	USB
MPC8358	32	32	1 x 32/64-bit DDR	Y	1 x 32-bit 33/66 MHz	N	6	0	Up to 6	Up to 2	1 x 31/124 M-PHY	Up to 128	Y
MPC8358E	32	32	1 x 32/64-bit DDR	Y	1 x 32-bit 33/66 MHz	Y	6	0	Up to 6	Up to 2	1 x 31/124 M-PHY	Up to 128	Y
MPC8360	32	32	1 x 32/64-bit or 2 x 32-bit DDR	Y	1 x 32-bit 33/66 MHz	N	8	1	Up to 8	Up to 2	2 x 124 M-PHY	Up to 256	Y
MPC8360E	32	32	1 x 32/64-bit or 2 x 32-bit DDR	Y	1 x 32-bit 33/66 MHz	Y	8	1	Up to 8	Up to 2	2 x 124 M-PHY	Up to 256	Y

MPC8360 PowerQUICC™ II Pro Product Numbering Scheme

MPC — *PRODUCT CODE*
- KMPC SAMPLE PACK (2-10)
- MPC FULL QUAL

8360 — *8360 FAMILY DEVICE NUMBER*
- (8360, 8358)

E — *ENCRYPTION ACCELERATION*
- BLANK NOT INCLUDED
- E INCLUDED

C — *TEMP RANGE (JUNCTION)*
- BLANK 0°C TO 105°C
- C -40°C TO 105°C

ZU — *PACKAGE*
- ZU TBGA
- VV PB FREE TBGA

H — *CPU FREQUENCY*
- AD 266
- AG 400
- AJ 533
- AL 667

F — *QUICC ENGINE FREQUENCY*
- C 200
- E 300
- G 400
- H 500

E — *DDR FREQUENCY*
- D 266
- F 333

A — *DIE REVISION*
- X DIE MASK REVISION

INTEGRATED COMMUNICATIONS PROCESSORS (continued)

PowerQUICC™ III Family

Product	Description	CPU/CPM/DDR (MHz)	Rev	Packaging	Std Temp (0°C to 105°C)	Ext Temp (40°C to 105°C)	Samples	SOQ	MPQ	POQ	Additional Information
MPC8540	PowerQUICC III	1000/–/333	B	783-ball FCPBGA (PX)	MPC8540PXxxxxx	MPC8540CPXxxxxx	KMPC	1	36	2	Ethernet Only, Rapid IO
MPC8541	PowerQUICC III	1000/–/333	A	783-ball FCPBGA (PX)	MPC8541PXxxxxx	MPC8541CPXxxxxx	KMPC	1	36	2	Ethernet Only, Integrated Encryption, Sampling Now
MPC8543	PowerQUICC III	1000/–/400	PPC	783-ball FCCBGA (HX)	PPC8543HXxxxx	When MC Qual	PPC	1	36	2	MPC Qual is anticipated Q3 06
MPC8545	Power QUICC III	1200/–/400	PPC	783-ball FCCBGA (HX)	PPC8545HXxxxx	When MC Qual	PPC	1	36	2	MPC Qual is anticipated Q3 06
MPC8547	Power QUICC III	1333/–/533	PPC	783-ball FCCBGA (HX)	PPC8547HXxxxx	When MC Qual	PPC	1	36	2	MPC Qual is anticipated Q3 06
MPC8548	PowerQUICC III	1333/–/533	PPC	783-ball FCCBGA (HX)	PPC8548HXxxxx	When MC Qual	PPC	1	36	2	MPC Qual is anticipated Q3 06
MPC8555	PowerQUICC III	1000/333/333	A	783-ball FCPBGA (PX)	MPC8555PXxxxxx	MPC8555CPXxxxxx	KMPC	1	36	2	Supports Ethernet and ATM, Integrated Encryption, Sampling Now
MPC8560	PowerQUICC III	1000/333/333	B	783-ball FCPBGA (PX)	MPC8560PXxxxxx	MPC8560CPXxxxxx	KMPC	1	36	2	Full Feature Ethernet and ATM, Rapid IO

DDR Speed
J = 266 MHz
K = 300 MHz
L = 333 MHz

PowerQUICC™ III Processor Derivatives and Features[Note]

Product	L1 I-Cache/ L1 D-Cache/ L2 (KB)	DDR (MHz)	Rapid IO	PCI/PCI-X	Number of Channels		Utopia ATM Support	HDLC	SCC	FCC	MCC	#T1/E1	#T3/E3
					10/100/1000	10/100							
MPC8540	32/32/256	n/a	8-bit parallel	64b/66/64b/133	2	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MPC8541	32/32/256	n/a	n/a	2 × 32b or 1 × 64b	2	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MPC8543	32/32/256	400	Serial x4 x1 or PCI-Express	32b/ – /x4x21	2	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MPC8545	32/32/512	400	n/a	2 × 32b or 64b/ – /x4x2x1	2	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MPC8547	32/32/512	533	n/a	– / – /x4x2x1	4	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MPC8548	32/32/512	533	Serial x4 x1	32 or 64b/ 32 or 64b/x8x4x2x1	4	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MPC8555	32/32/256	333	n/a	2 × 32b or 1 × 64b	2	2	2-CH (155 Mbps)	64 QMC	3	2	n/a	2	n/a
MPC8560	32/32/256	333	8-bit parallel	64b/66/64b/133	2	3	2-CH (155 Mbps)	Up to 256	4	3	2	8	2

Note: Extended temperature devices with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

MPC85xx PowerQUICC™ III Processor Product Numbering Scheme[Note] (Standard)

MPC	8548	E	C	PX	833	J	B
PRODUCT CODE	***85XX DEVICES***	***SECURITY***	***TEMP RANGE (JUNCTION)***	***PACKAGE***	***FREQUENCY***	***DDR SPEED***	***REVISION***
KMPC SAMPLE PACK (2-10)	8560, 8540	BLANK NOT INCLUDED	BLANK 0° TO 105°C	PX STANDARD PACKAGE	AJ 533 MHZ	D 266	A 1.0
MPC FULL QUAL	8555, 8541	E INCLUDED	C -40° TO 105°C	VT LEAD FREE	AL 667 MHZ	E 300	B 2.0
	8548, 8547, 8545, 8543				AP 833 MHZ	F 333	C 3.0
					AQ 1 GHZ	G 400	
					AT 1.2 GHZ	J 533	
					AU 1.33 GHZ		

MPC85xx PowerQUICC™ III Processor Product Numbering Scheme[Note] (8540/8560 under 1 GHz)

MPC	8540	E	C	PX	833	L	B
PRODUCT CODE	***85XX DEVICES***	***SECURITY***	***TEMP RANGE (JUNCTION)***	***PACKAGE***	***FREQUENCY***	***DDR SPEED***	***REVISION***
KMPC SAMPLE PACK (2-10)	8560	BLANK NOT INCLUDED	BLANK 0° TO 105°C	PX STANDARD PACKAGE	500K, 600,	J 266	A 1.0
MPC FULL QUAL	8540	E INCLUDED	C -40° TO 105°C	VT LEAD FREE	667, 833 MHZ	K 300	B 2.0
						L 333	C 3.0

Note: Extended temperature devices with minimum order requirements. All package/speed combinations may not be valid—consult factory to verify.

SOFTWARE TOOLS

68K, ColdFire, MPC5xx, PowerPC ISA, StarCore, and MCORE — CodeWarrior™

Product	Description	Target Support	RTOS Support	Board Support	Host-Target Interface	Host Platforms	Language Support	Compiler Output Formats
CW68K	CodeWarrior Software Development Tools for 68K Embedded Systems	68xxx, MC68360, MC68SZ328, MC68VZ328, MC68EZ328	PPSM, RTXC, ATI	DragonBall EZ (M68EZ328ADS), DragonBall VZ (M68VZ328ADS), ADS68360, DragonBall Super VZ (M68SZ328ADS)	MetroTRK, P&E Microcomputer CPU32 BDM Cable	Windows 98/2000/ ME/NT	C/C++, 68000 Assembly	ELF/DWARF, Freescale Semiconductor S-Record
CWCF	CodeWarrior Software Development Tools for ColdFire Embedded Systems	MCF5206e, MCF5249, MCF5272, MCF5280, MCF5282, MCF5307, MCF5407	Precise-MQX, Quadros-RTXC, Blunk-Target OS, KADAK-AMX, Micro Digital-SMX, ATI-Nucleus Plus	M5249C3, M5307C3, M5407C3, M5272C3, M5206eC3, M5282EVB	P&E Microcomputer ColdFire BDM Cable; Abatron BDI	Windows 98/2000/ ME/NT	C/C++, ColdFire Assembly	ELF/DWARF, Freescale Semiconductor S-Record
CWEPPC	CodeWarrior Development Studio PowerPC ISA Edition for Comm Processors	MPC8560, MPC8555E, MPC8541E, MPC8540, MPC8280, MPC8275, MPC8272, MPC8271, MPC8270, MPC8266, MPC8265, MPC8264, MPC8260, MPC8255, MPC8250, MPC8248, MPC8247, MPC8245, MPC8241, MPC885, MPC880, MPC875, MPC870, MPC866, MPC862, PC860, MPC859T, MPC859DSL, MPC857T, MPC857DSL, MPC855T, MPC852T, MPC850, MPC7447A, MPC7457, MPC7447, MPC7410, MPC755, MPC745	Linux	MPC8349E-QS, MPC8540ADS, MPC8560ADS, MPC862ADS, MPC866ADS, MPC885ADS, PPCEVAL-CDS-8541, PPCEVAL-CDS-8555, PQ2FADS-ZU/VR, QUICCstart 8250, QUICCstart 852, QUICCstart 8540, QUICCstart 875, QUICCstart 8248, QUICCstart 8280, QUICCstart 8540, QUICCstart 866	USB TAP and Ethernet TAP (aka PowerTAP)	Windows 2000 and XP; Solaris	C/C++	Highly optimizing CodeWarrior C/C++ compiler
CWLinux	CodeWarrior Development Studio Linux Platform/ Application Edition	MPC8560, MPC8555E, MPC8541E, MPC8540, MPC8280, MPC8275, MPC8272, MPC8271, MPC8270, MPC8266, MPC8265, MPC8264, MPC8260, MPC8255, MPC8250, MPC8248, MPC8247, MPC8245, MPC8241, MPC885, MPC880, MPC875, MPC870, MPC866, MPC862, MPC860, MPC859T, MPC859DSL, MPC857T, MPC857DSL, MPC855T, MPC852T, MPC850	Linux	MPC8349E-QS, MPC8540ADS, MPC8560ADS, MPC862ADS, MPC866ADS, MPC885ADS, PPCEVAL-CDS-8541, PPCEVAL-CDS-8555, PQ2FADS-ZU/VR, QUICCstart 8250, QUICCstart 852, QUICCstart 8540, QUICCstart 875, QUICCstart 8248, QUICCstart 8280, QUICCstart 8540, QUICCstart 866	USB TAP and Ethernet TAP (aka PowerTAP)	Windows 2000 and XP; Linux	C/C++, Assembly	CodeWarrior LinuxCodeWarrior Linux development tools include the GNU Compiler Collection (GCC), associated utilities, and core C libraries to provide a full development solution. CodeWarrior tools can integrate to GCC compilers and libraries that you have from third parties.
CWMCORE	CodeWarrior Software Development Tools for MCORE	M2xx/3xx family processors	n/a	MMC2001, MMC2107, MMC2103, MMC3401, MMC2113, MMC2114	MetroTRK, CodeWarrior EBDI	Windows 95/98/ 2000/NT	C/C++, Assembly	ELF/DWARF 1.0, Freescale Semiconductor S-Record

SOFTWARE TOOLS (continued)

68K, ColdFire, MPC5xx, PowerPC ISA, StarCore, and MCORE — CodeWarrior™ (continued)

Product	Description	Target Support	RTOS Support	Board Support	Host-Target Interface	Host Platforms	Language Support	Compiler Output Formats
CWS-MCF-LLPLT-CX	CodeWarrior Development Studio for ColdFire ISA, Linux Platform Development	M5282, M5272	Linux	M5282	n/a	Linux	n/a	n/a
CWS-MCF-LLAPP-CX	CodeWarrior Development Studio for ColdFire ISA, Linux Application Development	M5282, M5272	Linux	M5282	n/a	Linux	n/a	n/a
CWS-MPC-5XX-CX	CodeWarrior Development Studio for MPC5xx, Node-locked	MPC555, MPC56x	Quadros RTXC, Embedix SDK, MQX Embedded, ATI Nucleus, OSEKturbo	MPC555PBSLK, MPC564EVB, MPC565EVB	PowerTAP, Abatron BDI 2000, P&E Microcomputer CABLEPPC (BDM only), Macraigor System BDM	Windows 2000/XP	C/C++, Assembly	DWARF1, DWARF2, STABS
CWS-MPC-5500B-CX	CodeWarrior Development Studio for MPC55xx, Build only tools, Node-locked license	MPC55xx	n/a	n/a	n/a	Windows 2000/XP	C/C++, Assembly	DWARF1, DWARF2, STABS
CWS-PPC-LINWH-CX	CodeWarrior Development Studio for PowerPC ISA, Embedded Linux Edition	n/a	n/a	n/a	n/a	Windows 2000/XP	n/a	n/a
CWS-PPC-LLPLT-CX	CodeWarrior Development Studio for PowerPC ISA, Linux Platform Development	n/a	Linux	MPC8560	PowerTAP Pro	Linux	n/a	n/a
CWS-PPC-LLAPP-CX	CodeWarrior Development Studio for PowerPC ISA, Linux Application Development	n/a	Linux	MPC8560	PowerTAP Pro	Linux	n/a	n/a
CWS-STC-WIN-CX	CodeWarrior Software Development Tools for StarCore	MSC8101, MSC8102, MSC8103, MSC8122, MSC8126, MSC711X	SmartDSP OS, RTXC, OSE	MSC8101EVM, MSC8101ADS, MSC8102ADS, MSC8102ADS-HOST, MSC8122ADS, MSC8126ADS, MSC711XEVM, MSC711XADS	Ethernet TAP, USB TAP, Macraigor Wiggler	Windows 2000/XP	C/C++	ELF/DWARF
CWS-STC-SOL-CX	CodeWarrior Software Development Tools for StarCore	MSC8101, MSC8102, MSC8103, MSC8122, MSC8126	SmartDSP OS, RTXC, OSE	MSC8101EVM, MSC8101ADS, MSC8102ADS, MSC8102ADS-HOST, MSC8122ADS, MSC8126ADS	Macraigor Wiggler, PCI, HTI	Solaris 2.7, 2.8	C	ELF/DWARF

Other Software[Note]

Company	Product Name	Product Type
Bytecodes	Embedded Bytecode Interpreter	Optimized Java Virtual Machines
Counterpoint Systems Foundry	IrLite Development Kit	Infrared communications SDK
Precise Software Technologies	Various	Embedded I/O components
Grammar Engine	PromICE	Firmware development
Inverness Systems	ATIC	ATM protocols and applications
Micro APL	PortAsm	Porting tools that implement the PowerPC architecture [Note]
Pacific Softworks	Fusion	Internet protocols for Embedded Solutions
Sun Consumer Electronics	Internet Software Solution	Embedded internet software
Total Impact	Total PowerSMPPCI	Multiprocessing application accelerator
US Software	USNET	Real-time embedded TCP/IP
Wind River Systems	SystemsWind	ViewSystem visualizer for embedded software

Note: Check with tool vendor for specific derivative support.

HARDWARE TOOLS

Netcommunication Hardware Tools

Product Family	Device Supported	Part Number	Description
QUICCstart Evaluation Systems			
MPC8XX	MPC852T	CWH-PPC-852XN-VX	Low cost hardware/software evaluation system
	MPC866	CWH-PPC-866XN-VX	Low cost hardware/software evaluation system
	MPC875	CWH-PPC-875XN-VX	Low cost hardware/software evaluation system
MPC82XX	MPC8248	CWH-PPC-8248XN-VX	Low cost hardware/software evaluation system
	MPC8250	CWH-PPC-8250N-VX	Low cost hardware/software evaluation system
	MPC8280	CWH-PPC-8280N-VX	Low cost hardware/software evaluation system
MPC85XX	MPC8540	CWH-PPC-8540N-VX	Low cost hardware/software evaluation system
Application Development Systems			
MPC8XX	MPC823	MPC823FADS	MPC823 Family Application Development System (FADS)
	MPC850	MPC850SRFADS	MPC850 Family Development System
	MPC860	MPC866ADS	MPC860/62/66 Development System
	MPC860	MPC866ADS-KIT	MPC860/62/66 Development System with Wiretap
	MPC862	MPC866ADS	MPC860/62/66 Development System
	MPC862	MPC866ADS-KIT	MPC860/62/66 Development System with Wiretap
	MPC866	MPC866ADS	MPC860/62/66 Development System
	MPC866	MPC866ADS-KIT	MPC860/62/66 Development System with Wiretap
	MPC852T	MPC852TADS	MPC852T Development System
	MPC852T	MPC852TADS-KIT	MPC852T Development System with Wiretap
	MPC885 Family	MPC885ADS	MPC885 Family Development System with Wiretap
MPC82XX	8260/70/80 – 480-pin TBGA	PQ2FADS-ZU	PQ2 Family Application Development System
	8260/70/80 – 516-pin PBGA	PQ2FADS-VR	PQ2 Family Application Development System
	8272 Family	MPC8272ADS	8272 Family Application Development System
	All PQ2	MPC8260ADS-ECOM	MPC8260 E1/E3 Communication Companion Board for ADS
	All PQ2	MPC8260ADS-TCOM	MPC8260 T1/T3 Communication Companion Board for ADS
	All PQ2	MPC8266ADS-PCIAI	MPC8266ADS-PCI add in board
MPC834X	MPC8349E Family	MPC8349E-MDS	PowerQUICC™ II Pro Development System
		MPC8349E-MDS-PB	System Card for MPC8349E Family
		PQ-MDS-PIB	PowerQUICC Platform I/O Board
		PQ-MDS-PMCPCI	PowerQUICC MDS PCI Module
		PQ-MDS-PMCUSB	PowerQUICC MDS USB Module
MPC85XX	8540	MPC8540ADS-BGA	PQ3 8540 Application Development System
	8560	MPC8560ADS-BGA	PQ3 8560 Application Development System
	8541	PPCEVAL-CDS-8541	PQ3 8541 Customer Development System
	8548	PPCEVAL-CDS-8548	PQ3 8548 Family Customer Development System
	8555	PPCEVAL-CDS-8555	PQ3 8555 Customer Development System

32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCORE, and ColdFire

Company	68xxx	68300	MPC500	MCORE	ColdFire	Web Address
Assemblers						
Avocet Systems, Inc.		●				www.avocetsystems.com
Green Hills Software	●	●	●	●	●	www.ghs.com
P&E Microcomputer Systems		●			●	www.pemicro.com
Wind River Systems	●	●	●	●	●	www.wrs.com
Company	**68xxx**	**68300**	**MPC500**	**MCORE**	**ColdFire**	**Web Address**
BDM Support Tools						
Cosmic Software		●				www.cosmic-software.com
Wind River Systems		●	●	●	●	www.wrs.com
Hitex Development Tools		●				www.hitex.com
Agilent Technologies, Inc.		●	●	●		www.agilent.com
iSystem		●		●		www.isystem.com
Lauterbach		●		●	●	www.lauterbach.com
Macraigor Systems LLC		●	●			www.macraigor.com
P&E Microcomputer Systems		●			●	www.pemicro.com
TASKING		●				www.tasking.com
Company	**68xxx**	**68300**	**MPC500**	**MCORE**	**ColdFire**	**Web Address**
Code Coverage Tools						
Ashling Microsystems			●			www.ashling.com
Cosmic Software		●				www.cosmic-software.com
Wind River Systems	●	●	●	●	●	www.wrs.com
Green Hills Software	●	●	●	●	●	www.ghs.com
Hitex Development Tools		●				www.hitex.com
iSystem		●	●			www.isystem.com
TASKING		●		●		www.tasking.com

● = Available

SOFTWARE AND DEVELOPMENT TOOLS (continued)
THIRD PARTY TOOLS (continued)
32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCORE, and ColdFire (continued)

Company	68xxx	68300	MPC500	MCORE	ColdFire	Web Address
Compilers						
Accelerated Technology Inc.		●	●		●	www.acceleratedtechnology.com
Byte Craft Limited				●		www.bytecraft.com
TASKING		●		●		www.tasking.com
Cosmic Software		●				www.cosmic-software.com
Wind River Systems	●	●	●	●	●	www.wrs.com
Green Hills Software	●	●	●	●	●	www.ghs.com
P&E Microcomputer Systems		●			●	www.pemicro.com
GNU	●				●	www.gnu.org
CodeWarrior™		●	●	●	●	www.freescale.com/codewarrior
Company	**68xxx**	**68300**	**MPC500**	**MCORE**	**ColdFire**	**Web Address**
Debuggers						
Ashling Microsystems		●	●			www.ashling.com
Accelerated Technology Inc.		●	●	●	●	www.acceleratedtechnology.com
Wind River Systems	●	●	●	●	●	www.wrs.com
Green Hills Software	●	●	●	●	●	www.ghs.com
iSystem		●	●	●		www.isystem.com
Lauterbach	●	●	●	●	●	www.lauterbach.com
P&E Microcomputer Systems		●			●	www.pemicro.com
CodeWarrior		●	●	●	●	www.freescale.com/codewarrior
Company	**68xxx**	**68300**	**MPC500**	**MCORE**	**ColdFire**	**Web Address**
Evaluation Boards						
Axiom Manufacturing			●	●		www.axman.com
Arrow		●	●	●	●	www.arrow.com
Avnet		●	●	●	●	www.avnet.com
Future Electronics		●	●	●	●	www.futureelectronics.com
CodeWarrior		●	●	●	●	www.freescale.com/codewarrior

● = Available

SOFTWARE AND DEVELOPMENT TOOLS (continued)
THIRD PARTY TOOLS (continued)
32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCORE, and ColdFire (continued)

Company	68xxx	68300	MPC500	MCORE	ColdFire	Web Address
Logic Analyzers						
Agilent Technologies, Inc.		•	•	•		www.agilent.com
iSystem		•				www.isystem.com
Tektronix		•	•	•		www.tek.com/measurement/logic_analyzers/
In-Circuit Emulators or Hardware Debug Interface						
Ashling Microsystems		•	•			www.ashling.com
Wind River Systems		•	•		•	www.wrs.com
Hitex Development Tools		•				www.hitex.com
iSystem		•	•			www.isystem.com
Lauterbach		•	•		•	www.lauterbach.com
Microtek International Inc.		•			•	www.microtek.com.tw/mice
Company	**68xxx**	**68300**	**MPC500**	**MCORE**	**ColdFire**	**Web Address**
Performance Analysis Tools						
Wind River Systems	•	•	•	•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
iSystem		•	•			www.isystem.com
Company	**68xxx**	**68300**	**MPC500**	**MCORE**	**ColdFire**	**Web Address**
Real-Time Operating Systems						
Accelerated Technology Inc.	•	•	•	•	•	www.atinucleus.com
Quadros Systems Inc.		•	•	•	•	www.rtxc.com
ETAS		•	•			www.etasinc.com
Green Hills Software	•	•	•	•	•	www.ghs.com
ARC International	•	•	•	•	•	www.psti.com
Snap Gear					•	www.snapgear.com
TASKING		•				www.tasking.com
U S Software		•	•		•	www.ussw.com
Wind River Systems	•				•	www.wrs.com

● = Available

SOFTWARE AND DEVELOPMENT TOOLS (continued)
THIRD PARTY TOOLS (continued)
32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCORE, and ColdFire (continued)

Company	68xxx	68300	MPC500	MCORE	ColdFire	Web Address
Simulation Tools						
Wind River Systems	●	●		●	●	www.wrs.com
Green Hills Software	●	●	●	●	●	www.ghs.com
TASKING		●		●		www.tasking.com

● = Available

Third Party Vendor	Website	Families Supported	Embedded Operating Systems	Compilers and Code Generation Tools	Software Debuggers	Coverification Tools and Simulation Models	Emulators and Diagnostic Tools	Logic Analyzers	Boards and Systems	Support Chips	Drivers / Protocol Stacks
Abatron	www.abatron.ch	MPC8xx, MPC82xx, MPC8555, G2, G3, G4					●				
Agilent Technologies	www.agilent.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4					●	●			
Apogee Software	www.apogee.com	G2, G3, G4		●							
Arabella	www.arabellasw.com	MPC82xx, MPC8555	●								●
Artesyn Technologies	www.artesyn.com	G4							●		
ARC International	www.arc.com	MPC8xx, MPC82xx, G2, G3, G4	●	●	●						
Artis Microsystems	www.artismicro.com	G2, G4							●		
Ashley Laurent	www.ashleylaurent.com	MPC8xx, MPC82xx, MPC8555									●
CMX Systems	www.cmx.com	MPC8xx, MPC82xx, G2, G3, G4	●		●						
Corelis	www.corelis.com	G2, G3, G4			●		●				
Crescent Bay Software	www.crescentbaysoftware.com	G4		●							
Data Connection	www.dataconnection.com	MPC8xx, MPC82xx									●
DY 4 Systems	www.dy4.com	G2, G3, G4							●		
Embedded Planet	www.embeddedplanet.com	MPC8xx, MPC82xx, MPC8555							●		
Embedded Toolsmiths	www.etoolsmiths.com	MPC8xx, MPC82xx, G4			●		●				
EmuTec	www.emutec.com	MPC8xx, MPC82xx, G2, G4					●				
Enea Embedded Technologies	www.ose.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4	●		●						
Express Logic	www.expresslogic.com	MPC8xx, MPC82xx, G2, G3, G4	●								
Force Computers	www.forcecomputers.com	MPC8xx, MPC82xx, MPC8555, G3, G4							●		
Freescale Semiconductor	www.freescale.com/powerpc	MPC8xx, MPC82xx, MPC8555, G2, G3, G4				●			●	●	
GDA Technologies	www.gdatech.com	MPC8xx, MPC82xx, G4							●		
Genesi	www.genesi.lu	G4							●		
Green Hills Software	www.ghs.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4	●	●	●		●				●
Hughes Network Systems	www.hns.com	MPC8xx, MPC82xx									●
IneoQuest Technologies	www.ineoquest.com	MPC8xx, MPC82xx					●				
International Test Technologies	www.intertesttech.com	G2, G3, G4					●				
Jaluna	www.jaluna.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4	●	●	●						
Jungo	www.jungo.com	MC8xx									●
Kadak	www.kadak.com	MPC8xx, MPC82xx, G2, G3, G4	●		●						
Kenati Technologies	www.kenati.com	82xx, G4	●								
Lauterbach	www.lauterbach.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4			●		●				

● = Available

SOFTWARE AND DEVELOPMENT TOOLS (continued)
THIRD PARTY TOOLS (continued)
***32-Bit Embedded Processors** (continued)*

Third Party Vendor	Website	Families Supported	Embedded Operating Systems	Compilers and Code Generation Tools	Software Debuggers	Coverification Tools and Simulation Models	Emulators and Diagnostic Tools	Logic Analyzers	Boards and Systems	Support Chips	Drivers / Protocol Stacks
LynuxWorks	www.lynuxworks.com	MPC8xx, MPC82xx, G2, G3, G4	●	●	●						
MAI Logic	www.mai.com	G2, G3, G4							●	●	
Macraigor Systems	www.macraigor.com	MPC8xx, MPC82xx, G2, G3, G4			●		●				
Marvell Technology	www.marvell.com	G2, G3, G4							●	●	
Mentor Graphics	www.mentor.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4	●	●	●	●					
CodeWarrior™	www.freescale.com/codewarrior	MPC8xx, MPC82xx, MPC8555, G2, G3, G4	●	●	●				●		
MicroAPL	www.microapl.co.uk	G2, G3, G4		●							
Micro Digital	www.smxinfo.com	MPC8xx, MPC82xx, G2, G3	●		●						
MontaVista Software	www.mvista.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4	●		●						
Motorola Computer Group	mcg.motorola.com	G2, G3, G4							●		
MPI Software	www.mpi-softtech.com	G3, G4		●							
Netplane	www.netplane.com	MPC8xx									●
PLX Technology	www.plxtech.com	MPC8xx, G2, G3, G4							●	●	
PrimeLayer	www.primelayer.com	MPC8xx, MPC82xx									●
QNX Software Systems	www.qnx.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4	●	●	●						
Radisys	www.radisys.com	MPC8xx, MPC82xx, G2, G3	●	●	●						
Radstone	www. radstone.com	G2, G3, G4							●		
Real-Time Innovations	www.rti.com	G4			●						
Red Hat	www.redhat.com	MPC8xx, MPC82xx, G2, G3, G4	●	●	●						
Simpod	www.simpod.com	MPC8xx, MPC82xx, G2, G3, G4				●					
Sophia Systems	www.sophia.com	MPC8xx, MPC82xx, G2, G3			●		●				
Summit Design	www.summit-design.com	MPC8xx, MPC82xx, G2, G3, G4				●					
Synopsys	www.synopsys.com	MPC8xx, MPC82xx, G2, G3, G4				●					
TASKING	www.tasking.com	MPC8xx, MPC82xx, G2, G3		●	●						
Tektronix	www.tektronix.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4						●			
Terra Soft Solutions	www.yellowdoglinux.com	G4	●								
TimeSys	timesys.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4	●		●						
Tundra Semiconductor	www.tundra.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4							●	●	
Wasabi Systems	www.wasabisystems.com	MPC8555, G2, G3, G4	●	●	●						
Wind River Systems	www.windriver.com	MPC8xx, MPC82xx, MPC8555, G2, G3, G4	●	●	●		●		●		●

● = Available

SOFTWARE AND DEVELOPMENT TOOLS (continued)
DEVELOPMENT SYSTEMS

CodeWarrior™ Note

Product	Description	RTOS Support	Debug Interface	Serial Cable	CD ROM	User Manuals	Power Supply	Host Platforms
CWDEVSYS823FADS	CodeWarrior Development System for MPC823	●	●		●	●	●	Windows 95/98/2000/ME/NT
CWDEVSYS850FADS	CodeWarrior Development System for MPC850	●	●		●	●	●	Windows 95/98/2000/ME/NT
CWDEVSYS860FADS	CodeWarrior Development System for MPC860	●	●		●	●	●	Windows 95/98/2000/ME/NT
CWDEVSYS860TFADS	CodeWarrior Development System for MPC860T	●	●		●	●	●	Windows 95/98/2000/ME/NT
CWDEVSYS8260AMC	CodeWarrior Development System for MPC8260	●	●		●	●	●	Windows 95/98/2000/ME/NT

● = Available
Notes: Contact CodeWarrior for more information.

CABLES AND HOST-TARGET INTERFACES

CodeWarrior

Product Number	Description	Target Support	Connection Product	Power Supply
CWWIRETAPBDM	AMC's WireTAP Run Control Interface (BDM)	TBD	TBD	TBD
CWWIRETAPJTAG	AMC's WireTAP Run Control Interface (MPC6xx, 7xx, 82xx, 74xx)	TBD	TBD	TBD
MMC14EBD102	Enhanced Background Debug Interface	TBD	TBD	TBD

THIRD PARTY TOOLS

Compilers Note

Company	Product Name	Freescale Semiconductor Products Supported
Freescale Semiconductor	PowerTAP PRO *ICE* DPI	Supports PowerQUICC™ I, II and III
Freescale Semiconductor	PowerTAP PRO *ICE* JTAG	Supports PowerQUICC I, II and III
Freescale Semiconductor	PowerTAP PRO *ICE* PowerQUICC III Edition	Supports PowerQUICC I, II and III
Freescale Semiconductor	CodeWarrior USB TAP®	Supports PowerQUICC I, II and III

Note: Check with tool vendor for specific derivative support.

SOFTWARE AND DEVELOPMENT TOOLS (continued)
THIRD PARTY TOOLS (continued)

Debuggers

Company	Product Name	Freescale Semiconductor Products Supported
Accelerated Technology	XRAY	68K/ColdFire/MCORE/products that implement the PowerPC architecture Note
Avocet Systems, Inc.	SourceGate II	68K/ColdFire/products that implement the PowerPC architecture Note
Green Hills Software	MULTI	68K/683xx/ColdFire/MCORE/products that implement the PowerPC architecture Note
Lauterbach	TRACE32	Products that implement the PowerPC architecture Note
Mentor Graphics	XRAY	603(e), 604(e), MPC505, MPC801/821/860
TASKING	CrossView Pro	Products that implement the PowerPC architecture Note
Wind River Systems	Tornado	Products that implement the PowerPC architecture Note

Note: Check with tool vendor for specific derivative support.

Chip Drivers

Company	Product Name	Freescale Semiconductor Products Supported
Aisys	DriveWay	MPC821/850/860
Embedded Concepts and Solutions	n/a	6xx, 7xx, MPC8xx
Inverness Systems	n/a	MPC860
Precise Software Technologies	n/a	Products that implement the PowerPC architecture Note
Target Technologies	n/a	MPC860

Note: Check with tool vendor for specific derivative support.

Real Time Operating Systems and Kernels

Company	Product Name	Freescale Semiconductor Products Supported
Accelerated Technology	Nucleus +	68K/683xx/ColdFire/MCORE/products that implement the PowerPC
CMX	CMX-RTX	Products that implement the PowerPC architecture Note
Enea OSE Systems	OSE Real-Time Kernel	Products that implement the PowerPC architecture Note
Etno Team	EOS	MPC5xx
Express Logic	ThreadX	Products that implement the PowerPC architecture Note
Green Hills Software	Integrity, VelOSity	Products that implement the PowerPC architecture Note
JMI Software SYS	C Executive, PSX	Products that implement the PowerPC architecture Note
KADAK Products	AMX	Products that implement the PowerPC architecture Note
Lynx Real-Time SYS	LynxOS	603, 603e, 604, 604e, MPC821, and MPC860
Microtec Division	VRTXsa	Products that implement the PowerPC architecture Note
Micro Digital	smx Modular RTOS	Products that implement the PowerPC architecture Note
Microware Systems	OS-9	Products that implement the PowerPC architecture Note
Precise Software TECH	Precise/MQX	Products that implement the PowerPC architecture Note
QNX	QNX RTOS	MPC8xx
Freescale Semiconductor	RTEK	MPC5xx, MPC8xx
Tao Systems	Elate	Products that implement the PowerPC architecture Note
US Software	superTask RTOS	Products that implement the PowerPC architecture Note
Wind River Systems	VxWorks	Products that implement the PowerPC architecture Note

Note: Check with tool vendor for specific derivative support.

Models

Company	Product Name	Freescale Semiconductor Products Supported
Mentor Graphics	Seamless Co-Verification Environment	Products that implement the PowerPC architecture Note
Summit Design	Virtual-CPU Co-Verification Environment	Products that implement the PowerPC architecture Note
Simpod, Inc.	DeskPOD	Products that implement the PowerPC architecture Note
Synopsys	Various	Products that implement the PowerPC architecture Note

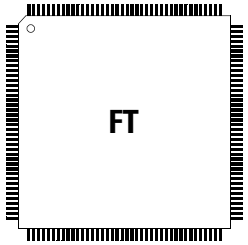
Note: Check with tool vendor for specific derivative support.

Functional Test and Diagnosis

Company	Product Name	Freescale Semiconductor Products Supported
International Test Technologies	µMaster 4031 (PXI version)	603e, 740, 750, 7400, 8240
International Test Technologies	µMaster 4031 (PCI version)	603e, 740, 750, 7400, 8240

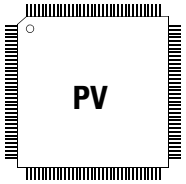
Note: Check with tool vendor for specific derivative support.

PACKAGING



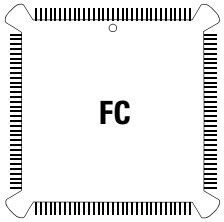
208/144/160-Pin QFP

.65 mm Pitch
28 mm x 28 mm Body



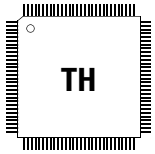
112/144-Pin LQFP

.5 mm Pitch
20 mm x 20 mm Body



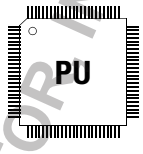
132-Pin PQFP

25 mil/06.35 mm Pitch
0.950 in x 0.950 in Body
(Nominal, w.o. Bumpers)



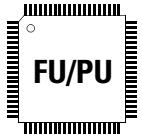
120-Pin QFP/LQFP

.5 mm Pitch
16 mm x 16 mm Body



100-Pin LQFP

.5 mm Pitch
14 mm x 14 mm Body

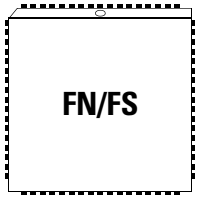


80-Pin QFP/LQFP

.65 mm Pitch
14 mm x 14 mm Body

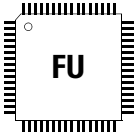
84-Pin PLCC/CLCC

50 mil/1.27 mm Pitch
1.15 in x 1.15 in Body



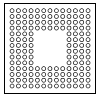
68-Pin PLCC/CLCC

50 mil/1.27 mm Pitch
0.950 in x 0.950 in Body



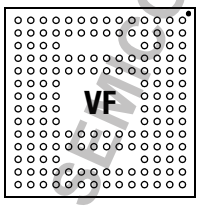
64-Pin QFP

.8 mm Pitch
14 mm x 14 mm Body

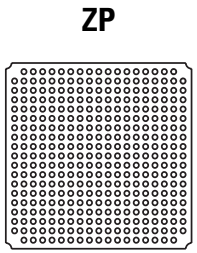


144-Ball Grid Array (BGA)

.8 mm Ball Pitch
12 mm x 12 mm x 1.6 mm

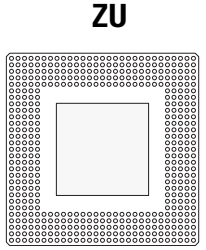


160-Plastic Ball Grid Array (MAPBGA)



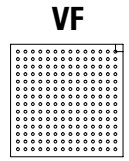
357 PBGA

1.27 mm Pitch
25.0 mm x 25.0 mm Body



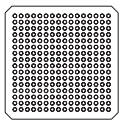
480 TBGA

1.27 mm Pitch
37.5 mm x 37.5 mm Body



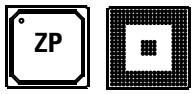
196-Ball MAPBGA

1 mm Pitch
15 mm x 15 mm Body



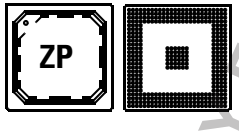
256 PBGA

1.27 mm Pitch
23 mm x 23 mm Body



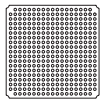
272-Ball PBGA

1.27 mm Pitch
27.0 mm x 27.0 mm Body



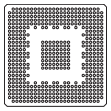
388-Ball PBGA

1 mm Pitch
27.0 mm x 27.0 mm Body



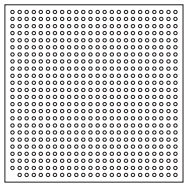
357 PBGA

1.27 mm Pitch
25.0 mm x 1.2 mm Body



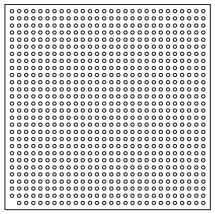
516 PBGA

1.0 mm Pitch
27.0 mm x 27.0 mm Body



575 PBGA

1.0 mm Pitch
25.0 mm x 25.0 mm Body



783 PBGA

1.0 mm Pitch
29.0 mm x 29.0 mm Body

PACKAGING (continued)

— Package Designators —

B — Shrink DIP (70 mil spacing)

DW — Small Outline (Wide-Body SOIC)

FA — 7 x 7 mm Quad Flat Pack (QFP)

FB — 10 x 10 mm Quad Flat Pack (QFP)

FC — Plastic Quad (Gull Wing)

FE — CQFP (windowed) — Samples Only

FG — 14 x 20 mm Plastic Quad Flat Pack (PQFP)

FN — Plastic Quad (PLCC)

FS — CLCC (windowed) — Samples Only

FT — 28 x 28 mm Quad Flat Pack (QFP)

FU — 14 x 14 mm Quad Flat Pack (QFP)

FZ — CQFP (windowed) — Samples Only

HX — Ball Grid Array on HiCTE Ceramic Substrate

K — Cersdip (windowed) — Samples Only

L — Ceramic Sidebraze

P — Dual in-Line Plastic

PB — 10 x 10 mm Quad Flat Pack (QFP)

PU — 14 x 14 mm Low-Profile Quad Flat Pack (LQFP)

PV — 20 x 20 mm Low-Profile Quad Flat Pack (LQFP)

PX — Ball Grid Array on Plastic Substrate

RC — Pin Grid Array, Gold Lead Finish

RX — Ball Grid Array on Ceramic Substrate

S — Cerdip (windowed) — Samples Only

SD — Shrink Small Outline Package (SSOP)

VF — 1.6 mm Thick MAPBGA

VG — Lead-free Polymer Core Ball Grid Array on Ceramic Substrate

VS — Lead-free Land Grid Array (on spheres) on HiCTE Ceramic Substrate

VT — Lead-free Ball Grid Array on Plastic Substrate

VU — Lead-free Ball Grid Array on HiCTE Ceramic Substrate

ZP — Plastic Ball Grid Array (PBGA)

ZU — Tape Ball Grid Array, 352 and 480 Lead

ZQ — Plastic Ball Grid Array (PBGA) with thick substrate

What's EOL?

END-OF-LIFE PRODUCTS

Freescale Semiconductor follows the industry standard "EIA-724 Product Life Cycle Data Model" to track the life cycle of its product. This model tracks the product's life cycle from "Product Newly Introduced" to "Product Phase Out." Products can be phased for a variety of reasons: improved product performance, change in technology roadmap, process obsolescence, market decline, etc.

When products are discontinued, a suggested possible replacement product or an alternative source of supply for discontinued products are made available when possible.

For a list of discontinued products with possible alternative suppliers, contact your local Freescale Semiconductor sales office or authorized distributor.

Product	Last Order Date	Last Ship Date	Possible Replacement
XPC7441	12/01/03	12/01/04	XC7445
XPC7451	12/01/03	12/01/04	XC7455
MC7445A	01/25/06	07/26/06	MC7447A and MC7448
MC7455A	01/25/06	07/26/06	MC7447A and MC7448
MC7447	10/19/05	04/19/06	MC7447A and MC7448
MC7447T	10/19/05	04/19/06	MC7447AT and MC7448T

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