

Motorola reserves the right to make changes without further notice to any products herein. Motorola makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Motorola assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters can and do vary in different applications. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Motorola does not convey any license under its patent rights nor the rights of others. Motorola products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Motorola product could create a situation where personal injury or death may occur. Should Buyer purchase or use Motorola products for any such unintended or unauthorized application, Buyer shall indemnify and hold Motorola and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Motorola was negligent regarding the design or manufacture of the part. Motorola and  are registered trademarks of Motorola, Inc. Motorola, Inc. is an Equal Opportunity/Affirmative Action Employer.

Literature Distribution Centers:

USA/EUROPE: Motorola Literature Distribution; P.O. Box 20912, Arizona 85036. 1-800-441-2447

JAPAN: Nippon Motorola Ltd.; 4-32-1, Nishi-Gotanda, Shinagawa-ku, Tokyo 141 Japan

HONG KONG: Motorola Semiconductors H.K. Ltd.; Silicon Harbour Center, No. 2 Dai King Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong



68K SUPPORT DEVICES

Device No.	Package	Speeds	Rev	Device Name	Description
MC68150	68-Lead FN	33, 40		Dynamic Bus Sizer Processor	Allows 32-Bit 040, LC040 and EC040 bus to communicate bidirectionally with 32-, 16-, or 8-bit peripherals and memories. Contact IC Logic Division, Mesa, AZ (602) 962-3005.
XC68HC901	48-Lead P 52 Lead FN			Multi-Function Peripheral (MFP)	Single channel USART, 8-source interrupt controller. Eight parallel I/O lines. Four 8-bit timers. 1 MB/s. 4 MHz.
CLOCK DRIVERS/CLOCK DISTRIBUTION CHIPS: A variety of timing solutions are available from the Logic IC Division. They include low skew out buffers, PLL clock drivers, and low-voltage PLL clock drivers that are designed for the Motorola microprocessor. Contact IC Logic Division, Mesa AZ (602) 962-3005.					

END OF LIFE

Device	Last Buy Date	Last Ship Date	Replacement Part
MC68000	12/1/95	12/28/96	MC68HC000 (pin compatible, check electrical specifications).
MC68008	12/1/95	12/28/96	MC68EC000 (not pin compatible).
MC68010	12/1/95	12/28/96	No known alternate source.
MC68230	12/1/95	12/28/96	SGS-Thomson is an alternate source.
MC68440	12/1/95	12/28/96	SGS-Thomson is an alternate source.
MC68450	12/1/95	12/28/96	Hitachi is an alternate source.
MC68681	12/1/95	12/28/96	We are currently developing a CMOS version of the 68681/2681.
MC2681	12/1/95	12/28/96	The new versions will be available 4Q96.
MC68901	12/1/95	12/28/96	XC68HC901FN, P
MC68340RP	11/10/95	5/8/96	Only the RP package will be discontinued.
MC68340XX8V	3/1/96	7/28/96	All packages will be discontinued, 8MHz only.
XC68330FC	11/14/95	5/12/96	Only the FC package will be discontinued.

HARDWARE EVALUATION TOOLS

DEVICE	DESCRIPTION
M68EC000IDP	M68EC000 Evaluation/Development System
M68EC020IDP	M68EC020 Evaluation/Development System
M68EC030IDP3	M68EC030 Evaluation/Development System
M68EC040IDP3	M68EC040 Evaluation/Development System
M68EC060IDP	M68EC060 Evaluation/Development System
M68EC000CPU	M68EC000 Daughter Card of the IDP Board
M68EC020CPU	M68EC020 Daughter Card of the IDP Board
M68EC030CPU	M68EC030 Daughter Card of the IDP Board
M68EC040CPU	M68EC040 Daughter Card of the IDP Board
M68EC060CPU	M68EC060 Daughter Card of the IDP Board
M68306AN	MC68306 Development Board from Arnewsh
M68307EVM	MC68307 Development Board
M68322ICE	M68322 In-Circuit Emulation Adapter Board
M68322EVS	MC68322 Evaluation System
M68328ADS	MC68328 Development System Application
M68340EST	MC68340 Evaluation System
MC68341EST	MC68341 Evaluation System
M68349CPU	M68349 Daughter Card of the IDP Board
M68349IDP	M68349 Evaluation/Development System
MPC821ADS	MPC821 Application Development System
MPC821ADS-PC	MPC821ADS Kit with ADI for IBM PC
MPC821ADS-SUN4	MPC821ADS Kit with ADI for SUN4
M5102EVM	MCF5102 Mezzanine Board (requires the M68EC040IDP or M68EC040CPU for development)
M5202EVM	MCF5202 Mezzanine Board (requires the M68EC040IDP or M68EC040CPU for development)
M5204EVS	MCF5204 Evaluation/Development System
M5206EVS	MCF5206 Evaluation/Development System

STAND-ALONE CPUs

Device No.	Package	Speeds	Rev	Device Name	Temp** (-40 to +85°C)	SOQ	MPQ	POQ	BRICK	Description
COLDFIRE										
XCF5102	144-Lead PV	16, 20, 25, 33	A	Embedded VL-RISC MPU		0	60	240		ColdFire variable-length RISC microprocessor designed for cost-sensitive embedded control applications. In addition to executing ColdFire code, this first family member is designed with additional capabilities that allow it to execute existing M680x0 code. Processor includes on-chip instruction/data caches (2K/1K respectively).
For PV sample order—SPAK5102PVXXA										
XCF5202	144-Lead PU	16, 25	A	Embedded VL-RISC MPU		0	84	420		ColdFire variable-length RISC microprocessor designed for cost-sensitive embedded control applications. This member features a 2K unified cache.
For PU sample order—SPAK5202PUXX										
XCF5204	100-Lead PU	16, 25, 33	A	Embedded VL-RISC MPU		0	84	84		ColdFire variable-length RISC microprocessor designed for cost-sensitive embedded control applications.
For PU sample order—SPAK5203PUXX										
XCF5206	160-Lead FT	16, 25, 33	A	Embedded VL-RISC MPU		0	24	120		ColdFire variable-length RISC microprocessor designed for cost-sensitive embedded control applications.
For FT sample order—SPAK5204FTXX										

GENERAL-PURPOSE INTEGRATED PROCESSORS

Device No.	Package	Speeds	Rev	Device Name	Temp** (-40 to +85°C)	SOQ	MPQ	POQ	BRICK	Description
MC68306	132-Lead FC 144-Lead PV	16 16		Integrated EC000 Processor	CFC16	0 0	36 60	144 600	300	68000 CPU, 68681 DUART, DRAM control all in one chip.
For FC, PV sample order—SPAK306FCXX, SPAK306PVXX										
XC68307 XC68307V	100-Lead FG 100-Lead PU 100-Lead FG 100-Lead PU	16 16 8, 16 @ 3.3 V 8, 16 @ 3.3 V		Integrated Multiple Bus Processor	CFG16	0 0 0 0	66 84 66 84	264 420 264 420		Static EC000 Core Processor, UART, M-Bus Dual Timers, 8051 interface, dynamic 68000 bus.
For FG, PU sample order—SPAK307FGXX, SPAK307FGXXV, SPAK307PUXX, SPAK307PUXXV										
XC68322	160-Lead FT	16, 20		Bandit- Integrated Printer Processor		0	24	96		Static EC000 Core Processor, RISC Graphics Processor, Print Engine Video Controller, DRAM Controller, and 1284 Parallel Port.
For FT sample order—SPAK322FTXX										
PC68328V	144-Lead PV	16 @ 3.3V		Static 68EC000 Core Processor		2	2	2		For sample: PC68328PV16V
MC68330 MC68330V	144-Lead PV 144-Lead PV	16, 25 16 @ 3.3V	A A	Integrated CPU32 Processor	CPV16, CPV25	0 0	60 60	240 240		CPU32 core processor with integrated glue logic, clock chip select, and wait state. Power of 32-bit processor with inexpensive 16-bit data bus.
For PV sample order—SPAK330PVXXA, SPAK330PVXXVA										
MC68340 MC68340V	144-Lead FE 144-Lead PV 144-Lead FT 144-Lead FE 144-Lead PV	16, 25 16, 25 16, 25 16 @ 3.3V 16 @ 3.3V	E C E E C	Integrated Processor with DMA	CFE16, CFE25 CPV16, CPV25 CFT16, CFT25	0 0 0 0 0	24 60 24 24 60	96 300 96 96 60	120 300 120	CPU32 core processor for data movement applications. Two channel DMA, two serial channels, two timers, chip selects, wait-state generation, and glue logic. MC68340V is the 3.3 volt version of the MC68340.
For FE, FT, and PV sample order—SPAK340FEXX, SPAK340FTXXVE, SPAK340PVXXVC										
XC68341 XC68341V	160-Lead FT 160-Lead FT	16, 25 16 @ 3.3 V		Integrated CD-1 Engine	CFT16	0 0	24 24	96 96		CPU32 with 2 channel DMA, real-time clock, timer chip selects, MC68000 bus interface, queued serial peripheral interface and two channels.
For FT sample order—SPAK341FTXXA, SPAK341FTXXVA										
MC68349 MC68349V	160-Lead FT 160-Lead FT	16, 25 16 @ 3.3V	A A	Dragon 1 High Performance Integrated Processor	CFT16	0 0	24 24	240 240		High-performance CPU30 processor (CPU32) 32-bit execution unit, 32-bit data bus, instruction cache, quad data memory module, 32-bit dual DMA controllers and two serial channels.
For FT sample order— SPAK349FTXXA, SPAK349FTXXVA										
* Not recommended for new designs. ** Extended temperature devices with minimum order requirements.										

POWER PC™

Device No.	Package	Speeds	Rev	Device Name	Temp** (-40 to +85°C)	SOQ	MPQ	POQ	BRICK	Description
XPC821 XPC821EN	357-Lead ZP 357-Lead ZP	25, 40 25		Low Cost Integrated PowerPC Microprocessor	0 to 70	0	44	220		Embedded PowerPC superscalar MPU with dual 4k instruction and data caches with MMUs, PCMCIA, LCD control, and high-performance communications processor with DSP functions
For ZP sample order — SPAK821ZPX, SPAK821ENZPX										

STAND-ALONE CPUs

Device No.	Package	Speeds	Rev	Device Name	Temp** (-40 to +85°C)	SOQ	MPQ	POQ	BRICK	Description
680X0										
MC68EC000	68-Lead FN 64-Lead FU	8, 10, 12, 16, 20 8, 10, 12, 16, 20		8-/16-/32-Bit HCMOS Embedded MPU		0 0	18 84	1008 252	420	Low-cost embedded control MPU with 8-/16-bit selectable data bus.
						For FN, FU sample order—SPAKEC000FNXX, SPAKEC000FUXX				
MC68HC000	64-Lead P 68-Lead FN, 68-Lead FC*, 68-Lead R*, RC*	8, 10, 12, 16 8, 10, 12, 16, 20 8, 10, 12, 16 8, 10, 12, 16		HCMOS 16-/32-Bit MPU	CFN8, 10, 12, 16 CFC8, 10, 16 CRC8, 10, 12, 16	5 0 0 0	5 18 78 21	160 1008 780 210		Completely pin and timing MC68000-compatibility with a tenth of the power dissipation.
						For FC, FN, P, RC sample order—SPAKHC000FCXX, SPAKHC000FNXX, SPAKHC000PXX, SPAKH000RCXX*				
MC68HC001*	68-Lead FN, 68-Lead FC 68-Lead RC	8, 10, 12, 16 8, 10, 12, 16 8, 10, 12, 16		Statically Switchable 8-/16-Bit Data Bus	CFN8, 10 CFC10 CRC8	0 0 0	18 78 21	1008 780 210		Functionally compatible to MC68000 and MC68008.
						For FN, FC, RC sample order—SPAKHC001FNXX, SPAKHC001FCXX, SPAKH001RCXX*				
MC68020	114-Lead RC 132-Lead FE 114-Lead RP 132-Lead FC	12, 16, 20, 25, 33 16, 20, 25, 33 16, 20, 25 16, 20, 25, 33	E E E E	32-Bit MPU	CRC16, 20, 25 CRP16 CFC16, 25	1 0 1 0	1 36 1 36	14 180 13 144	180	Complete 32-bit MPU. 5-Gbyte linear address space. Coprocessor interface. Instruction cache. Dynamic bus sizing. Excellent MPU for graphics control. On-chip cache speeds drawing algorithms. Bit field support for pixel manipulation.
						For FC, FE sample order—SPAK020FCXXE, SPAK020FEXXE				
MC68EC020	100-Lead FG 100-Lead RP	16, 25 16, 25		32-Bit Embedded MPU	CFG16 CRP25	0 1	66 1	264 13	330	32-bit data bus MPU with 24-bit address bus. Instruction cache. Dynamic bus sizing. Coprocessor interface. Low-cost packaging.
						For FG sample order—SPAKEC020FGXX				
MC68030	128-Lead RC 124-Lead RP 132-Lead FE	16,20,25,33,40,50 16,20,25,33 16,20,25,33	C B C	Enhanced 32-Bit MPU	CRC25,33 CRP16,20,25,33	1 1 0	1 1 36	14 13 180		Complete 32-bit MPU with on-chip instruction and data caches, internal parallel buses, enhanced bus controller, and on-chip MMU.
						For FE sample order—SPAK030FEXXC				
MC68EC030	124-Lead RP 132-Lead FE 144-Lead PV	25, 40 25, 40 25	B C C	Embedded MPU	CRP25	1 0 0	1 36 60	13 180 300		32-bit MPU for embedded applications. On-chip instruction and data cache provide high-speed access for control routines and data. Utilizes low-cost DRAM bus interface.
						For FE, PV sample order—SPAKEC030FEXXC, SPAKEC030PVXXC				
MC68040	179-Lead RC 184-Lead FE	25, 33, 40 25, 33, 40		32-Bit MPU MMU FPU		1 0	1 24	10 96		Complete 32-bit MPU with on-chip instruction/data caches (4k bytes each). On-chip MMU. Full IEEE floating point, multiprocessing support with full M68000 Family compatibility.
						For FE sample order—SPAK040FEXX				
MC68EC040	179-Lead RC 184-Lead FE	20, 25, 33, 40 20, 25, 33, 40		Embedded 32-Bit High Performance Processor		1 0	1 24	10 96	120	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.
						For FE sample order—SPAKEC040FEXX				
MC68LC040	179-Lead RC 184-Lead FE	20, 25, 33, 40 20, 25, 33, 40		High Performance 32-Bit Processor		1 0	1 24	10 96	120	68040-compatible integer unit and MMU. Ideal solution for cost-sensitive computer or sophisticated embedded applications.
						For FE sample order—SPAKLC040FEXX				
XC68040V	179-Lead RC 184-Lead FE	25, 33 @ 3.3 V 25,33 @ 3.3 V		32-Bit MPU MMU, FPU, Low-Voltage		0 1	1 21	0 0		Low-voltage complete 32-bit MPU with on-chip instruction/data caches (4k bytes each). On-chip MMU. Full IEEE floating point, multiprocessing support..
						For FE sample order—SPAKEC040VFEXX, SPAKEC040VRCXX				
XC68060	206-Lead RC	50		Superscalar 32-Bit Processor		0	1	10		RISC hybrid superscalar MPU with full M68000 Family compatibility. Includes dual integer units, on-chip instruction/data caches (8K bytes each), on-chip MMU, and full IEEE compliant FPU.
XC68EC060	206-Lead RC	50		Superscalar 32-Bit Processor		0	1	10		RISC hybrid superscalar MPU with full M68000 Family compatibility. Includes dual integer units, on-chip instruction/data caches (8K bytes each). Ideal for high-performance embedded control applications.
XC68LC060	206-Lead RC	50		Superscalar 32-Bit Processor		0	1	10		RISC hybrid superscalar MPU with full M68000 Family compatibility. Includes dual integer units, on-chip instruction/data caches (8K bytes each) and on-chip MMU.
MC68882	68-Lead RC 68-Lead FN	16,20,25,33,40,50 16,20,25,33,40	A A	Enhanced Floating-Point Coprocessor (EPPCP)	CRC16,20,25,33 CFN16,20,25,33	1 1	1 1	21 18		Pin-to-pin timing and software compatibility with MC68881. Dual ported registers and increased pipelining allows 2-4 × performance of MC68881.

FC = Plastic Quad (Gull Wing)	FE = Ceramic Quad (Gull Wing)	FG = Plastic Quad Flat Pack (PQFP)
FN = Plastic Quad Pack (PLCC)	FT = Plastic Flat Pack (28 x 28 mm)	FU = Plastic Quad Flat Pack (14 x 14 mm)
PU = Thin Quad Flat Pack (Plastic)	P = Plastic DIP	PV = TQFP (20 x 20 mm) (Plastic)
R = Pin Grid Array, Solder Lead Finish	RC = Pin Grid Array, Gold Lead Finish	RP = Plastic Pin Grid Array
ZP = Ball Grid Array, 357 Lead		



Imaging & Storage *Division*

FACT SHEET

4th QUARTER 1996