



digital dna[™]

MICROCONTROLLERS

**QUARTER 3, 2002
SG1006/D REV 1**

WWW.MOTOROLA.COM/SEMICONDUCTORS

What's New!

Product	Description
MC68HC908QT1	Introducing the Nitron Family of HC08s. This family of 8- and 16-pin microcontrollers includes six different devices featuring 1.5K to 4K bytes of FLASH, a 2-ch 16-bit timer with input capture, output compare or PWM, 128 bytes of RAM, an internal oscillator, the option of a 4-ch 8-bit ADC and all available in a variety of package offerings including 8-pin SOIC and PDIP as well as 16-pin SOIC, PDIP, and TSSOP.
MC68HC908QT2	
MC68HC908QT4	
MC68HC908QY1	
MC68HC908QY2	
MC68HC908QY4	
MC9S12A64	The newest additions to the fast expanding family of 16-bit HCS12 microcontrollers. These devices feature 64K of FLASH in combination with 4K RAM, up to 2 8-ch 10-bit ADC, IIC, PWM, with options for CAN or J1850 multiplex bus.
MC9S12D64	
MC9S12DJ64	
MC68HC908JB16	Latest additions to the USB based family of HC08s that double the amount of in-application programmable FLASH (16K). The JG16s combine USB with an 8-ch 8-bit ADC.
MC68HC908JG16	

68HC05 FAMILY

68HC05 Product Table

For complete part number information and temperature definitions, refer to "Product Numbering System for 68HC05" on page SG1006-6.

Product	ROM (Bytes)	RAM (Bytes)	EPROM/OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp	Packaging	OTP	Status	Additional Information	Documentation
MC68HC05B6	6K	176	—	256	16-Bit 2 IC, 2 OC	32	SCI	8-CH 8-Bit	2-CH 8-Bit	Y	3.3, 5.0	4.0	C, V, M	56 SDIP (B) 52 PLCC (FN) 64 QFP (FU)	705B16 705B32	Available	SCI has synchronous master SPI-like capability	MC68HC05B6/D
MC68HC05B8	7K	176	—	256	16-Bit 2 IC, 2 OC	32	SCI	8-CH 8-Bit	2-CH 8-Bit	Y	3.3, 5.0	4.0	C, V	56 SDIP (B) 52 PLCC (FN) 64 QFP (FU)	705B16 705B32	Available	SCI has synchronous master SPI-like capability	MC68HC05B6/D
MC68HC05B16	15K	352	—	256	16-Bit 2 IC, 2 OC	32	SCI	8-CH 8-Bit	2-CH 8-Bit	Y	3.3, 5.0	4.0	C, V, M	56 SDIP (B) 52 PLCC (FN) 64 QFP (FU)	705B16 705B32	Available	SCI has synchronous master SPI-like capability	MC68HC05B6/D
MC68HC705B16N	—	352	15K	256	16-Bit 2 IC, 2 OC	32	SCI	8-CH 8-Bit	2-CH 8-Bit	Y	3.3, 5.0	2.1	C, V, M	52 PLCC (FN) 64 QFP (FU) 52 CLCC (FS)	—	Available	Use 705B32 as OTP for SDIP. SCI has synchronous master SPI-like capability	MC68HC05B6/D
MC68HC05B32	32K	528	—	256	16-Bit 2 IC, 2 OC	32	SCI	8-CH 8-Bit	2-CH 8-Bit	Y	3.3, 5.0	2.1	PLCC/ QFP: C, V, M SOIC: 0-70°C	56 SDIP (B) 52 PLCC (FN) 64 QFP (FU)	705B32	Available	SCI has synchronous master SPI-like capability	MC68HC05B6/D
XC68HC705B32	—	528	32K	256	16-Bit 2 IC, 2 OC	32	SCI	8-CH 8-Bit	2-CH 8-Bit	Y	3.3, 5.0	2.1	C	56 SDIP (B) 52 PLCC (FN) 64 QFP (FU) 52 CLCC (FS)	—	LTD	SCI has synchronous master SPI-like capability	MC68HC05B6/D
MC68HC05BD5	775K	256	—	—	MFT	24	I ² C	—	16-CH 8-Bit	Y	5.0	2.1	0-70°C only	40 DIP (P) 42 SDIP (B)	705BD3	Available	Horizontal & vertical sync signal processor	MC68HC05BD3D/H
MC68HC05C8A	8K	176	—	—	16-Bit 1 IC, 1 OC	31	SCI SPI	—	—	Y	3.3, 5.0	4.0	C, V	40 DIP (P) 42 SDIP (B) 44 PLCC (FN) 44 QFP (FB)	705C8A	Available	KBI (8 pins), 1 high-current pin (20 mA) Automotive qual complete	MC68HC05C8A/D
MC68HC705C8A	—	304	8K	—	16-Bit 1 IC, 1 OC	31	SCI SPI	—	—	Y	3.3, 5.0	4.0	C, V, M	40 DIP (P) 40 CDIP (S) 42 SDIP (B) 44 PLCC (FN) 44 QFP (FB) 44 CLCC (FS) 64 QFP (FU)	—	Available	KBI (8 pins), 1 high-current pin (20 mA), high-speed option (4-MHz bus) available as MC68HSC705C8A Sample pack part numbers: KMC705C8ACP/S/B KMC705C8ACFB/FN/FS/FU	MC68HC705C8A/D
MC68HC05C9A	16K	352	—	—	16-Bit IC, 1 OC	31	SCI SPI	—	—	Y	3.3, 5.0	4.0	C, V, M	40 DIP (P) 42 SDIP (B) 44 PLCC (FN) 44 QFP (FB)	705C9A	Available	KBI (8 pins), 1 high-current pin (20 mA)	MC68HC05C9A/D
MC68HC705C9A	—	352	16K	—	16-Bit 1 IC, 1 OC	31	SCI SPI	—	—	Y	3.3, 5.0	2.1	C	40 DIP (P) 40 CDIP (S) 42 SDIP (B) 44 PLCC (FN) 44 CLCC (FS) 44 QFP (FB)	—	Available	KBI (8 pins), 1 high-current pin (20 mA) Sample pack part numbers: KMC705C9ACP/S/B KMC705C9ACFN/FS/FB Automotive qual complete	MC68HC705C9A/D
MC68HC705F32	—	920	32K	256	16-Bit 4 IC, 4 OC, MFT, RTI	Up to 80	SCI SPI	8-CH 8-Bit	3-CH 8-Bit	Y	3.0, 5.0	2.1	0-70°C only	100 LQFP (PU) 80 QFP (FU)	—	Available	DTMF, LCD (4 x 40), KBI (8 pins) Note: FU package is XC qualified only	MC68HC05F32/D

68HC05 FAMILY

68HC05 Product Table (continued)

For complete part number information and temperature definitions, refer to "Product Numbering System for 68HC05" on page SG1006-6.

Product	ROM (Bytes)	RAM (Bytes)	EPROM/OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp	Packaging	OTP	Status	Additional Information	Documentation
MC68HC05J1A	1.2K	64	—	—	MFT, RTI	14	—	—	—	Y	2.0, 3.3, 5.0	4.0	C, V	20 DIP (P) 20 SOIC (DW)	705J1A	Available	KBI (4 pins), mask selectable pull-downs, 4 high-current pins (8 mA)	MC68HC05J1A/D
MC68HC705J1A	—	64	1.2K	—	MFT, RTI	14	—	—	—	Y	3.3, 5.0	4.0	C, V	20 DIP (P) 20 SOIC (DW)	—	Available	KBI (4 pins), programmable pull-downs, 4 high-current pins (8 mA), RC option available as MC68HRC705J1A, high-speed option available as MC68HSC705J1A	MC68HC705J1A/D MC68HC705J1AAD/D
MC68HC05J5A	2.5K	128	—	—	16-Bit 1 IC, MFT, RTI	14	—	—	—	Y	2.2, 5.0	2.1	0-70°C only	20 DIP (P) 20 SOIC (DW) 16 DIP (JP) 16 SOIC (JDW)	705J5A	Available	2 high-current pins (25 mA), LVR, RC option available	HC05J5AGRS/H
MC68HC705J5A	—	128	2.5K	—	16-Bit 1 IC, MFT, RTI	14	—	—	—	Y	5.0	2.1	0-70°C only	20 DIP (P) 20 SOIC (DW)	—	Available	2 high-current pins (25 mA), LVR, RC option available	HC05J5AGRS/H
MC68HC05JB3	2.5K	144	—	—	16-Bit 1 IC, 1 OC, MFT, RTI	19	USB	—	—	Y	5.0	3.0	0-70°C only	20 DIP (JP) 20 SOIC (JDW) 28 DIP (P) 28 SOIC (DW)	705JB3	Available	1.5 mbs USB with 3 endpoints, low-voltage reset, KBI, 3.3 V bandgap reference	HC05JB3GRS/H
XC68HC705JB3	—	144	2.5K	—	16-Bit 1 IC, 1 OC, MFT, RTI	19	USB	—	—	Y	5.0	3.0	0-40°C only	20 DIP (JP) 28 DIP (P) 28 SOIC (DW)	—	Available	1.5 mbs USB with 3 endpoints, low-voltage reset, KBI, 3.3 V bandgap reference	HC05JB3GRS/H
MC68HC05JB4	3.5K	176	—	—	16-Bit 1 IC, 1 OC, MFT, RTI	19	USB	6-CH 8-Bit	—	Y	5.0	3.0	0-70°C only	28 DIP (P) 28 SOIC (DW)	705JB4	Available	1.5 mbs USB with 3 endpoints, low-voltage reset, KBI, 3.3 V bandgap reference	HC05JB4GRS/H
MC68HC705JB4	—	176	3.5K	—	16-Bit 1 IC, 1 OC, MFT, RTI	19	USB	6-CH 8-Bit	—	Y	5.0	3.0	0-40°C only	28 DIP (P) 28 SOIC (DW) 28 CDIP (S)	—	Available	1.5 mbs USB with 3 endpoints, low-voltage reset, KBI, 3.3 V bandgap reference	HC05JB4GRS/H
MC68HC05JJ6	6K	224	—	—	16-Bit 1 IC, 1 OC, MFT, RTI	14	SIOP	4-CH 12-Bit	—	Y	3.3, 5.0	2.1	C	20 DIP (P) 20 SOIC (DW)	705JJ7	Available	2 voltage comparators used as single slope A/D, KBI (8 pins), 6 high-current pins (10 mA), mask selectable pull-downs, LVR	HC05JJ6GRS/D
XC68HC705JJ7	—	224	6K + 64-Bit PEP	—	16-Bit 1 IC, 1 OC, MFT, RTI	14	SIOP	4-CH 12-Bit	—	Y	3.3, 5.0	2.1	C	20 DIP (P) 20 SOIC (DW) 20 CDIP (S)	—	Available	2 voltage comparators used as single slope A/D, KBI (8 pins), 6 high-current pins (10 mA), programmable pull-downs, LVR	HC705JJ7GRS/D
MC68HC05JP6	6K	224	—	—	16-Bit 1 IC, 1 OC, MFT, RTI	22	SIOP	4-CH 12-Bit	—	Y	3.3, 5.0	2.1	C	28 DIP (P) 28 SOIC (DW)	705JP7	Available	2 voltage comparators used as single slope A/D, KBI (8 pins), 6 high-current pins (10 mA), mask selectable pull-downs, LVR	HC05JJ6GRS/D
XC68HC705JP7	—	224	6K + 64-Bit PEP	—	16-Bit 1 IC, 1 OC, MFT, RTI	22	SIOP	4-CH 12-Bit	—	Y	3.3, 5.0	2.1	C	28 DIP (P) 28 SOIC (DW) 28 CDIP (S)	—	Available	2 voltage comparators used as single slope A/D, KBI (8 pins), 6 high-current pins (10 mA), programmable pull-downs, LVR	HC705JJ7GRS/D
MC68HC05K3	0.9K	64	—	16 PEEP	MFT, RTI	10	—	—	—	Y	3.3, 5.0	2.1	C	16 SOIC (DW) 20 SSOP (SD)	805K3	Available	Personality EEPROM, RTI, KBI	MC68HC05K3/D
MC68HC705KJ1	—	64	1.2K	—	MFT, RTI	10	—	—	—	Y	3.3, 5.0	4.0	C	16 DIP (P) 16 SOIC (DW)	—	Available	KBI (4 pins), programmable pull-downs (10 pins), 4 high-current pins (10 mA), RC option available as MC68HRC705KJ1. High-speed standard. 32 kHz low-power version available as MC68HLC705KJ1.	MC68HC705KJ1/D

68HC05 Product Table (continued)

For complete part number information and temperature definitions, refer to “Product Numbering System for 68HC05” on page SG1006-6.

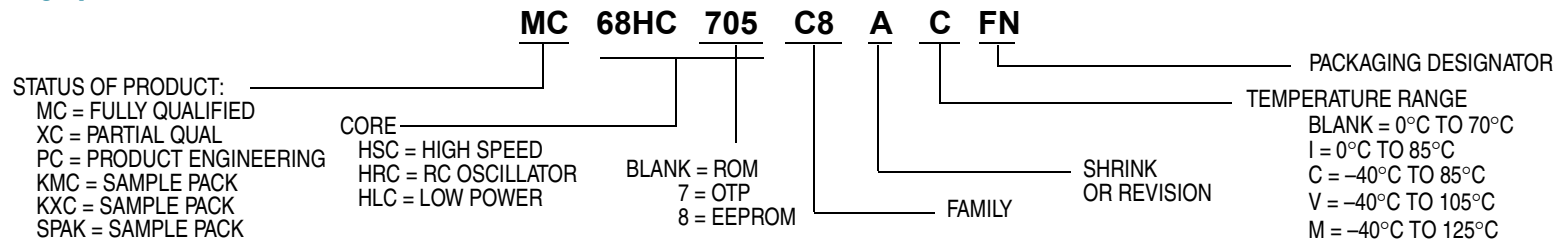
Product	ROM (Bytes)	RAM (Bytes)	EPROM/OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp	Packaging	OTP	Status	Additional Information	Documentation
MC68HC05L16	16K	512	—	—	16-Bit 1 IC, 1 OC, 8-Bit 1 IC, 1 OC, RTI	39	SIOP	—	—	—	2.2, 3.3, 5.0	2.1	C	80 QFP (FU)	705L16	Available	LCD with 4x39 segments, KBI (8 pins), dual oscillators, 8 high-current pins, programmable pull-ups, open drain	HC05L16GRS/D
MC68HC705L16	—	512	16K	—	16-Bit 1 IC, 1 OC, 8-Bit 1 IC, 1 OC, RTI	39	SIOP	—	—	—	3.3, 5.0	2.1	C	80 QFP (FU)	—	Available	LCD with 4x39 segments, KBI (8 pins), dual oscillators, 8 high-current pins, programmable pull-ups, open drain	HC05L16GRS/D
MC68HC05L25	6K	176	—	—	16-Bit Event, Timebase	20	SPI	2-CH 8-Bit	—	Y	3.3, 5.0	2.1	C	52 LQFP (PB) 32 LQFP (FA)	705L26	Available	24x4 or 25x3 LCD	HC05L25GRS/D
MC68HC05LJ5	1.2K	64	—	—	MFT, RTI	14	—	—	—	Y	5.0	2.1	0-70°C only	16 DIP (P)	705J5A	Available	RC option available	HC05LJ5GRS/H
MC68HC05P4A	4K	176	—	—	16-Bit 1 IC, 1 OC	21	SIOP	—	—	Y	3.3, 5.0	2.1	C, V	28 DIP (P) 28 SOIC (DW)	705P6A	Available	KBI, 2 high-current pins. Not recommended for electrically noisy environments, EMC sensitive. Halt mode not available.	MC68HC05P4A/D
MC68HC05P6	4.5K	176	—	—	16-Bit 1 IC, 1 OC	21	SIOP	4-CH 8-Bit	—	Y	3.3, 5.0	2.1	C, V, M	28 DIP (P) 28 SOIC (DW) 32 LQFP (FB)	705P6A	Available		MC68HC05P6/D MC68HC05P6AD/D
MC68HC705P6A	—	176	4.5K	—	16-Bit 1 IC, 1 OC	21	SIOP	4-CH 8-Bit	—	Y	3.3, 5.0	2.1	C	28 DIP (P) 28 SOIC (DW) 28 CDIP (S) 28 SSOP (SD)	—	Available	KBI (8 pins), 2 high-current pins (15 mA). Umbrella OTP for P1A, P4A, P6, and P9A Automotive qual complete	HC705P6AGRS/D
MC68HC05SR3	3.75K	192	—	—	8-Bit	32	—	4-CH 8-Bit	—	—	3.3, 5.0	2.1	C	40 DIP (P) 44 QFP (FB) 42 SDIP (B)	705SR3	Available	LED drive, LVR, KBI	MC68HC05SR3D/H
MC68HC705SR3	—	192	3.75K	—	8-Bit	32	—	4-CH 8-Bit	—	—	3.3, 5.0	2.1	C	40 DIP (P) 40 CDIP (S) 44 QFP (FB) 42 SDIP (B)	—	Available	LED drive, KBI, LVR. OTP for both HC05SU3A & HC05SR3	MC68HC05SR3D/H
MC68HC05SU3A	3.75K	192	—	—	8-Bit	32	—	—	—	—	5.0	2.1	0-70°C only	40 DIP (P)	705SR3	Available	KBI, LED drive	MC68HC05SU3A/H
MC68HC05X4	4K	176	—	—	16-Bit 1 IC, 1 OC, MFT, RTI	16	CAN	—	—	Y	5.0	2.1	C	28 SOIC (DW)	705X4 (limited)	Available	CAN 2.0A (not B)	MC68HC05X4/D
XC68HC705X4	—	176	4K	—	16-Bit 1 IC, 1 OC, MFT, RTI	16	CAN	—	—	Y	5.0	2.1	C	28 SOIC (DW)	—	Available	CAN 2.0A (not B)	MC68HC05X4/D

68HC05 Reference Manuals

M68HC05AG/AD, Applications Guide
M68HC05TB/D, Understanding Small Microcontrollers Text Book

68HC05 FAMILY

Product Numbering System for 68HC05



68HC08 FAMILY

68HC08 Product Table

For complete part number information and temperature definitions, refer to "Product Numbering System for 68HC08" on page SG1006-10.

Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Freq (MHz)	Temp	Packaging	OTP or FLASH	Status	Additional Information	Documentation
MC68HC08AB16A	16K	512	—	512	4-CH + 4-CH 16-Bit IC, OC, or PWM	51	SCI SPI	8-CH 8-Bit	See Timer	Y	5.0	8.0	C, M	64 QFP (FU)	908AB32	Available	Programmable interrupt timer module	MC68HC08AB16A/D
MC68HC908AB32	—	1K	32K FLASH	512	4-CH + 4-CH 16-Bit IC, OC, or PWM	51	SCI SPI	8-CH 8-Bit	See Timer	Y	5.0	8.0	C, V, M	64 QFP (FU)	—	Available	Programmable interrupt timer module. Sample pack part numbers: MC908AB32CFU/MFU/VFU	MC68HC908AB32/D
MC68HC908AS60	MC908AS60A is a pin-compatible replacement.																	
MC908AS60A	—	2K	60K FLASH	1K	6-CH + 2-CH 16-Bit IC, OC, or PWM	40/50	SCI SPI	15-CH 8-Bit	See Timer	Y	5.0	8.4	C, V, M	64 QFP (FU) 52 PLCC (FN)	—	Available	J1850; MC908AS60A is pin-for-pin compatible replacement for MC68HC908AS60.	MC68HC908AZ60A/D
XC68HC08AZ32	32K	1K	—	512	4-CH + 2-CH 16-Bit IC, OC, or PWM	40/50	SCI SPI CAN	8-CH or 15-CH 8-Bit	See Timer	Y	5.0	8.4	C, V, M	64 QFP (FU) 52 PLCC (FN)	908AZ60A	Available	CAN 2.0A & 2.0B	MC68HC08AZ32/D
MC68HC908AZ60	MC908AZ60A is a pin-compatible replacement.																	
MC908AZ60A	—	2K	60K FLASH	1K	6-CH + 2-CH 16-Bit IC, OC, or PWM	50	SCI SPI CAN	15-CH 8-Bit	See Timer	Y	5.0	8.4	C, V, M	64 QFP (FU)	—	Available	MC908AZ60A is pin-for-pin compatible replacement for MC68HC908AZ60. CAN 2.0A & 2.0B	MC68HC908AZ60A/D
MC68HC08AZ60	60K	2K	—	1K	6-CH + 2-CH 16-Bit IC, OC, or PWM	48	SCI SPI CAN	15-CH 8-Bit	See Timer	Y	5.0	8.4	C, V, M	64 QFP (FU)	908AZ60	Available	CAN 2.0A & 2.0B	MC68HC08AZ60/D
MC68HC08BD24	24K	512	—	—	2-CH 16-Bit IC, OC, or PWM	32	I ² C DDC12AB	6-CH 8-Bit	16-CH, 8-Bit	Y	5.0	6.0	I	42 SDIP (B) 44 QFP (FB)	908BD48	Available	For use in digital monitor systems; sync signal processor	MC68HC08BD24/D
MC68HC908BD48	—	1024	48K FLASH	—	2-CH 16-Bit IC, OC, or PWM	32	USB, I ² C DDC12AB	6-CH 8-Bit	16-CH, 8-Bit	Y	5.0	6.0	I	42 SDIP (B) 44 QFP (FB) 28 DIP (P)	—	Available	For use in digital monitor systems; sync signal processor	MC68HC908BD48/D
MC68HC08GP32	32K	512	—	—	Dual 2-CH 16-Bit IC, OC, or PWM	33	SCI SPI	8-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C, V, M	44 QFP (FB) 42 SDIP (B)	908GP32	Available	32-kHz PLL, timebase module, low-voltage inhibit with selectable trip points.	MC68HC908GP32/H
MC68HC908GP32	—	512	32K FLASH	—	Dual 2-CH 16-Bit IC, OC, or PWM	33	SCI SPI	8-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C	40 DIP (P) 44 QFP (FB) 42 SDIP (B)	—	Available	32-kHz PLL, timebase module, low-voltage inhibit with selectable trip points. Sample pack part numbers: KMC908GP32CFB, KMC908GP32CP, KMC908GP32CB	MC68HC908GP32/H
MC68HC908GR4	—	384	4K FLASH	—	2-CH + 1-CH 16-Bit IC, OC, or PWM	21	SCI SPI	6-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C	28 DIP (P) 32 QFP (FA) 28 SOIC (DW)	—	Available	28-/32-pin 4K FLASH version of the 908GP32. 32-kHz PLL, timebase module, all pins 10 mA, programmable pull-ups on all I/O, extra 2-CH A/D in 32 QFP	MC68HC908GR8/D
MC68HC908GR8	—	384	75K FLASH	—	2-CH + 1-CH 16-Bit IC, OC, or PWM	21	SCI SPI	4-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C	28 SOIC (DW) 28 DIP (P) 32 QFP (FA)	—	Available	28-/32-pin 8K FLASH version of 908GP32, has timebase module	MC68HC908GR8/D

68HC08 FAMILY

68HC08 Product Table (continued)

For complete part number information and temperature definitions, refer to “Product Numbering System for 68HC08” on page SG1006-10.

Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Freq (MHz)	Temp	Packaging	OTP or FLASH	Status	Additional Information	Documentation
MC68HC908GT8	—	512	8K FLASH	—	Dual 2-CH 16-Bit IC, OC, or PWM	36	SCI SPI	8-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C	44 QFP (FB) 42 SDIP (B)	—	Available	Internal clock generator, timebase module, low-voltage inhibit with selectable trip points.	MC68HC908GT16/D
MC68HC908GT16	—	512	16K FLASH	—	Dual 2-CH 16-Bit IC, OC, or PWM	36	SCI SPI	8-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C	44 QFP (FB) 42 SDIP (B)	—	Available	Internal clock generator, timebase module, low-voltage inhibit with selectable trip points.	MC68HC908GT16/D
MC68HC08JB1	5.5K	128	—	—	2-CH 16-Bit IC, OC, or PWM	13	USB PS/2	—	See Timer	Y	5.0	3.0	0-70°C only	20 DIP (P) 20 SOIC (JDW)	908JB8	Available	Supports both USB and PS/2; 1.5 Mbps USB with 2 endpoints, low voltage reset, keyboard interrupt, 3.3 V bandgap reference	MC68HC08JB1/D
MC68HC08JB8	8K	256	—	—	2-CH 16-Bit IC, OC, or PWM	Up to 37	USB	—	See Timer	Y	4.0-5.5	3.0	0-70°C only	20 PDIP (JP) 20 SOIC (JDW) 28 SOIC (ADW) 44 QFP (FB)	908JB8	Available	Complies with USB 1.1 spec for low-speed USB (1.5 Mbps), LVI	MC68HC908JB8/D
MC68HC908JB8	—	256	8K FLASH	—	2-CH 16-Bit IC, OC, or PWM	Up to 37	USB	—	See Timer	Y	5.0	3.0	0-70°C only	20 DIP (P) 28 SOIC (DW) 44 QFP (FB) 20 SOIC (JDW)	—	Available	Complies with USB 1.1 spec for low-speed USB (1.5 Mbps). On-chip 3.3 V regulator	MC68HC908JB8/D
MC68HC908JB16	—	384	16K FLASH	—	Dual 2-CH 16-Bit IC, OC, or PWM	21	USB PS/2 SCI	—	See Timer	Y	4.0-5.5	3.0	—	32 LQFP 28 SOIC	—	Available	Supports both USB and PS/2; 1.5 Mbps USB with 3 endpoints, low voltage reset, 8 Keyboard Interrupt, 3.3 V bandgap reference, dual 27 MHz PLL, 6 direct LED drive I/Os	MC68HC908JB16/D
MC68HC908JG16	—	384	16K FLASH	—	Dual 2-CH 16-Bit IC, OC, or PWM	20	USB PS/2 SCI	8-CH 8-Bit	See Timer	Y	4.0-5.5	3.0	—	32 LQFP	—	Available	Supports both USB and PS/2; 1.5 Mbps USB with 3 endpoints, low voltage reset, 8 Keyboard Interrupt, 3.3 V bandgap reference, 6 direct LED drive I/Os	MC68HC908JG16/D
MC68HC908JK1	—	128	1.5K FLASH	—	2-CH 16-Bit IC, OC, or PWM	15	—	12-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C, M	20 DIP (P) 20 SOIC (DW)	—	Available	RC oscillator option, LVR with selectable trip points, 6-pin LED drive. Sample pack part number: see MC68HC908JK3	MC68HC908JK1/H
MC68HC908JK3	—	128	4K FLASH	—	2-CH 16-Bit IC, OC, or PWM	15	—	12-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C, M	20 DIP (P) 20 SOIC (DW)	—	Available	RC oscillator option, LVR with selectable trip points, 6-pin LED drive. Sample pack part numbers: KMC908JK3CP, KMC908JK3CDW, KMCR908JK3CP, KMCR908JK3CDW	MC68HC908JK3/H
MC68HC08JK3	4K	128	—	—	2-CH 16-Bit IC, OC, or PWM	15	—	12-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C, M	20 DIP (P) 20 SOIC (DW)	908JK3	Available	RC oscillator option: 68HRC08JK3, LVR with selectable trip points, 6-pin LED drive	MC68HC08JK3/H

68HC08 Product Table (continued)

For complete part number information and temperature definitions, refer to "Product Numbering System for 68HC08" on page SG1006-10.

Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Freq (MHz)	Temp	Packaging	OTP or FLASH	Status	Additional Information	Documentation
MC68HC908JL3	—	128	4K FLASH	—	2-CH 16-Bit IC, OC, or PWM	23	—	12-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C, M	28 DIP (P) 28 SOIC (DW) 48 LQFP (FA)	—	Available	RC oscillator option, LVR with selectable trip points, 6-pin LED drive. Sample pack part numbers: KMC908JL3CP, KMC908JL3CDW, KMCR908JL3CP, KMCR908JL3CDW	MC68HC908JL3/H
MC68HC08JL3	4K	128	—	—	2-CH 16-Bit IC, OC, or PWM	23	—	12-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C, M	28 DIP (P) 28 SOIC (DW) 48 LQFP (FA)	908JL3	Available	RC oscillator option: 68HRC08JL3, LVR with selectable trip points, 6-pin LED drive	MC68HC908JL3/H
MC68HC08JT8	8K	256	—	—	2-CH 16-Bit IC, OC, or PWM	Up to 37	—	—	See Timer	Y	2.0-3.6	3.0	0-70°C only	20 PDIP (JP) 20 SOIC (JDW) 28 SOIC (ADW) 44 QFP (FB)	—	Available		MC68HC908JB8/D
MC68HC908KX2	—	192	2K FLASH	—	2-CH 16-Bit IC, OC, or PWM	13	SCI	4-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C, V, M	16 DIP (P) 16 SOIC (DW)	—	Available	Internal clock generator (ICG) Sample pack part numbers: KMC908KX2CDW, KMC908KX2CP	MC68HC908KX8/D
MC68HC908KX8	—	192	8K FLASH	—	2-CH 16-Bit IC, OC, or PWM	13	SCI	4-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C, V, M	16 DIP (P) 16 SOIC (DW)	—	Available	Internal clock generator (ICG) Sample pack part numbers: KMC908KX8CDW, KMC908KX8CP	MC68HC908KX8/D
MC68HC908LD60	—	1K	60K FLASH	—	2-CH 16-Bit IC, OC, or PWM	39	I ² C, DDC12AB	6-CH 8-Bit	8-CH 8-Bit	Y	3.3	6.0	C	64 QFP (FU)	—	Available	For use in digital monitor systems.	MC68HC908LD60/D
MC68HC908LD64	—	2K	60K FLASH	—	2-CH 16-Bit IC, OC, or PWM	39	I ² C, DDC12AB USB w/ hub	6-CH 8-Bit	8-CH 8-Bit	Y	3.3	6.0	C	64 QFP (FU)	—	Available	For use in digital monitor systems. USB 1.1, composite hub w/ embedded functions. Sync signal processor, on-screen display (OSD) module.	MC68HC908LD64/D
MC68HC908LJ12	—	512	12K FLASH	—	2-CH 16-Bit IC, OC, or PWM	32	SCI SPI	6-CH 10-Bit	See Timer	Y	2.4-5.5	8.0	C	64 QFP (FU) 64 LQFP (FB) 52 QFP (FB)	—	Available	LCD driver module: 4/3 backplanes with maximum 26 front planes. Real-time clock, IR modulation/demodulation	MC68HC908LJ12/D
MC68HC908MR8	—	256	8K FLASH	—	2-CH + 2-CH 16-Bit IC, OC, or PWM	14	SCI	4- to 7-CH, 10-Bit	6-CH 12-Bit	Y	5.0	8.0	C, V	32 LQFP (FA) 28 PDIP (DW) 28 SOIC (CP)	—	Available		MC68HC908MR8/D
MC68HC908MR16	—	768	16K FLASH	—	4-CH + 2-CH 16-Bit IC, OC, or PWM	44	SCI SPI	10-CH 10-Bit	See Timer + 6-CH 12-Bit	Y	5.0	8.0	C, V	64 QFP (FU) 56 SDIP (B)	—	Available	PWM for 3-phase motor control. Sample pack part numbers: KMC908MR16VFU/VB	MC68HC908MR32/D
MC68HC908MR32	—	768	32K FLASH	—	4-CH + 2-CH 16-Bit IC, OC, or PWM	44	SCI SPI	10-CH 10-Bit	See Timer + 6-CH 12-Bit	Y	5.0	8.0	C, V	64 QFP (FU) 56 SDIP (B)	—	Available	PWM for 3-phase motor control. Sample pack part numbers: KMC908MR32VFU/VB	MC68HC908MR32/D
MC68HC908QT1	—	128	1.5K FLASH	—	2-CH 16-Bit IC, OC, or PWM	6	—	—	See Timer	Y	3.0, 5.0	8.0	C	8 SOIC (DW) 8 DIP (P)	—	Available	Trimmable (±25%) 3.2 MHz internal OSC (±5% accuracy), external RC, external clock, or external resonator/XTAL, selectable trip point LVI, auto wake up from stop, KBI	MC68HC908QY4/D

68HC08 FAMILY

68HC08 Product Table (continued)

For complete part number information and temperature definitions, refer to "Product Numbering System for 68HC08" on page SG1006-10.

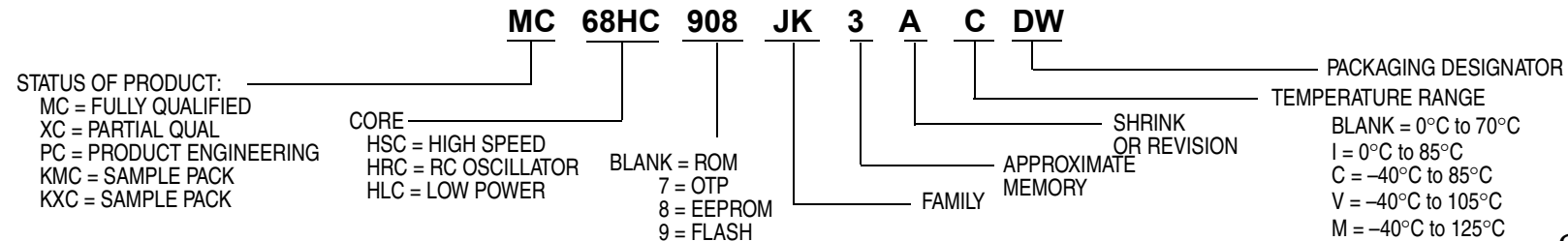
Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Freq (MHz)	Temp	Packaging	OTP or FLASH	Status	Additional Information	Documentation
MC68HC908QT2	—	128	1.5K FLASH	—	2-CH 16-Bit, IC, OC, or PWM	6	—	4-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C	8 SOIC (DW) 8 DIP (P)	—	Available	Trimable ($\pm 25\%$) 3.2 MHz internal OSC ($\pm 5\%$ accuracy), external RC, external clock, or external resonator/XTAL, selectable trip point LVI, auto wake up from stop, KBI	MC68HC908QY4/D
MC68HC908QT4	—	128	4K FLASH	—	2-CH 16-Bit, IC, OC, or PWM	6	—	4-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C	8 SOIC (DW) 8 DIP (P)	—	Available	Trimable ($\pm 25\%$) 3.2 MHz internal OSC ($\pm 5\%$ accuracy), external RC, external clock, or external resonator/XTAL, selectable trip point LVI, auto wake up from stop, KBI	MC68HC908QY4/D
MC68HC908QY1	—	128	1.5K FLASH	—	2-CH 16-Bit, IC, OC, or PWM	14	—	—	See Timer	Y	3.0, 5.0	8.0	C	16 SOIC (DW) 16 PDIP (P) 16 TSSOP (DT)	—	Available	Trimable ($\pm 25\%$) 3.2 MHz internal OSC ($\pm 5\%$ accuracy), external RC, external clock, or external resonator/XTAL, selectable trip point LVI, auto wake up from stop, KBI	MC68HC908QY4/D
MC68HC908QY2	—	128	1.5K FLASH	—	2-CH 16-Bit, IC, OC, or PWM	14	—	4-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C	16 SOIC (DW) 16 PDIP (P) 16 TSSOP (DT)	—	Available	Trimable ($\pm 25\%$) 3.2 MHz internal OSC ($\pm 5\%$ accuracy), external RC, external clock, or external resonator/XTAL, selectable trip point LVI, auto wake up from stop, KBI	MC68HC908QY4/D
MC68HC908QY4	—	128	4K FLASH	—	2-CH 16-Bit, IC, OC, or PWM	14	—	4-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C	16 SOIC (DW) 16 PDIP (P) 16 TSSOP (DT)	—	Available	Trimable ($\pm 25\%$) 3.2 MHz internal OSC ($\pm 5\%$ accuracy), external RC, external clock, or external resonator/XTAL, selectable trip point LVI, auto wake up from stop, KBI	MC68HC908QY4/D
MC68HC908RF2	—	128	2K FLASH	—	1-CH 16-Bit	12	—	—	See Timer	Y	1.8–3.6	4.0	C, M	32 LQFP (FA)	—	Available	RF transmitter integrated	MC68HC908RF2/D
MC68HC908RK2	—	128	2K FLASH	—	2-CH 16-Bit	14	—	—	See Timer	Y	1.8–3.6	4.0	C	20 SSOP (SD)	—	Available	Low-power embedded FLASH routine	MC68HC908RK2/D
MC68HC908SR12	—	512	12K FLASH	—	Dual 2-CH 16-Bit, IC, OC, or PWM	Up to 31	I ² C, SCI	14-CH 10-Bit	See Timer + 3-CH, 8-Bit (125 kHz)	Y	3.0, 5.0	8.0	C, M	48 QFP (FA) 42 SDIP (B)	—	Available	RC oscillator, 32-kHz PLL, internal oscillator options, 8 keyboard interrupts, TBM, temperature sensor, current detect with amplifier, I ² C supports SMBus version 1.0/1.1.	MC68HC908SR12/D

68HC08 Reference Manuals

CPU08RM/AD, HC08 CPU Reference Manual

TIM08RM/AD, HC08 Timer Reference Manual

Product Numbering System for 68HC08



68HC11 FAMILY

68HC11 Product Table

For complete part number information and temperature definitions, refer to "Product Numbering System for 68HC11" on page SG1006-12.

Product	ROM (Bytes)	RAM (Bytes)	EPROM/OTP (Bytes)	EEPROM (Bytes)	Timer	I/O S.C.	I/O EXP	Serial	A/D	PWM	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp	Packaging	OTP	Status	Additional Information	Documentation
MC68HC11D0	—	192	—	—	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	—	16	SCI SPI	—	—	3.0, 5.0	3.0	C, V, M	40 PDIP (P) 44 QFP (FB) 44 PLCC (FN)	711D3	Available	64 K external address bus, 3 V 2 MHz version (MC68L11D0) Sample pack part numbers: KMC11D0CFN3, KMC11D0CP3, KMC11D0CFB3	MC68HC11D3/D
MC68HC11D3	4K	192	—	—	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	32	16	SCI SPI	—	—	3.0, 5.0	3.0	C, V, M	40 PDIP (P) 44 QFP (FB) 44 PLCC (FN)	711D3	Available	64 K external address bus, 3 V 2 MHz version (MC68L11D3)	MC68HC11D3/D
MC68HC711D3	—	192	4K	—	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	32	16	SCI SPI	—	—	5.0	3.0	C, V, M	40 PDIP (P) 44 QFP (FB) 44 PLCC (FN)	—	Available	64 K external address bus, 3 MHz available in C temperature range only. Sample pack part numbers: KMC711D3CFB3, KMC711D3CFN3/MFN3, KMC711D3CP3/MP3	MC68HC711D3/D
MC68HC11E0	—	512	—	—	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	—	22	SCI SPI	8-CH 8-Bit	—	3.0, 5.0	3.0	C, V, M	52 PLCC (FN) 64 QFP (FU) 52 LQFP (PB)	711E9	Available	3 V 2 MHz version (MC68L11E0) Sample pack part numbers: KMC11E0CFN3/VFN3/MFN3, KMC11E0CFU3, KMC11D0CP3	MC68HC11E/D
MC68HC11E1	—	512	—	512	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	—	22	SCI SPI	8-CH 8-Bit	—	3.0, 5.0	3.0	C, V, M	52 PLCC (FN) 64 QFP (FU) 52 LQFP (PB)	711E9	Available	3 V 2 MHz version (MC68L11E1) Sample pack part numbers: KMC11E1CFN3/VFN3/MFN3, KMC11E1CFU3, KMC11E1CP3	MC68HC11E/D
MC68HC11E20	20K	768	—	512	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	38	22	SCI SPI	8-CH 8-Bit	—	5.0	3.0	C, V, M	52 PLCC (FN) 64 QFP (FU)	711E20	Available	Enhanced baud rate for 3 MHz operation. Automotive qual complete	MC68HC11E/D
MC68HC711E20	—	768	20K	512	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	38	22	SCI SPI	8-CH 8-Bit	—	5.0	4.0	C, V, M	52 PLCC (FN) 64 QFP (FU)	—	Available	Enhanced baud rate for 3 MHz operation. Sample pack part numbers: KMC711E20MFN3, KMC711E20CFN4, KMC711E20CFU4	MC68HC11E/D
MC68HC11E9	12K	512	—	512	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	38	22	SCI SPI	8-CH 8-Bit	—	3.0, 5.0	3.0	C, V, M	52 PLCC (FN) 64 QFP (FU) 52 LQFP (FB) 48 DIP (P)	711E9	Available	3 V 2 MHz version (MC68L11E9)	MC68HC11E/D
MC68HC711E9	—	512	12K	512	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	38	22	SCI SPI	8-CH 8-Bit	—	5.0	3.0	C, V, M	52 PLCC (FN) 64 QFP (FU)	—	Available	EEPROM block protect. Secure version (MC68S711E9). Sample pack part number: KMC711E9CFN4	MC68HC11E/D
MC68HC11F1	—	1K	—	512	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	—	30	SCI SPI	8-CH 8-Bit	—	3.0, 5.0	5.0	C, V, M	68 PLCC (FN) 80 LQFP (PU)	—	Available	64 K ext. addr. bus, 4 prog. chip sel, non-mux address/data bus, 3 V 3 MHz version (MC68L11F1). Sample pack part numbers: KMC11F1CPU4, KMC11F1CPU5, KMC68L11F1CPU3, KMC11F1CFN3/4/5	MC68HC11F1/D
MC68HC11K0	—	768	—	—	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	—	37	SCI+ SPI	8-CH 8-Bit	4-CH 8-Bit or 2-CH 16-Bit	3.0, 5.0	2.0, 3.0, 4.0, 5.0	C, V, M	84 PLCC (FN) 80 QFP (FU)	—	Available	Non-mux bus, extended memory map, 4 chip selects, 3 V 3 MHz version (MC68L11K0). Sample pack part number: KMC11K0CFN3/4	MC68HC11K4/D
MC68HC11K1	—	768	—	640	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	—	37	SCI+ SPI	8-CH 8-Bit	4-CH 8-Bit or 2-CH 16-Bit	3.0, 5.0	5.0	C, V, M	84 PLCC (FN) 80 QFP (FU)	—	Available	Non-mux bus, extended memory map, 4 chip selects, 3 V 3 MHz version (MC68L11K1). Sample pack part numbers: KMC68L11K1FU2, KMC11K1CFN3/4	MC68HC11K4/D

68HC11 FAMILY

68HC11 Product Table (Continued)

For complete part number information and temperature definitions, refer to “Product Numbering System for 68HC11” on page SG1006-12.

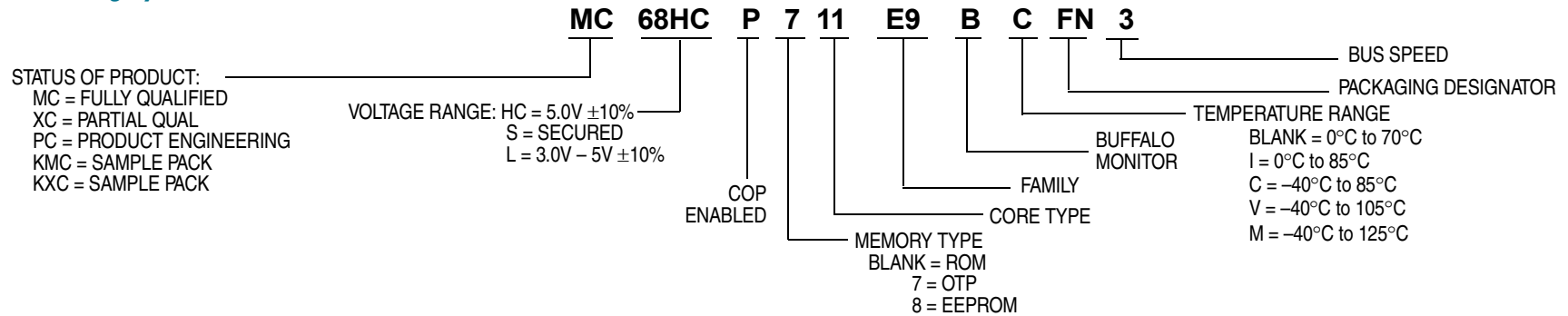
Product	ROM (Bytes)	RAM (Bytes)	EPROM/OTP (Bytes)	EEPROM (Bytes)	Timer	I/O S.C.	I/O EXP	Serial	A/D	PWM	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp	Packaging	OTP	Status	Additional Information	Documentation
MC68HC11K4	24K	768	—	640	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	62	37	SCI+ SPI	8-CH 8-Bit	4-CH 8-Bit or 2-CH 16-Bit	3.0, 5.0	5.0	C, V, M	84 PLCC (FN) 80 QFP (FU)	711K4 (limited)	Available	Non-mux bus, extended memory map, 4 chip selects, 3 V 3 MHz version (MC68L11K4) Automotive qual complete	MC68HC11K4/D
MC68HC11KW1	—	768	—	640	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	—	55	SCI+ SPI	10-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	4.0	C	100 LQFP (PU)	—	Available	4 MHz non-mux bus, 2 extra timers, 4 chip selects extended, memory map up to 1 Mbyte	MC68HC11KW1/D
MC68HC11P1	—	1K	—	640	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	62	37	Triple SCI SPI	8-CH 8-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	4.0	C	84 PLCC (FN)	711P2 (limited)	Available	64K external address bus, MI-bus interface, PLL clock circuitry	MC68HC11P2/D
MC68HC11P2	32K	1K	—	640	16-Bit, 3/4 IC, 4/5 OC, RTI, pulse accumulator	62	37	Triple SCI SPI	8-CH 8-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	4.0	C	84 PLCC (FN)	711P2 (limited)	Available	64K external address bus, MI-bus interface, PLL clock circuitry	MC68HC11P2/D

All 68HC11 MCUs incorporate a COP watchdog timer.

68HC11 Reference Manual

M68HC11RM/D, 68HC11 Reference Manual

Product Numbering System for 68HC11



68HC12 FAMILY

68HC12 Product Table

For complete part number information and temperature definitions, refer to “Product Numbering System for 68HC12” on page SG1006-14.

Product	ROM (Bytes)	RAM (Bytes)	EEPROM (Bytes)	FLASH (Bytes)	Timer	I/O	Serial	A/D	PWM	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp	Packaging	Status	Additional Information	Documentation
MC68HC812A4	—	1K	4K	—	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 91	Dual SCI SPI	8-CH 8-Bit	—	3.3, 5.0	8.0 5.0	C	112 LQFP (PV) 100 LQFP (PV)	Available	Non-muxed bus, 7 programmable chip selects, KBI (24 pins), PLL, BDM, 5Mbyte external memory, 3.0–3.6 V 5 MHz version (XC68C812A4) Sample pack part numbers: KXC68C812A4PV5, KXC812A4CPV8	MC68HC812A4/D
MC68HC912B32	—	1K	768	32K	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 63	SCI, SPI J1850	8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	80 QFP (FU)	Available	J1850, muxed bus, BDM Sample pack part numbers: KMC912B32CFU/VFU/MFU	MC68HC912B/D
XC912BC32	—	1K	768	32K	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 63	SCI, SPI CAN	8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	4.5–5.5	8.0	C, V, M	80 QFP (FU)	Available	MSCAN CAN 2.0B, BDM Sample pack part number: KXC912BC32CFU8	MC68HC912B/D
MC68HC12BC32	32K	1K	768	—	8-CH 16-Bit	Up to 63	SCI, SPI	8-CH 10-Bit	4-CH 8-Bit	5.0	8.0	C, V, M	80 QFP (FU)	Available	Part equipped with CAN 2.0A/B	MC68HC912B32TS/D
MC68HC12BE32	32K	1K	768	—	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 63	SCI, SPI J1850	8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C	80 QFP (FU)	Available	BDM, enhanced timer Evaluation product with on-chip monitor: XC12BE32DCFU8 Sample pack part number: KXC12BE32DCFU8	MC68HC912B/D
MC912D60A	—	2 K	1K	60K	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 66 i/o and 18 i	Dual SCI SPI, CAN	8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	Available	Replaces the XC68HC912D60 with 5-V FLASH voltage and a different programming algorithm.	MC68HC912D60/D
XC68HC12D60	60K	2K	1K	—	8-CH 16-Bit	Up to 66 i/o and 18 i	Dual SCI SPI	Dual 8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	Available	Part equipped with CAN 2.0A/B	MC68HC912D60/D
MC912DG128	MC912DG128A is a pin-compatible replacement.															
MC912DG128A	—	8K	2K	128K	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 67 i/o and 18 i	Dual SCI SPI, CAN	8-CH or 16-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	112 LQFP (PV)	Available	Replaces the XC912DG128 with 5-V FLASH voltage and a different programming algorithm.	MC68HC912DG128/D
MC68HC912DT128A	—	8K	2K	128K	8-CH 16-Bit	Up to 66 i/o and 18 i	Dual SCI, SPI	Dual 8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	112 LQFP (PV)	Available	Part equipped with 3xCAN 2.0A/B	MC68HC912DT128/D

All 68HC12 MCUs incorporate a COP watchdog timer.

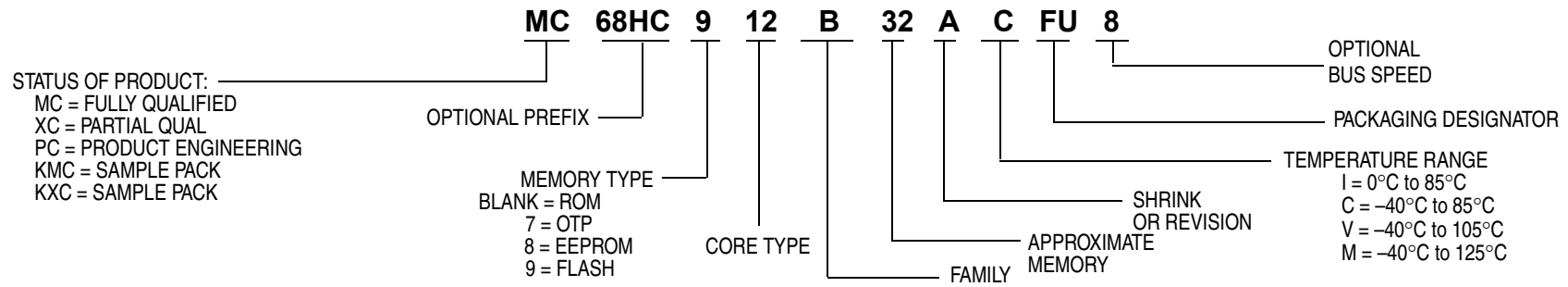
68HC12 Reference Manual

CPU12RM/AD, HC12 CPU Reference Manual

68HC12 FAMILY

68HC12 FAMILY

Product Numbering System for 68HC12



HCS12 FAMILY

HCS12 Product Table

HCS12 Dx and A Family devices offer pin-for-pin compatibility.

For complete part number information and temperature definitions, refer to "Product Numbering System for HCS12" on page SG1006-16.

Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	MUX	A/D	PWM	Operating Voltage (V)	Operating Frequency (MHz)	Temp (Note)	Packaging	FLASH or OTP	Status	Additional Information	Documentation
MC9S12A128B	—	8K	128K FLASH	2K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 2 SPI IIC	—	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C	80 QFP (FU) 112 LQFP (PV)	—	Available		9S12A128DGV1/D CPU12RM/AD
MC9S12A64	—	4K	64K FLASH	1K	8-CH, 16-Bit	Up to 91	2 SCI 1 SPI IIC	—	Up to 2 x 8-CH 10-Bit	8-CH 8-Bit or 4-CH 16-Bit	5.0	25.0	C	80 QFP (FU) 112 LQFP (PV)	—	Available	The 80 QFP differs from the 112 LQFP in that it offers only up to 59 I/O, has 1 x 8-CH A/D, and has 7-CH PWM.	9S12A64DGV1/D CPU12RM/AD
MC9S12D64	—	4K	64K FLASH	1K	8-CH, 16-Bit	Up to 91	2 SCI 1 SPI IIC	1 CAN 2.0A / 2.0B	Up to 2 x 8-CH 10-Bit	8-CH 8-Bit or 4-CH 16-Bit	5.0	25.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	—	Available	The 80 QFP differs from the 112 LQFP in that it offers only up to 59 I/O, has 1 x 8-CH A/D, and has 7-CH PWM.	9S12DJ64DGV1/D CPU12RM/AD
MC9S12DJ64	—	4K	64K FLASH	1K	8-CH, 16-Bit	Up to 91	2 SCI 1 SPI IIC	1 CAN 2.0A / 2.0B and 1 x J1850	Up to 2 x 8-CH 10-Bi	8-CH 8-Bit or 4-CH 16-Bit	5.0	25.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	—	Available	The 80 QFP differs from the 112 LQFP in that it offers only up to 59 I/O, has 1 x 8-CH A/D, and has 7-CH PWM.	9S12DJ64DGV1/D CPU12RM/AD
MC9S12DG128B	—	8K	128K FLASH	2K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 2 SPI IIC	2 CAN	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	—	Available	The 80 QFP differs from the 112 LQFP in that it offers only up to 59 I/O, has 1 x 8-CH A/D, and has 7-CH PWM.	9S12DT128BDGV1/D CPU12RM/AD
MC9S12DJ128B	—	8K	128K FLASH	2K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 2 SPI IIC	2 CAN and 1 x J1850	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	—	Available	The 80 QFP differs from the 112 LQFP in that it offers only up to 59 I/O, has 1 x 8-CH A/D, and has 7-CH PWM.	9S12DT128BDGV1/D CPU12RM/AD
MC9S12DT128B	—	8K	128K FLASH	2K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 2 SPI IIC	3 CAN	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C, V, M	112 LQFP (PV)	—	Available		9S12DT128BDGV1/D CPU12RM/AD
MC9S12A256B	—	12K	256K FLASH	4K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 3 SPI IIC	—	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C	80 QFP (FU) 112 LQFP (PV)	—	Available		9S12A256DGV1/D CPU12RM/AD
MC9S12DG256B	—	12K	256K FLASH	4K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 3 SPI IIC	2 CAN	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C, V, M	112 LQFP (PV)	—	Available		9S12DP256BDGV2/D CPU12RM/AD
MC9S12DJ256B	—	12K	256K FLASH	4K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 3 SPI IIC	2 CAN and 1 x J1850	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	—	Available	The 80 QFP differs from the 112 LQFP in that it offers only up to 59 I/O, has 1 x 8-CH A/D, and has 7-CH PWM.	9S12DP256BDGV2/D CPU12RM/AD

HCS12 FAMILY

HCS12 FAMILY

HCS12 Product Table (Continued)

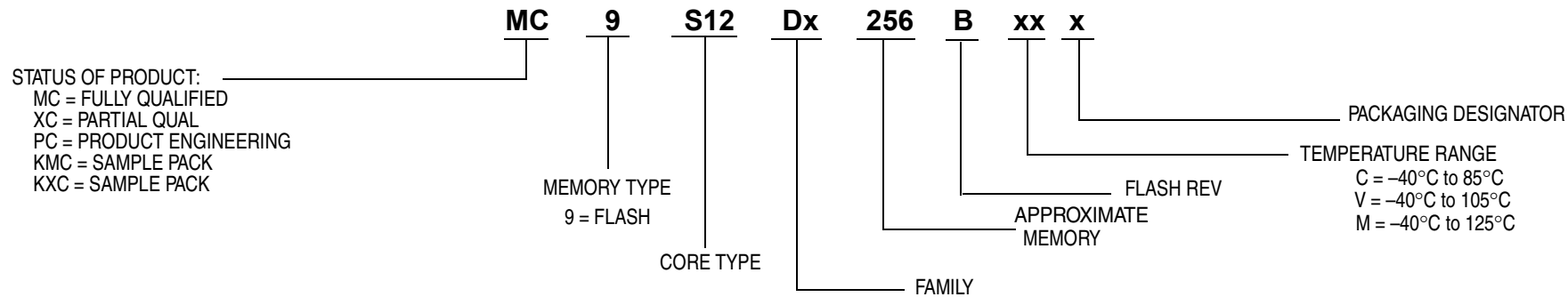
HCS12 Dx and A Family devices offer pin-for-pin compatibility.

For complete part number information and temperature definitions, refer to "Product Numbering System for HCS12" on page SG1006-16.

Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	MUX	A/D	PWM	Operating Voltage (V)	Operating Frequency (MHz)	Temp (Note)	Packaging	FLASH or OTP	Status	Additional Information	Documentation
MC9S12DP256B	—	12K	256K FLASH	4K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 3 SPI IIC	5 CAN	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C, V, M	112 LQFP (PV)	—	Available		9S12DP256BDGV2/D CPU12RM/AD
MC9S12DT256B	—	12K	256K FLASH	4K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 3 SPI IIC	3 CAN	2 x 8-CH 106-Bit	8-CH	5.0	25.0	C, V, M	112 LQFP (PV)	—	Available		9S12DP256BDGV2/D CPU12RM/AD
MC9S12H128B	—	12K	128K FLASH	4K	8-CH, 16-Bit	99 plus 18 inputs	SCI SPI IIC	2 CAN 2.0A / 2.0B	16-CH 10-Bit	16-CH 8-Bit or 3-CH 16-Bit	5.0	16.0	V	112 LQFP (PV)	—	Available		9S12H256BDGV1/D CPU12RM/AD
MC9S12H256B	—	12K	256K FLASH	4K	8-CH, 16-Bit	99 plus 18 inputs	SCI SPI IIC	2 CAN 2.0A / 2.0B	16-CH 10-Bit	16-CH 8-Bit or 3-CH 16-Bit	5.0	16.0	C, V, M	112 LQFP (PV) 144 LQFP (FV)	—	Available		9S12H256BDGV1/D CPU12RM/AD

Note: M temperature range limited to single-chip mode

Product Numbering System for HCS12



DSP56800 Family General Purpose 16-Bit Fixed Point

Product	Performance	Program ROM/RAM/FLASH	Data ROM/RAM/FLASH	Peripherals	Packaging	Additional Information
DSP56F801FA80	80 MHz 40 MIPS	– / 1K / 8K (words)	– / 1K / 2K (words)	SCI, SPI, ADC, PWM, Quad Timer	48 LQFP	MCU friendly instruction set, OnCE for debug, on-chip relaxation oscillator, 2K BootFLASH, up to 11 GPIO. Order 2-unit sample pack as SPAK56801FA80. S, MOQ of 250.
DSP56F802TA80	80 MHz 40 MIPS	– / 1K / 8K (words)	– / 1K / 2K (words)	SCI, ADC, PWM, Quad Timer	32 LQFP	MCU friendly instruction set, OnCE for debug, on-chip relaxation oscillator, 2K BootFLASH, up to 4 GPIO. Order 2-unit sample pack as SPAK56802TA80. S, MOQ of 250.
DSP56F803BU80	80 MHz 40 MIPS	– / 512 / 32K (words)	– / 2K / 4K (words)	CAN, SCI, SPI, ADC, PWM, Quadrature Decoder, Quad Timer	100 LQFP	MCU friendly instruction set, OnCE for debug, 2K Boot Flash, external memory expansion available, up to 16 GPIO. Order 2-unit sample pack as SPAK56F803BU80. S, MOQ of 90.
DSP56F805FV80	80 MHz 40 MIPS	– / 512 / 32K (words)	– / 2K / 4K (words)	CAN, SCIs, SPI, ADC, PWMs, Quadrature Decoders, Quad Timers	144 LQFP	MCU friendly instruction set, OnCE for debug, 2K Boot Flash, external memory expansion available, up to 32 GPIO. SPAK56F805FV80. S, MOQ of 60.
DSP56F807PY80 (LQFP) DSP56F807VF80 (MAPBGA)	80 MHz 40 MIPS	– / 4K / 60K (words)	– / 2K / 8K (words)	CAN, SCIs, SPI, ADCs, PWMs, Quadrature Decoders, Quad Timers	160 LQFP 160 MAPBGA	MCU friendly instruction set, OnCE for debug, 2K Boot Flash, external memory expansion available, up to 32 GPIO. MOQ of 40 for LQFP. SPAK56F807PY80 or SPAK56F807VF80. S, for 2 piece samples, MOQ of 126 for MAPBGA.
DSP56F826BU80	80 MHz 40 MIPS	– / 512 / 32K (words)	– / 4K / 2K (words)	SCI, SPI, SSI, TOD, Quad Timer	100 LQFP	MCU friendly instruction set, OnCE for debug, 2K Boot Flash, external memory expansion available, up to 48 GPIO. SPAK56F826BU80. S, MOQ of 90.
DSP56F827FG80	80 MHz 40 MIPS	– / 1K / 64K (words)	– / 4K / 4K (words)	SCI, SPI, SSI, TOD, ADC, Quad Timer	128 LQFP	MCU friendly instruction set, OnCE for debug, external memory expansion available, up to 52 GPIO. SPAK56F827FG80. S, MOQ of 72.

DSP56800E FAMILY

DSP56800E Family General Purpose 16-Bit Fixed Point

Product	Performance (MHz)	Boot ROM/Program RAM data RAM	Off-Chip Memory Expansion (EMI)	Peripherals	Packaging	Additional Information
DSP56852VF120	120 MHz 120 MIPS	1K / 6K / 4K (words)	Up to 2M program and 6M of data	SCI, SPI, ISSI, EMI, COP, Quad Timer	81 MAPBGA	MCU friendly instruction set, Enhanced OnCE for debug, up to 4 programmable chip select signals, and up to 11 GPIO. Order 2-unit sample pack as SPAK56852VF120. S, MOQ of 348.
DSP56853FG120	120 MHz 120 MIPS	1K / 12K / 4K (words)	Up to 2M program and 8M of data	2 SCI, SPI, ESSI, HI, EMI, COP, DMA, TOD, Quad Timer	128 LQFP	MCU friendly instruction set, Enhanced OnCE for debug, 6 channels of DMA, up to 4 programmable chip select signals, and up to 41 GPIO. Order 2-unit sample pack as SPAK56853FG120. S, MOQ of 72
DSP56854FG120	120 MHz 120 MIPS	1K / 16K / 16K (words)	Up to 2M program and 8M of data	2 SCI, SPI, ESSI, HI, EMI, COP, DMA, TOD, Quad Timer	128 LQFP	MCU friendly instruction set, Enhanced OnCE for debug, 6 channels of DMA, up to 4 programmable chip select signals, and up to 41 GPIO. Order 2-unit sample pack as SPAK56854FG120. S, MOQ of 72
DSP56855BU120	120 MHz 120 MIPS	1K / 24K / 24K (words)	Up to 2M program and 8M of data	2 SCI, ESSI, EMI, COP, DMA, TOD, Quad Timer	100 LQFP	MCU friendly instruction set, Enhanced OnCE for debug, 6 channels of DMA, on-chip relaxation oscillator, up to 4 programmable chip select signals, and up to 18 GPIO. Order 2-unit sample pack as SPAK56855BU120. S, MOQ of 90
DSP56857BU120	120 MHz 120 MIPS	1K / 40K / 24K (words)	–	2 SCI, SPI, 2 ESSI, HI, COP, DMA, TOD, Quad Timer	100 LQFP	MCU friendly instruction set, Enhanced OnCE for debug, 6 channels of DMA, and up to 47 GPIO. Order 2-unit sample pack as SPAK56857BU120. S, MOQ of 90
DSP56858FV120 (LQFP) DSP56858VF120 (MAPBGA)	120 MHz 120 MIPS	1K / 40K / 24K (words)	Up to 2M program and 8M of data	2 SCI, SPI, 2 ESSI, HI, EMI, COP, DMA, TOD, Quad Timer	144 LQFP 144 MAPBGA	MCU friendly instruction set, Enhanced OnCE for debug, 6 channels of DMA, up to 4 programmable chip select signals, and up to 47 GPIO. Order 2-unit sample pack, S, MOQ of 90 for LQFP SPAK56858FV120 or MOQ of 160 for MAPBGA SPAK56858VF120.

68HC16 FAMILY

68HC16 Product Table

For complete part number information and temperature definitions, refer to "Product Numbering System for 68HC16" on page SG1006-19.

Product	ROM (Bytes)	RAM (Bytes)	FLASH (Bytes)	Product Integration	Timer	Serial	Analog	Operating Voltage (V)	Operating Frequency (MHz)	Temp	Packaging	FLASH	Status	Additional Information	Documentation
MC68HC16Z1	—	1K	—	SIM	GPT	SCI, queued SPI	8-CH 10-Bit	5.0	16, 20, 25	C, V, M ⁽¹⁾	132 PQFP(FC) 144 LQFP(PV)	—	Available	2.7 V–3.6 V 16 MHz version (MC68CK16Z1 in PV package only)	MC68HC16ZUM/AD
MC68HC16Z3	8K	4K	—	SIM	GPT	Serial SCI, queued SPI	8-CH 10-Bit	5.0	16, 20, 25	C, V, M ⁽¹⁾	132 PQFP(FC) 144 LQFP(PV)	—	Available	2.7 V–3.6 V 16 MHz version (MC68CK16Z1 in PV package only)	MC68HC16ZUM/AD

68HC16 Reference Manuals

CPU16RM/AD, HC16 CPU Reference Manual

SIMRM/AD, System Integration Module Reference Manual

TPURM/AD, Timer Processor Unit Reference Manual

GPTRM/AD, General-Purpose Timer Reference Manual

QSMRM/AD, Queued Serial Module Reference Manual

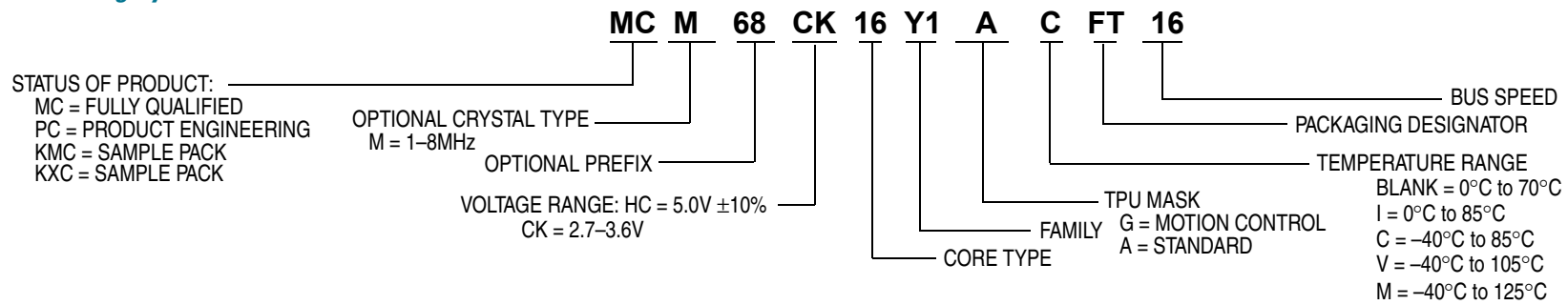
ADCRM/AD, Analog-to-Digital Converter Reference Manual

CTMRM/AD, Configurable Timer Module Reference Manual

MCCIRM/AD, Multi-Channel Communication Interface Reference Manual

SCIMRM/AD, Single-Chip Integration Module Reference Manual

Product Numbering System for 68HC16



683XX FAMILY

683XX FAMILY

683XX Product Table

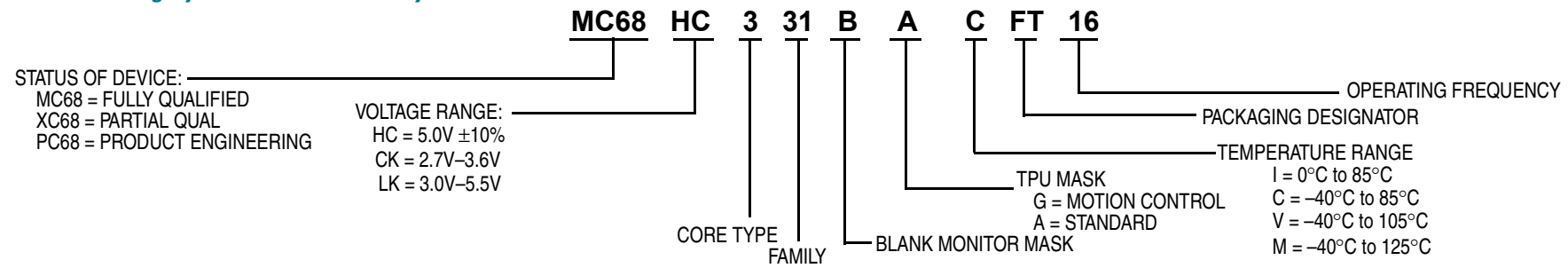
For complete part number information and temperature definitions, refer to "Product Numbering System for 683XX Family" on page SG1006-20.

Product	ROM (Bytes)	RAM (Bytes)	FLASH (Bytes)	Device Integration	Timer	Serial	A/D	Operating Voltage (V)	Operating Frequency (MHz)	Temp	Packaging	Status	Additional Information	Documentation
MC68331	—	—	—	SIM	GPT	SCI, queued SPI	—	5.0	16, 20, 25	C, V, M	132 PQFP 144 LQFP	Available	2.7V–3.6V 16MHz version (MC68CK331) Sample pack part numbers: KMC68331CPV25, KMC68331CFC20, KMC68331CFC2	MC68331UM/AD MC68CK331EC16/D
MC68332	—	2K	—	SIM	TPU	SCI, queued SPI	—	5.0	16, 20, 25	C, V, M	132 PQFP 144 LQFP	Available	3.0V–3.6V 16MHz version (MC68LK332) Sample pack part numbers: KMC68332ACFC20, KMC68332AMPV20	MC68332UM/AD MC68LK332EC16/D
MC68336	—	4K+3.5K	—	SIM	TPU CTM4	SCI, queued SPI	Queued 16-CH 10-Bit	5.0	20, 25	V, M	160 QFP	Available		MC68336/376PP/D MC68336/376UM/AD
MC68376	8K	4K+3.5K	—	SIM	TPU CTM4	TOUCAN, SCI, queued SPI	Queued 16-CH 10-Bit	5.0	20, 25	V, M	160 QFP	Available		MC68336/376PP/D MC68336/376UM/AD

683XX Reference Manuals

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

Product Numbering System for 683XX Family



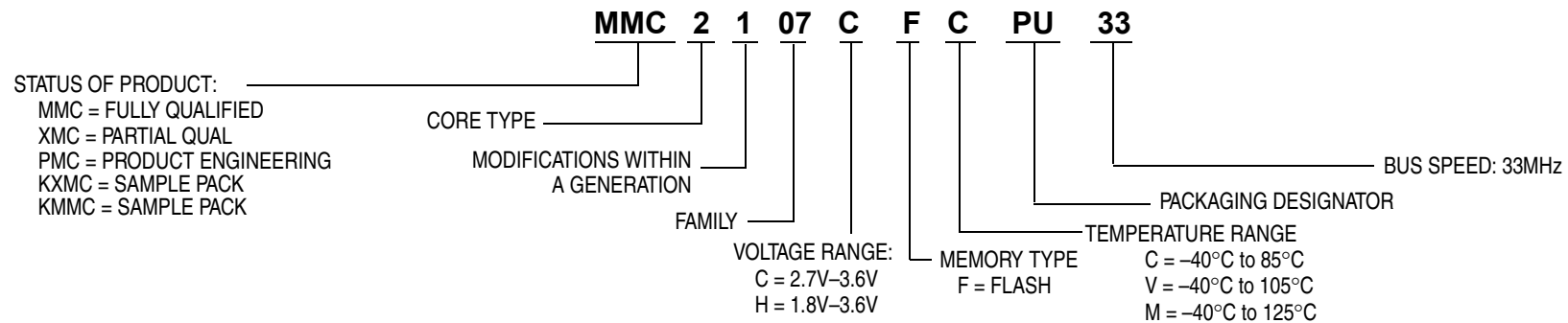
MMC2XXX FAMILY

MMC2XXX Product Table

For complete part number information and temperature definitions, refer to "Product Numbering System for MMC2XXX" on page SG1006-21.

Product	ROM (Bytes)	RAM (Bytes)	FLASH (Bytes)	Timer	PWM	Serial	A/D	Operating Voltage (V)	Operating Frequency (MHz)	Temp	Packaging	Status	Additional Information	Documentation
MMC2001	256K	32K	—	Time-of-day, periodic interrupt timer, COP	6-CH 10-Bit	Dual UART Interval SPI	—	1.8–3.6	16@2.0V + 10% 33@3.3V + 10%	C	144 LQFP	Samples available	ROM includes debugger, peripheral product drivers, and a monitor; external bus interface with 22 address/16 data and 4 chip selects, OnCE debug module, KBI (16 pins) Sample part number: KMMC2001HCPV33B	MMC2001RM/D MCORERM/AD
MMC2107	—	8K	128K	Dual 4-channel 16-bit capture/compare, PWM capability, watchdog	See Timer	Dual SCI, SPI	Queued 8-CH 10-Bit	2.7–3.6	33	C	100 LQFP 144 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 Sample part numbers: KMMC2107CFCPU33 (100 LQFP), KMMC2107CFPV32 (144 LQFP).	MMC2107/D MCORERM/AD
MMC2113	0	8K	128K	Dual 4-channel 16-bit capture/compare, PWM capability, watchdog	See Timer	Dual SCI, SPI	Queued 8-CH 10-Bit	2.7–3.6	33	C	100 LQFP 144 LQFP 196 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	MMC2114/D
MMC2114	0	32K	256K	Dual 4-channel 16-bit capture/compare, PWM capability, watchdog	See Timer	Dual SCI, SPI	Queued 8-CH 10-Bit	2.7–3.6	33	C	100 LQFP 144 LQFP 196 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	MMC2114/D

Product Numbering System for MMC2XXX



MPC5XX FAMILY

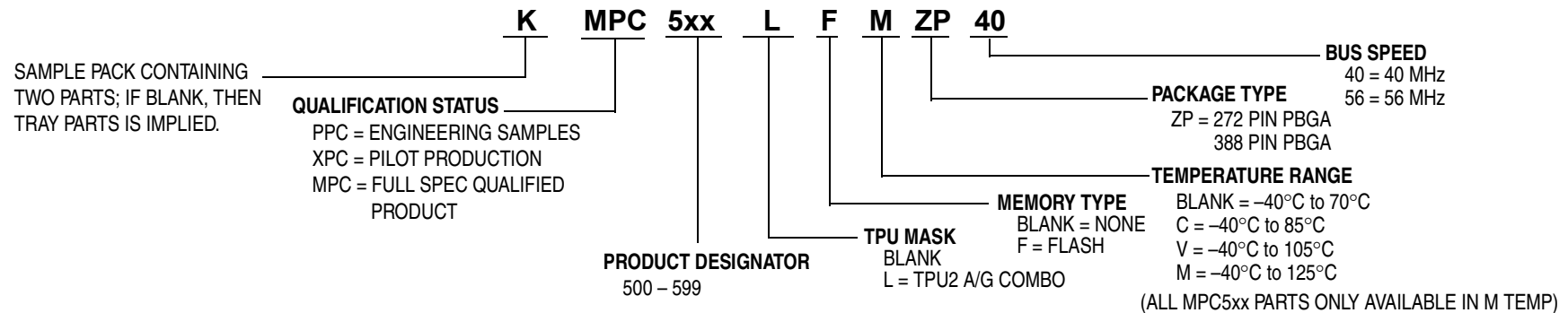
MPC5XX FAMILY

MPC5XX Product Table

For complete part number information and temperature definitions, refer to "Product Numbering System for MPC5XX" on page SG1006-22.

Product	ROM (Bytes)	RAM (Bytes)	FLASH (Bytes)	Product Integration	Timer	Serial	MUX	A/D	PWM	Operating Voltage	Operating Frequency (MHz)	Temp	Packaging	Status	Additional Information	Documentation
MPC555	0	26K + 6K for TPU	448K	USIU	50-channel timer system: 2 TPU3 + MIOS1	QSMCM (2 SCI + QSPI) + 2 TOUCAN	2 x TOUCAN	2 QADC64 (10-Bit A/D with 64 result registers each) 32 channels on chip	8 x PWM	3.3Vdc for core, 5.0Vdc for FLASH	40.0	C, M	272 PBGA	Available		MPC555UM/AD TPURM/AD RCPURM/AD
MPC561	0	32K + 8K for TPU + 2K for DEGRAM	0	USIU	54-channel timer system: 2 TPU3 + MIOS14	QSMCM (2 SCI + 1 QSPI) + 3 TOUCAN	3 x TOUCAN	2 QADC64E (10-Bit A/D with 64 result register) 32 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	M	388 PBGA	Available		MPC561RM/AD TPURM/AD RCPURM/AD
MPC562	0	32K + 8K for TPU + 2K for DEGRAM	0	USIU	54-channel timer system: 2 TPU3 + MIOS14	QSMCM (2 SCI + 1 QSPI) + 3 TOUCAN	3 x TOUCAN	2 QADC64E (10-Bit A/D with 64 result register) 32 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	M	388 PBGA	Available	Offers code compression support	MPC561RM/AD TPURM/AD RCPURM/AD
MPC563	0	32K + 8K for TPU + 2K for DEGRAM	512K	USIU	54-channel timer system: 2 TPU3 + MIOS14	QSMCM (2 SCI + 1 QSPI) + 3 TOUCAN	3 x TOUCAN	2 QADC64E (10-Bit A/D with 64 result register) 32 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	M	388 PBGA	Available		MPC563RM/AD TPURM/AD RCPURM/AD
MPC564	0	32K + 8K for TPU + 2K for DEGRAM	512K	USIU	54-channel timer system: 2 TPU3 + MIOS14	QSMCM (2 SCI + 1 QSPI) + 3 TOUCAN	3 x TOUCAN	2 QADC64E (10-Bit A/D with 64 result register) 32 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	M	388 PBGA	Available	Offers code compression support	MPC563RM/AD TPURM/AD RCPURM/AD
MPC565	0	32K + 10K for TPU + 4K for DEGRAM	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 QADC64E (10-Bit A/D with 64 result registers) 40 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	C, M	388 PBGA	Available		MPC566UM/AD TPURM/AD RCPURM/AD
MPC566	0	32K + 10K for TPU + 4K for DEGRAM	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 QADC64E (10-Bit A/D with 64 result registers) 40 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	C, M	388 PBGA	Available	Offers code compression support	MPC566UM/AD TPURM/AD RCPURM/AD

Product Numbering System for MPC5XX



CONTROLLER AREA NETWORK MICROCONTROLLERS

68HC05 Family CAN MCUs

Product	ROM (Bytes)	RAM (Bytes)	EPROM/OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp (Note)	Packaging	OTP	Status	Additional Information	Documentation
MC68HC05X4	4K	176	—	—	16-Bit 1 IC, 1 OC, MFT, RTI	16	CAN	—	—	Y	5.0	2.1	C	28 SOIC (DW)	705X4 (limited)	Available	CAN 2.0A (not B)	MC68HC05X4/D
XC68HC705X4	—	176	4K	—	16-Bit 1 IC, 1 OC, MFT, RTI	16	CAN	—	—	Y	5.0	2.1	C	28 SOIC (DW)	—	Available	CAN 2.0A (not B)	MC68HC05X4/D

Note: C = -40°C to 85°C.

68HC08 Family CAN MCUs

Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Freq (MHz)	Temp (Note)	Packaging	OTP or FLASH	Status	Additional Information	Documentation
XC68HC08AZ32	32K	1K	—	512	4-CH + 2-CH 16-Bit IC, OC, or PWM	40/50	SCI SPI CAN	8-CH or 15-CH 8-Bit	See Timer	Y	5.0	8.4	C, V, M	64 QFP (FU) 52 PLCC (FN)	908AZ60A	Available	CAN 2.0A & 2.0B	MC68HC08AZ32/D
MC908AZ60A	—	2K	60K FLASH	1K	6-CH + 2-CH 16-Bit IC, OC, or PWM	50	SCI SPI CAN	15-CH 8-Bit	See Timer	Y	5.0	8.4	C, V, M	64 QFP (FU)	—	Available	MC908AZ60A is pin-for-pin compatible replacement for MC68HC908AZ60. CAN 2.0A & 2.0B	MC68HC908AZ60A/D
MC68HC08AZ60	60K	2K	—	1K	6-CH + 2-CH 16-Bit IC, OC, or PWM	48	SCI SPI CAN	15-CH, 8-Bit	See Timer	Y	5.0	8.4	C, V, M	64 QFP (FU)	908AZ60	Available	CAN 2.0A & 2.0B	MC68HC08AZ60/D

Note: C = -40°C to 85°C, M = -40°C to 125°C, and V = -40°C to 85°C.

68HC12 Family CAN MCUs

Product	ROM (Bytes)	RAM (Bytes)	EEPROM (Bytes)	FLASH (Bytes)	Timer (Note 1)	I/O	Serial	A/D	PWM	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp (Note 2)	Packaging	Status	Additional Information	Documentation
XC912BC32	—	1K	768	32K	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 63	SCI, SPI CAN	8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	4.5–5.5	8.0	C, V, M	80 QFP (FU)	Available	MSCAN CAN 2.0B, BDM Sample pack part number: KXC912BC32CFU8	MC68HC912B/D
MC912D60A	—	2K	1K	60K	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 66 i/o and 18 i	Dual SCI SPI, CAN	8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	Available	Replaces the XC68HC912D60 with 5-V FLASH voltage and a different programming algorithm.	MC68HC912D60/D
MC912DG128A	—	8K	2K	128K	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 67 i/o and 18 i	Dual SCI SPI, CAN	8-CH or 16-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	112 LQFP (PV)	Available	Replaces the XC912DG128 with 5-V FLASH voltage and a different programming algorithm.	MC68HC912DG128/D

Note 1: All 68HC12 MCUs incorporate a COP watchdog timer.

Note 2: C = -40°C to 85°C, M = -40°C to 125°C, and V = -40°C to 85°C.

CONTROLLER AREA NETWORK MICROCONTROLLERS (continued)

HCS12 FAMILY

HCS12 Product Table

HCS12 Dx and A Family devices offer pin-for-pin compatibility.

For complete part number information and temperature definitions, refer to “Product Numbering System for HCS12” on page SG1006-16.

Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	MUX	A/D	PWM	Operating Voltage (V)	Operating Frequency (MHz)	Temp (Note)	Packaging	FLASH or OTP	Status	Additional Information	Documentation
MC9S12DG128B	—	8K	128K FLASH	2K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 2 SPI IIC	2 CAN	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	—	Samples available	The 80 QFP differs from the 112 LQFP in that it offers only up to 59 I/O, has 1 x 8-CH A/D, and has 7-CH PWM.	9S12DT128BDGV1/D CPU12RM/AD
MC9S12DJ128B	—	8K	128K FLASH	2K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 2 SPI IIC	2 CAN and 1 x J1850	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	—	Samples available	The 80 QFP differs from the 112 LQFP in that it offers only up to 59 I/O, has 1 x 8-CH A/D, and has 7-CH PWM.	9S12DT128BDGV1/D CPU12RM/AD
MC9S12DT128B	—	8K	128K FLASH	2K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 2 SPI IIC	3 CAN	2 x 8-CH 10-Bit	8-CH	5.0	25.0	C, V, M	112 LQFP (PV)	—	Samples available		9S12DT128BDGV1/D CPU12RM/AD
MC9S12DG256B	—	12K	256K FLASH	4K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 3 SPI IIC	2 CAN	2 x 8-CH 16-Bit	8-CH	5.0	25.0	C, V, M	112 LQFP (PV)	—	Samples available		9S12DP256BDGV2/D CPU12RM/AD
MC9S12DJ256B	—	12K	256K FLASH	4K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 3 SPI IIC	2 CAN and 1 x J1850	2 x 8-CH 16-Bit	8-CH	5.0	25.0	C, V, M	80 QFP (FU) 112 LQFP (PV)	—	Samples available	The 80 QFP differs from the 112 LQFP in that it offers only up to 59 I/O, has 1 x 8-CH A/D, and has 7-CH PWM.	9S12DP256BDGV2/D CPU12RM/AD
MC9S12DP256B	—	12K	256K FLASH	4K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 3 SPI IIC	5 CAN	2 x 8-CH 16-Bit	8-CH	5.0	25.0	C, V, M	112 LQFP (PV)	—	Samples available		9S12DP256BDGV2/D CPU12RM/AD
MC9S12DT256B	—	12K	256K FLASH	4K	8-CH, 8-Bit or 4-CH, 16-Bit	Up to 91	2 SCI 3 SPI IIC	3 CAN	2 x 8-CH 16-Bit	8-CH	5.0	25.0	C, V, M	112 LQFP (PV)	—	Samples available		9S12DP256BDGV2/D CPU12RM/AD
MC9S12H128B	—	12K	128K FLASH	4K	8-CH, 16-Bit	99 plus 18 inputs	SCI SPI IIC	2 CAN 2.0A / 2.0B	16-CH 10-Bit	16-CH 8-Bit or 3-CH 16-Bit	5.0	16.0	V	112 LQFP (PV)	—	Samples available		9S12H256BDGV1/D CPU12RM/AD
MC9S12H256B	—	12K	256K FLASH	4K	8-CH, 16-Bit	99 plus 18 inputs	SCI SPI IIC	2 CAN 2.0A / 2.0B	16-CH 10-Bit	16-CH 8-Bit or 3-CH 16-Bit	5.0	16.0	C, V, M	112 LQFP (PV) 144 LQFP (FV)	—	Samples available		9S12H256BDGV1/D CPU12RM/AD

Note: M temperature range limited to single-chip mode

CONTROLLER AREA NETWORK MICROCONTROLLERS (continued)

683XX Family CAN MCUs

Product	ROM (Bytes)	RAM (Bytes)	FLASH (Bytes)	Product Integration	Timer	Serial	A/D	Operating Voltage (V)	Operating Frequency (MHz)	Temp (Note)	Packaging	Status	Additional Information	Documentation
MC68376	8K	4K+3.5K	—	SIM	TPU CTM4	TOUCAN, SCI, queued SPI	Queued 16-CH 10-Bit	5.0	20, 25	V, M	160 QFP	Available		MC68336/376PP/D MC68336/376UM/AD

Note: M = -40°C to 125°C and V = -40°C to 85°C.

MPC5XX Family CAN MCUs

Product	ROM (Bytes)	RAM (Bytes)	FLASH (Bytes)	Product Integration	Timer	Serial	MUX	A/D	PWM	Operating Voltage	Operating Frequency (MHz)	Temp (Note)	Packaging	Status	Additional Information	Documentation
MPC555	0	26K + 6K for TPU	448K	USIU	50-channel timer system: 2 TPU3 + MIOS1	OSMCM (2 SCI + 1 QSPI) + 2 TOUCAN	2 x TOUCAN	2 QADC64 (10-Bit A/D with 64 result registers each) 32 channels on chip	8 x PWM	3.3Vdc for core, 5.0Vdc for FLASH	40.0	C, M	272 PBGA	Available		MPC555UM/AD TPURM/AD RCPURM/AD
MPC561	0	32K + 8K for TPU + 2K for DECRAM	0	USIU	54-channel timer system: 2 TPU3 + MIOS14	OSMCM (2 SCI + 1 QSPI) + 3 TOUCAN	3 x TOUCAN	2 QADC64E (10-Bit A/D with 64 result register) 32 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	M	388 PBGA	Samples Available		MPC561RM/AD TPURM/AD RCPURM/AD
MPC562	0	32K + 8K for TPU + 2K for DECRAM	0	USIU	54-channel timer system: 2 TPU3 + MIOS14	OSMCM (2 SCI + 1 QSPI) + 3 TOUCAN	3 x TOUCAN	2 QADC64E (10-Bit A/D with 64 result register) 32 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	M	388 PBGA	Samples Available	Offers code compression	MPC561RM/AD TPURM/AD RCPURM/AD
MPC563	0	32K + 8K for TPU + 2K for DECRAM	512K	USIU	54-channel timer system: 2 TPU3 + MIOS14	OSMCM (2 SCI + 1 QSPI) + 3 TOUCAN	3 x TOUCAN	2 QADC64E (10-Bit A/D with 64 result register) 32 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	M	388 PBGA	Samples Available		MPC563RM/AD TPURM/AD RCPURM/AD
MPC564	0	32K + 8K for TPU + 2K for DECRAM	512K	USIU	54-channel timer system: 2 TPU3 + MIOS14	OSMCM (2 SCI + 1 QSPI) + 3 TOUCAN	3 x TOUCAN	2 QADC64E (10-Bit A/D with 64 result register) 32 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	M	388 PBGA	Samples Available	Offers code compression	MPC563RM/AD TPURM/AD RCPURM/AD
MPC565/6	0	32K + 10K for TPU + 4K for DECRAM	1M	USIU	70-channel timer system: 3 TPU3 + MIOS14	OSMCM x 2 (4 SCI + 2 QSPI) + 3 TOUCAN	3 x TOUCAN 1 x J1850	2 QADC64E (10-Bit A/D with 64 result registers) 40 channels on chip	12 x PWM	2.6Vdc for core, 5.0Vdc for A/D and I/O	40 or 56	M	388 PBGA	Limited Samples Available	(MPC566 offers code compression)	MPC566UM/AD TPURM/AD RCPURM/AD

Note: C = -40°C to 85°C and M = -40°C to 125°C.

DSP56800 Family CAN MCUs

Product	Performance	Program ROM/RAM/FLASH	Data ROM/RAM/FLASH	Peripherals	Packaging	Additional Information
DSP56F803BU80	80 MHz	— / 512 / 32K	— / 2K / 4K	CAN, SCI, SPI, ADC, PWM, Quadrature Decoder, Quad Timer	100 LQFP	MCU friendly instruction set, OnCE for debug, 2K Boot Flash, external memory expansion available, up to 16 GPIO. Order 2-unit sample pack as SPAK56F803BU80. S, MOQ of 90.
DSP56F805FV80	80 MHz	— / 512 / 32K	— / 2K / 4K	CAN, SCIs, SPI, ADC, PWMs, Quadrature Decoders, Quad Timers	144 LQFP	MCU friendly instruction set, OnCE for debug, 2K Boot Flash, external memory expansion available, up to 32 GPIO. SPAK56F805FV80. S, MOQ of 60.
DSP56F807PY80 (LQFP) DSP56F807VF80 (MAPBGA)	80 MHz	— / 2K / 60K	— / 2K / 8K	CAN, SCIs, SPI, ADCs, PWMs, Quadrature Decoders, Quad Timers	160 LQFP 160 MAPBGA	MCU friendly instruction set, OnCE for debug, 2K Boot Flash, external memory expansion available, up to 32 GPIO. MOQ of 60 for LQFP; SPAK56F807PY80 or SPAK56F807VF80. MOQ of 24 for MAPBGA.

LIN MCUs

LOCAL AREA NETWORK MICROCONTROLLERS

LIN Slave MCUs

Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Freq (MHz)	Temp (Note)	Packaging	OTP or FLASH	Status	Additional Information	Documentation
MC68HC08AB16A	16K	512	—	512	4-CH + 4-CH 16-Bit IC, OC, or PWM	51	SCI SPI	8-CH 8-Bit	See Timer	Y	5.0	8.0	C, M	64 QFP (FU)	908AB32	Available	Programmable interrupt timer module	MC68HC08AB16A/D
MC68HC908AB32	—	1K	32K FLASH	512	4-CH + 4-CH 16-Bit IC, OC, or PWM	51	SCI SPI	8-CH 8-Bit	See Timer	Y	5.0	8.0	C, V, M	64 QFP (FU)	—	Available	Programmable interrupt timer module. Sample pack part numbers: KMC908AB32CFU/MFU/VFU	MC68HC908AB32/D
MC68HC908JL3	—	128	4K FLASH	—	2-CH 16-Bit IC, OC, or PWM	23	—	12-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C, M	28 DIP (P) 28 SOIC (DW) 48 LQFP (FA)	—	Available	RC oscillator option, LVR with selectable trip points, 6-pin LED drive. Sample pack part numbers: KMC908JL3CP, KMC908JL3CDW, KMCR908JL3CP, KMCR908JL3CDW	MC68HC908JL3/H
MC68HC08JL3	4K	128	—	—	2-CH 16-Bit IC, OC, or PWM	23	—	12-CH 8-Bit	See Timer	Y	3.0, 5.0	8.0	C, M	28 DIP (P) 28 SOIC (DW) 48 LQFP (FA)	908JL3	Available	RC oscillator option: 68HRC08JL3, LVR with selectable trip points, 6-pin LED drive	MC68HC908JL3/H

Note: C = -40°C to 85°C, M = -40°C to 125°C, and V = -40°C to 85°C.

68HC08 LIN Master MCUs

Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Freq (MHz)	Temp (Note)	Packaging	OTP or FLASH	Status	Additional Information	Documentation
XC68HC08AZ32	32K	1K	—	512	4-CH + 2-CH 16-Bit IC, OC, or PWM	40/ 50	SCI SPI CAN	8-CH or 15-CH 8-Bit	See Timer	Y	5.0	8.4	C, V, M	64 QFP (FU) 52 PLCC (FN)	908AZ60A	Available	CAN 2.0A & 2.0B	MC68HC08AZ32/D
MC908AZ60A	—	2K	60K FLASH	1K	6-CH + 2-CH 16-Bit IC, OC, or PWM	50	SCI SPI CAN	15-CH 8-Bit	See Timer	Y	5.0	8.4	C, V, M	64 QFP (FU)	—	Available	MC908AZ60A is pin-for-pin compatible replacement for MC68HC908AZ60. CAN 2.0A & 2.0B	MC68HC908AZ60A/D

Note: C = -40°C to 85°C, M = -40°C to 125°C, and V = -40°C to 85°C.

LOCAL AREA NETWORK MICROCONTROLLERS (continued)

68HC12 LIN Master MCUs

Product	ROM (Bytes)	RAM (Bytes)	EEPROM (Bytes)	FLASH (Bytes)	Timer	I/O	Serial	A/D	PWM	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp (Note)	Packaging	Status	Additional Information	Documentation
MC68HC912B32	—	1K	768	32K	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 63	SCI, SPI J1850	8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	80 QFP (FU)	Available	J1850, muxed bus, BDM Sample pack part numbers: KMC912B32CFU/VFU/MFU	MC68HC912B/D
MC68HC12BE32	32K	1K	768	—	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 63	SCI, SPI J1850	8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C	80 QFP (FU)	Available	BDM, enhanced timer Evaluation Product with on-chip monitor: XC12BE32DCFU8 Sample pack part number: KXC12BE32DCFU8	MC68HC912B/D
MC912D60A	—	2K	1K	60K	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 66 i/o and 18 i	Dual SCI SPI, CAN	8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	80 QFP (FU), 112 LQFP (PV)	Available	Replaces the XC68HC912D60 with 5-V FLASH voltage and a different programming algorithm.	MC68HC912D60/D
XC68HC12D60	60K	2K	1K	—	8-CH 16-Bit	Up to 66 i/o and 18 i	Dual SCI SPI	Dual 8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	80 QFP (FU), 112 LQFP (PV)	Available	Part equipped with CAN 2.0A/B	MC68HC912D60/D
MC912DG128A	—	8K	2K	128K	8-CH 16-Bit IC or OC RTI, pulse accumulator	Up to 67 i/o and 18 i	Dual SCI SPI, CAN	8-CH or 16-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	112 LQFP (PV)	Available	Replaces the XC912DG128 with 5-V FLASH voltage and a different programming algorithm.	MC68HC912DG128/D
MC68HC912DT128A	—	8K	2K	128K	8-CH 16-Bit	Up to 66 i/o and 18 i	Dual SCI, SPI	Dual 8-CH 10-Bit	4-CH 8-Bit or 2-CH 16-Bit	5.0	8.0	C, V, M	112 LQFP (PV)	Available	Part equipped with 3xCAN 2.0A/B	MC68HC912DT128/D

Note: C = -40°C to 85°C, M = -40°C to 125°C, and V = -40°C to 85°C.

USB MCUs

UNIVERSAL SERIAL BUS MICROCONTROLLERS

68HC05 Family USB MCUs

Product	ROM (Bytes)	RAM (Bytes)	EPROM/OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp	Packaging	OTP	Status	Additional Information	Documentation
MC68HC05JB3	2.5K	144	—	—	16-Bit 1 IC, 1 OC, MFT, RTI	19	USB	—	—	Y	5.0	3.0	0-70°C only	20 DIP (JP) 20 SOIC (JDW) 28 DIP (P) 28 SOIC (DW)	705JB3	Available	1.5mbs USB with 3 endpoints, low-voltage reset, KBI, 3.3V bandgap reference	HC05JB3GRS/H
XC68HC705JB3	—	144	2.5K	—	16-Bit 1 IC, 1 OC, MFT, RTI	19	USB	—	—	Y	5.0	3.0	0-40°C only	20 DIP (JP) 28 DIP (P) 28 SOIC (DW)	—	Available	1.5mbs USB with 3 endpoints, low-voltage reset, KBI, 3.3V bandgap reference	HC05JB3GRS/H
MC68HC05JB4	3.5K	176	—	—	16-Bit 1 IC, 1 OC, MFT, RTI	19	USB	6-CH 8-Bit	—	Y	5.0	3.0	0-70°C only	28 DIP (P) 28 SOIC (DW)	705JB4	Available	1.5mbs USB with 3 endpoints, low-voltage reset, KBI, 3.3V bandgap reference	HC05JB4GRS/H
MC68HC705JB4	—	176	3.5K	—	16-Bit 1 IC, 1 OC, MFT, RTI	19	USB	6-CH 8-Bit	—	Y	5.0	3.0	0-40°C only	28 DIP (P) 28 SOIC (DW) 28 CDIP (S)	—	Available	1.5mbs USB with 3 endpoints, low-voltage reset, KBI, 3.3V bandgap reference	HC05JB4GRS/H

68HC08 Family USB MCUs

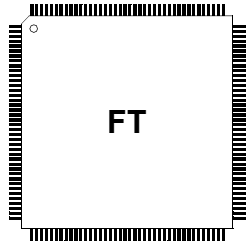
Product	ROM (Bytes)	RAM (Bytes)	FLASH or OTP (Bytes)	EEPROM (Bytes)	Timer	I/O	Serial	A/D	PWM	COP	Operating Voltage (V)	Max Bus Freq (MHz)	Temp	Packaging	OTP or FLASH	Status	Additional Information	Documentation
MC68HC08JB1	5.5K	128	—	—	2-CH 16-Bit IC, OC, or PWM	13	USB PS/2	—	See Timer	Y	5.0	3.0	0-70°C only	20 DIP (P) 20 SOIC (JDW)	908JB8	Available	Supports both USB and PS/2; 1.5Mbps USB with 2 endpoints, low voltage reset, keyboard interrupt, 3.3V bandgap reference	MC68HC08JB1/D
MC68HC908JB8	—	256	8K FLASH	—	2-CH 16-Bit IC, OC, or PWM	Up to 37	USB	—	See Timer	Y	5.0	3.0	0-70°C only	20 DIP (P) 28 SOIC (DW) 44 QFP (FB)	—	Available	Complies with USB 1.1 spec for low-speed USB (1.5Mbps) On-chip 3.3V regulator	MC68HC908JB8/D
MC68HC08JB8	8K	256	—	—	2-CH 16-Bit IC, OC, or PWM	Up to 37	USB	—	See Timer	Y	4.0-5.5	3.0	0-70°C only	20 PDIP (JP) 20 SOIC (JDW) 28 SOIC (ADW) 44 QFP (FB)	908JB8	Available	Complies with USB 1.1 spec for low-speed USB (1.5Mbps), LVI	MC68HC908JB8/D
MC68HC08KH12	12K	384	—	—	2-CH 16-Bit IC, OC, or PWM	42	USB	—	See Timer	Y	3.3 V	6.0	0-70°C only	64 QFP (FU)	708KH12	Available	PC keyboard/hub 12mbs USB (1 up, 4 down) 5 LED direct drive port pins	MC68HC08KH12/H

MOTOR CONTROL MICROCONTROLLERS

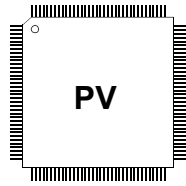
Product	COP	Operating Voltage (V)	Max Bus Frequency (MHz)	Temp	Packaging	OTP	Status	Additional Information	Documentation
MC3PHAC	Y	5.0	4.0	V	32 LQFP (FA) 28 SOIC (DW) 28 PDIP (P)	—	Samples Available	A complete solution, contains all functions required to implement control of open loop 3-phase ac motor drive	MC3PHAC/D DRM006/D

PACKAGING

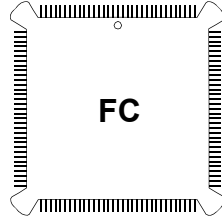
PACKAGING (Actual Size)



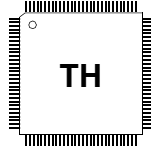
FT
208/160-Lead QFP
.65 mm Pitch
28 mm x 28 mm Body



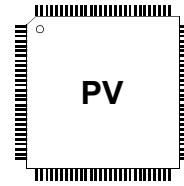
PV
144-Lead LQFP
.5 mm Pitch
20 mm x 20 mm Body



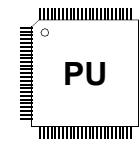
FC
132-Lead PQFP
25 mil/06.35 mm Pitch
0.950 in x 0.950 in Body
(Nominal, w.o. Bumpers)



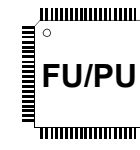
TH
120-Lead QFP/LQFP
.5 mm Pitch
16 mm x 16 mm Body



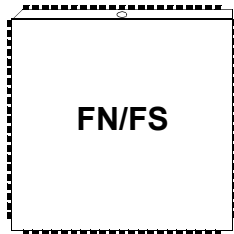
PV
112-Lead LQFP
.65 mm Pitch
20 mm x 20 mm Body



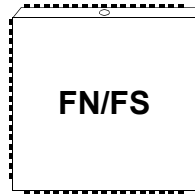
PU
100-Lead LQFP
.5 mm Pitch
14 mm x 14 mm Body



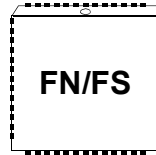
FU/PU
80-Lead QFP/LQFP
.65 mm Pitch
14 mm x 14 mm Body



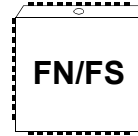
FN/FS
84-Lead PLCC/CLCC
50 mil/1.27 mm Pitch
1.15 in x 1.15 in Body



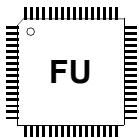
FN/FS
68-Lead PLCC/CLCC
50 mil/1.27 mm Pitch
0.950 in x 0.950 in Body



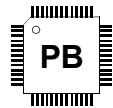
FN/FS
52-Lead PLCC/CLCC
50 mil/1.27 mm Pitch
0.750 in x 0.750 in Body



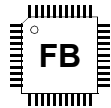
FN/FS
44-Lead PLCC/CLCC
50 mil/1.27 mm Pitch
0.650 in x 0.650 in Body



FU
64-Lead QFP
.8 mm Pitch
14 mm x 14 mm Body



PB
52-Lead QFP
.65 mm Pitch
10 mm x 10 mm Body



FB
44-Lead QFP
.8 mm Pitch
10 mm x 10 mm Body



FA
32-/48-Lead QFP
.8 mm/.5 mm Pitch
7 mm x 7 mm Body



DW
28-Lead SOIC
50 mil/1.27 mm Pitch
18.0 mm x 7.5 mm Body



DW
20-Lead SOIC
50 mil/1.27 mm Pitch
12.8 mm x 7.5 mm Body



DW
16-Lead SOIC
50 mil/1.27 mm Pitch
10.35 mm x 7.5 mm Body



SD
28-Lead SSOP
25.6 mil/.65 mm Pitch
5.28 mm x 10.19 mm Body

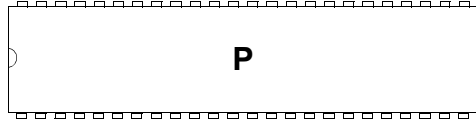


SD
20-Lead SSOP
17 mil/.65 mm Pitch
5.3 mm x 7.2 mm Body

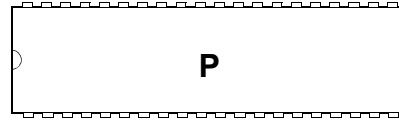
— Packaging Designators —

- B — Shrink DIP (70 mil spacing)
- DW — Small Outline (Wide-Body SOIC)
- DT — Thin Shrink Small Outline Package
- 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
- K — Cerdip (windowed) — Samples Only
- L — Ceramic Sidebrazed
- 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)
- RC — Pin Grid Array, Gold Lead Finish
- S — Cerdip (windowed) — Samples Only
- SD — Shrink Small Outline Package (SSOP)
- VF — 1.6 mm Thick MAPBGA
- ZP — Plastic Ball Grid Array (PBGA)
- ZU — Tape Ball Grid Array, 352 and 480 Lead

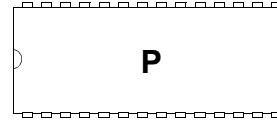
PACKAGING (continued)
(Actual Size)



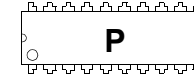
48-Pin Plastic DIP
100 mil/2.54 mm Pitch
2.45 in x .55 in Body
(100 mil x 600 mil pin centers)



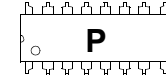
40-Pin Plastic DIP
100 mil/2.54 mm Pitch
2.05 in x .55 in Body
(100 mil x 600 mil pin centers)



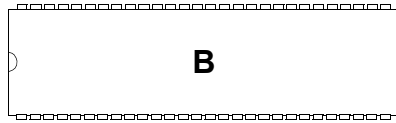
28-Pin DIP
100 mil/2.54 mm Pitch
1.45 in x .55 in Body
(100 mil x 600 mil pin centers)



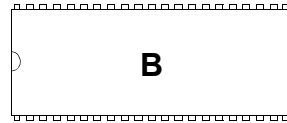
20-Pin Plastic DIP
100 mil/2.54 mm Pitch
.97 in x .29 in Body
(100 mil x 300 mil pin centers)



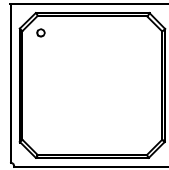
16-Pin Plastic DIP
100 mil/2.54 mm Pitch
.75 in x .25 in Body
(100 mil x 300 mil pin centers)



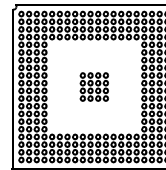
56-Pin Plastic SDIP
70 mil/1.778 mm Pitch
2.05 in x .55 in Body
(70 mil x 600 mil pin centers)



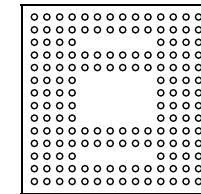
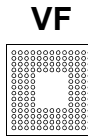
42-Pin Plastic SDIP
70 mil/1.778 mm Pitch
1.45 in x .55 in Body
(70 mil x 600 mil pin centers)



272-Ball PBGA
1.27 mm Pitch
27.0 mm x 27.0 mm Body



144-Ball Grid Array (BGA)
8 mm Ball Pitch
12 mm x 12 mm x 1.6 mm



Plastic Ball Grid Array (MAPBGA)
160-pin / Case No. 1268



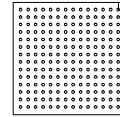
8-Pin Plastic DIP
100 mil/2.54 mm Pitch
.38 in x .25 in Body
(100 mil x 300 mil pin centers)



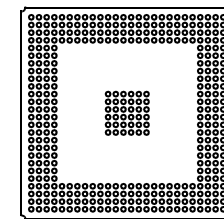
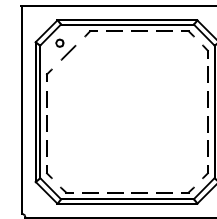
8-Lead SOIC
50 mil/1.27 mm Pitch
5.3 mm x 7.5 mm Body



16-Lead TSSOP
25 mil/.64 mm Pitch
5.0 mm x 4.4 mm Body



196-Ball MAP BGA
1 mm Pitch
15 mm x 15 mm Body



388-Ball PBGA
1 mm Pitch
27.0 mm x 27.0 mm Body

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